Evaluating the effectiveness of ‘AETCOM Module’ on the medical interns posted in peripheral health centres of a tertiary care medical college in Kanchipuram, Tamil Nadu

Timsi Jain¹, Yogesh Mohan¹, G. Rakesh Maiya¹, G. Shiny Chrism Queen Nesan¹, Charumathi Boominathan¹, Anantha V. M. Eashwar²

¹Department of Community Medicine, Saveetha Medical College and Hospital, Thandalam, ²Department of Community Medicine, Sree Balaji Medical College and Hospital, Chennai, Tamil Nadu, India

Abstract

Introduction: Effective communication skills between doctor and patient leads to enhanced patient satisfaction, better compliance to treatment and improved health outcomes. Aims and Objectives: To evaluate the effectiveness of Attitude, Ethics and Communication (AETCOM) module in improving the communication skills of the interns posted in peripheral health centres after methodical training and approach. Methods: A Module based interventional study was conducted among the medical interns posted in the months of December 2019 and February 2020 at Rural Health Training Center (RHTC) and Urban Health Training Center (UHTC). The tool used to assess the interns was Kalamazoo Essential Element Communication checklist (KEEC) based on Kalamazoo Consensus Statement (KCS) comprising 7 components. Statistical Analysis: The difference in the means of pre test scores and post test scores were analyzed for statistical significance using Paired T test (p value < 0.05 considered significant). Results: The post-test scores were higher when compared to the pre-test scores with regard to batch, gender, mother tongue, center where the interns were posted and type of batch and these findings were statistically significant. Females had better competencies of opening discussion, understanding the patient’s perspective, reaching agreement and providing appropriate enclosure to discussion than males and it was found to be statistically significant. Conclusion: AETCOM Module is effective in improving the communication skills of the medical students, which in turn will prevent malpractices and litigations against doctors in the near future.

Keywords: AETCOM module, communication, doctor, Kalamazoo checklist, patient

Introduction

There is a famous saying by Mahatma Gandhi, “A customer is the most important visitor on our premises”. In medical profession, doctor is the health care provider and patients are the customer. The doctor-patient relationship had undergone tremendous change over the years and decades ago patients...
visited doctors for merely receiving medical prescriptions and were not allowed to question their doctors regarding medical illness. Effective communication skills between doctor and patient leads to enhanced patient satisfaction, better compliance to treatment and improved health outcomes. Hospitals usually do not stimulate the student’s skills to look for patient’s emotions, thoughts or ideas at the bedside as mostly hospitals are doctor-centred environments. Hence the primary health care facilities and out-patient departments serve as the best places to get trained in communication skills.

Communication and inter-personal skills have been first made as imperative requirement under, Graduate Medical Education (GME), 1997 in India. Yet, there was poor integration of communication skills within undergraduate curriculum and there were time restraints and lack of proper supervision and assessment of skills. The Medical Council of India (MCI) vision document 2015 had been reformed and had scheduled appropriate time for training of undergraduates in communication skills. This was a single occasion training program. There is evidence that student’s communication skills deteriorate during their clinical years and teaching these skills is neglected during those years. Therefore, one of the major aims of new Competency based medical curriculum given by MCI is to design and provide training for medical students that integrates knowledge and competencies through the early implementation and exposure to clinical experiences.

The overall goal of undergraduate medical education program as envisaged in the revised Graduate Medical Education Regulations - 2017 is to create an “Indian Medical Graduate” (IMG) possessing requisite knowledge, skills, attitudes, values and responsiveness, so that she or he may function appropriately and effectively as a physician of first contact of the community while being globally relevant. In order to fulfill this goal, the IMG must be able to function appropriately, ethically and effectively in her/his roles as clinician, leader and member of the health care team and system, communicator, lifelong learner and as a professional. The purpose of this study is to evaluate the effectiveness of Attitude, Ethics and Communication (AETCOM) module - foundation of communication 1 and 2 in improving the communication skills of the interns posted in peripheral health centres after methodical training and approach.

**Subjects and Methods**

This is a Module based interventional study conducted among the medical interns posted in the months of December 2019 and February 2020 at Rural Health Training Center (RHTC) and Urban Health Training Center (UHTC) attached to a private Tertiary care Hospital and Medical College, at Kanchipuram district in Tamil Nadu. The December 2019 batch were one-year trained batch of interns and February 2020 batch were new batch of interns. The tool used to assess the interns was Kalamazoo Essential Element Communication checklist (KEEC) based on Kalamazoo Consensus Statement (KCS) which was developed by panel of medical education leaders and communication experts in 1991. The KCS incorporates 7 core communication competencies and 24 sub competencies. Learners’ performance is rated on the competencies and sub-competencies using categorical ratings which included “done well, needs improvement, not done and not applicable”. The Universal sampling technique was adopted as all the interns posted were included in the study. All the interns posted in the peripheral health centres during that study period from December 2019 to February 2020 were included in the study and those who were not willing to participate and those who were not present for the postings were excluded. Written informed consent was taken from those who were willing to participate before starting the study. This study was conducted after obtaining Ethical approval from the Institutional Review Board (IRB) of Saveetha Medical College and Hospital, Thandalam.

**Pre-intervention**

The Assistant professors in charge of the centres were trained prior to the study in the department by the principal investigator regarding how to assess the Interns in the beginning of their postings using Kalamazoo essential element communication checklist which has 7 components (Building a Relationship, Opening the Discussion, Gathering Information, Understanding the Patient’s Perspective, Sharing Information, Reaching an Agreement and Providing Closure), scored between least of 0 to maximum of 5 and run the AETCOM module “The foundations of Communication – 1 and 2”.

**Intervention**

After initial assessment, the interns were trained using AETCOM module “The foundations of Communication – 1 and 2” in the center.

AETCOM module was run for 5 hours over 4 days.
- Day 1: Introduction to communication (1 hour) by interactive PPT aided Lecture
- Day 2: Discussion on material given on day 1 for self-directed learning (1 hour)
- Day 3: Role play by Post Graduates on how to communicate with patients (1 hour)
- Day 4: Interaction with interns – Question and Answer session (2 hours).

**Post-intervention**

The interns were again assessed using the same checklist in the last week of their postings for their communication skills. Feedback/reflection was also taken from them after the project.

**Statistical analysis**

Paired T test was done to analyse if there is any difference in the mean scores of pre and post assessment conducted among the interns after introducing AETCOM module 11 to check their communication skills with the patients.
Results
Totally 50 interns were considered to run the module and it was observed that majority 27 (54%) were males, 80% belonged to regular batch of MBBS and majority of their mother tongue was Tamil (74%) followed by Telugu (10%) and Malayalam (4%) which is shown in Figure 1. The Table 1 shows that the post-test scores were significantly higher when compared to the pre-test scores with regard to batch, gender, mother tongue, center where the interns were posted and type of batch and these findings were statistically significant. It was also seen that there was a significant mean difference between overall pre and post assessment scores.

The difference of mean in the individual 7 components of Kalamazoo essential element communication check list, in pre-test and post-test mean scores among the interns are shown in Figure 2 and these findings are found to be significantly higher. The Table 2 shows that there was no significant difference in the mean pre-test scores between male and female Interns with regard to various competencies, though female interns had better competencies of obtaining information from patients, had better understanding of patient’s perspective and providing proper closure to patients when compared to male interns. The regular and additional batch did not differ in their individual competencies. The RHTC interns were good in building relationship with the patients than the UHTC interns and it was found to be statistically significant.

Females had better competencies of opening discussion, understanding the patient’s perspective, reaching agreement and providing appropriate enclosure to discussion than males and it was found to be statistically significant. There were no differences in mean post-test scores of regular and additional batches. Overall, the mean post –test scores were significantly higher among the UHC interns when compared to RHC interns which is observed in Table 3. Feedback was taken from the interns after the completion of the module, mean perception score of the interns regarding their communication skills before the training was 6.075 ± 1.5914 and after the training was found to be 7.375 ± 1.2947. The difference was found to be statistically significant.

Discussion
It is ideal for community physicians to build a good communication rapport with the patients as we approach the community for

| Table 1: Mean pre-test and post-test scores of the Medical Interns |
|---------------------------------------------------------------|
| **Mean (SD)** | **Pre-test score** | **Post-test score** | **P** |
|----------------|-------------------|--------------------|------|
| Overall (n=50) | 42.86 (6.46)      | 60.64 (6.21)       | 0.001|
| Month of Posting |                   |                    |      |
| December 2019 (n=27) | 41.43 (4.75) | 57.44 (5.89)       | 0.001|
| February 2020 (n=23) | 43.96 (7.99) | 64.39 (4.20)       | 0.001|
| Gender |                   |                    |      |
| Male (n=23) | 41.44 (5.70)      | 57.69 (6.64)       | 0.001|
| Female (n=27) | 44.07 (6.90) | 63.14 (4.58)       | 0.001|
| Mother Tongue |                   |                    |      |
| Tamil (n=37) | 42.73 (6.89)      | 60.18 (6.84)       | 0.001|
| Non-Tamil (n=13) | 43.23 (5.23) | 61.92 (3.79)       | 0.001|
| Place of Posting |                   |                    |      |
| RHTC (n=27) | 42.63 (6.32)      | 58.77 (7.18)       | 0.001|
| UHTC (n=23) | 43.13 (6.60)      | 62.83 (3.93)       | 0.001|
| Batch |                   |                    |      |
| Regular (n=40) | 43.23 (6.27) | 61.68 (5.84)       | 0.001|
| Additional (n=10) | 41.40 (7.33) | 56.50 (6.17)       | 0.001|

SD: Standard deviation; *Paired t-test; P<0.05 significant
their needs unlike clinical physicians to whom the patients report. Thus, we need to help the medical interns to get in practice to communicate with their patients in a healthy way. The overall scores obtained by using Kalamazoo essential element communication checklist improved significantly for each competency with total mean pre-test score of 42.86 (SD = 6.46) and mean post-test score of 60.64 (SD = 6.21). On comparing our results with another study[13] done in GMERS medical college in Gujarat observed the mean pre-test scores 49.9 (SD = 10.5) and post-test scores 75.5 (SD = 15.4) where higher when compared to our study. In our study, though the post -test scores were higher in both batches of interns, the 2015 batch (fresh batch) showed a higher mean pre-test score and post-test scores when compared to 2014 batch (old batch). This may be because the 2015 batch was sensitized about various aspects of communication skills through the series of lecture on Ethics and Communication conducted for the batch which covered the aspects of doctor patient communication. But these lectures were not taken for 2014 batch of MBBS students during Undergraduate period.

A study conducted by Nayak RK, et al[14] in Karnataka among 3rd year MBBS students showed a pre-test median score of 9 and post-test median score of 40 which was lower when compared to our study [Pre-test median score: 43, Post-test median score: 61.5]. This difference in the mean scores may be with the contrast difference in study participants which clearly shows that the interns have better communication skills and are sensitized more during the clinical postings than the 3rd MBBS students. It was observed that the post test scores among the UHTC interns were significantly higher when compared to the RHTC interns as it was possible for UHTC interns to have more interaction with Assistant professors and Post graduates in the department on Day 4 interaction than RHTC interns who were stationed in the 24-hour functioning centre and had to make interaction only with the Assistant professor in charge of the centre. This finding gives a clear impression that the interns when interacting with more Assistant professors and post graduates gives them better practical knowledge to improve their communication skills.

In our study, the mean pre-test and post-test scores for the elements of KEEC was found to be highest for gathering information [Pre-test median score: 7.64, Post-test median score: 10.16] followed by sharing information [Pre-test median score: 7.54, Post-test median score: 10.16]. Whereas, a study by Tenglikar PV, et al[15] observed highest mean scores for providing closure to discussion followed by building relationship. Our study showed a significant improvement in the competencies of female interns when compared to male interns. Similar results were obtained from a study by Tenglikar PV, et al[16] and Nicolai J, et al[17] which reported that Female physicians had higher scores on empathic communication skills than the male physicians.

**Feedback reflections**

Interns were asked to give their reflection on their learning experience from the Communication skill sessions. Majority of them expressed that they could identify the mistakes they commit
while communicating with patients. One of the reflections given by the intern was ‘Trained ourselves how to communicate in a systematic manner and in way to confront the patients using the elements of communication’. Majority expressed that these learning would help them in future as a medical professional as one of the reflections stated that the experience would benefit him ‘To be a good doctor and better understanding of patient problem.” Assistant professors in charge of centres who were involved in the process of training the interns expressed that the interns were interactive and actively participated in the whole process. After the module they were found to be incorporating the elements of Communication skills Module in their day-to-day practice.

**Recommendations**

This study, necessitates the importance of communication module to be included as a part of medical undergraduate curriculum. The effective time for the introduction of module should be before the start of clinical postings as already implemented by National Medical Council (NMC) from 2019 batch onwards where Communication module 1.4 (Foundation of Communication 1) is introduced in MBBS Phase 1, followed by Communication Module 2.1 (Foundation of Communication 2) in MBBS Phase 2. However, many medical students both Undergraduate and Postgraduate currently studying in various Medical Colleges in India who got admission in MBBS prior to 2019 are denied of this opportunity. All these students can be oriented before or during their internship or post-graduation in the basics of communication using guidelines given in both the module as one 5 hours module. The same orientation can even be continued from 2019 batch as a reinforcement module at the beginning of their internship which can help in development of effective interaction between them and their patients.

**Limitations**

Post-test was taken within 2 weeks following the training, long term effect of intervention could not be analysed which may have been different from the current findings if observed.

**Conclusion**

This study clearly highlights that the AETCOM Module is effective in improving the communication skills of the medical students. Investing in communication skills in undergraduate curriculum can be a good builder for the budding doctors. This in turn will prevent malpractices and litigations against doctors in the near future.

**Summary of the study**

- Effective communication skills between doctor and patient leads to enhanced patient satisfaction, better compliance to treatment and improved health outcomes.
- Good communication skills are important for a community physician as they reach out to people voluntarily unlike clinical physicians.
- Investing time on this AETCOM module on the undergraduate medical students has shown a very good result in improving their communication skills with the patients.

**Acknowledgements**

We thank all our interns for their co-operation in participating in this study. We thank the management for giving the approval to conduct this study on the interns in spite of the interns’ busy schedules and duties.

**Key messages**

Adding a component of training the undergraduates in practicing communication skills in the undergraduate curriculum can be a good builder for the budding doctors.

**Financial support and sponsorship**

Nil.

**Conflicts of interest**

There are no conflicts of interest.

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