# The Quality of Evidence-Based Morning Reports with an Interactive and Consultative Approach in the Viewpoint of Clinical Faculties and Residents: A Qualitative Study

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## Abstract

**Background:** Morning reports are important training programs (especially for residents) as they enhance clinical decision-making skills, social interactions, and participatory learning. Given the need to eliminate the educational gap and provide optimal conditions, educational interventions regarding morning reports are often implemented in the form of evidence-based morning reports with an interactive and consultative approach.

**Objectives:** The present study aimed to evaluate the quality of evidence-based morning reports using an interactive and consultative approach.

**Methods:** This qualitative study was conducted with an inductive approach in 2019 in Iran. Changes were made to develop an evidence-based morning report and create a friendly educational environment between faculty members and residents, as well as interactive learning among the residents. The intervention was assessed through explaining the experiences of 16 participants via individual semi-structured interviews. Purposive sampling continued until data saturation. Data analysis was performed in the MAXQDA10 software.

**Results:** In total, 153 codes, two main categories (education and dimensions of change), six categories (educational deficiencies, influential factors in the quality of education, requirements, barriers, benefits, and response to change), and 20 subcategories were extracted.

**Conclusions:** According to the results, the residents were satisfied with the changes, while the faculty members needed more justification and motivation. The strengths and weaknesses identified in the intervention could lay the groundwork for broader changes in the same clinical fields.

*Keywords:* Morning Report, Evidence-Based Medicine, Clinical Education, Medical Education

## 1. Background

Morning reports (MRs) have long been an inherent element of the internal medicine assistant training program (1-4). In approximately 98% of residency programs, MRs are offered on a daily basis, while this rate may vary in different universities (1, 5). Since most MR audiences are residents, this field of education plays a key role in clinical education. In MR meetings, training is provided on communication and socialization skills, improving critical thinking, questioning and problem-solving, evaluation of professors' teaching and student performance, discussing the desired/unintended consequences of providing medical services, and improving professional indicators. Therefore, MRs are essential to ensuring the provision and evaluation of high-quality clinical services (6). In addition to the goals of the clinical empowerment of students in MRs, the improvement of speech skills has also been emphasized (7).

Since students of different levels partake in an MR, the educational needs of each group should be considered separately (8). MRs are used in various educational departments in order to train and evaluate the progress of residents and the quality of clinical care. It is often recommended that interesting cases of diseases be reported in these sessions (1).

The quality of education in clinical fields could be improved by using evidence-based medicine (EBM) rather than the detailed evaluation of basic sciences. In MR sessions, practical and common issues are often addressed for

this purpose (9). Furthermore, EBM is a reliable tool for strengthening clinical skills, which results in more interactions and participation in group discussions (7, 10).

Several studies have been focused on the quality and desirability of MRs (7, 11-13), proposing the different viewpoints of faculty members and students in this regard (13). The results of a study comparing MRs with conventional methods and EBM indicated that a combination of two approaches could promote clinical education, while attention had to be paid to frameworks and methods such as feedback, the interaction of participants, and the clinical skills of students (7). Moreover, an analysis of MR sessions has shown that residents are dissatisfied with the implementation of these sessions due to stress and the lack of a friendly environment to communicate with faculty members and clinical teachers due to residents' unwillingness to respond and inadequate study of clinical resources (14).

Given the need for optimal MR sessions to promote clinical education and the importance of participants' views in eliminating the educational gap and achieving the desired state, an educational intervention was performed regarding MRs in the form of evidence-based MRs using an interactive and counseling approach.

## 2. Objectives

The present study aimed to evaluate the quality of educational interventions in MR sessions from the perspective of the faculties and assistants of the internal medicine department of Isfahan University of Medical Sciences, Iran.

## 3. Methods

### 3.1. Study Design

This study was conducted based on qualitative content analysis and an inductive approach in 2019 in Iran. The impact of the intervention in MR sessions was evaluated based on the experiences of the faculty members and residents of the internal ward of Al-Zahra Teaching Hospital, affiliated to Isfahan University of Medical Sciences. A qualitative approach was selected to assess the effect of the intervention through the in-depth study of the educational outcomes and the impact on the participants through the analysis of their experiences. Informed consent was obtained from the participants to record the interviews, and the confidentiality of the information was observed.

### 3.2. MR Educational Intervention

The current status of MR sessions was evaluated, and the residents mostly expressed dissatisfaction with the

stress caused by these sessions (14). In addition, the faculty members were discontented with the fact that the residents are often not prepared for evidence-based responses and do not properly study the clinical resources offered for these sessions.

To create a friendly educational environment for counseling, the educational intervention was implemented based on an evidence-based approach between the faculties and residents, as well as an interactive learning approach among the residents. The primary goals of the MR sessions on Tuesday mornings at the internal medicine department were 'focus on the interaction among the residents' and 'faculty assistance as counseling', which were presented for one semester. These meetings were mandatory for the residents as part of their score was allocated to their attendance and participation in the sessions. The MR sessions were scheduled at 7.30 AM with the duration of 45 minutes.

### 3.3. Description of MR Sessions

Initially, the senior resident on duty reported the number of the hospitalizations and provided a summary of the previous night within two minutes. Following that, two first-year residents presented the history of two patients (educational challenge) to be selected by the senior resident of the previous night. Afterwards, the senior resident of the night explained their scientific and practical approach based on scientific documents and references, and the pertaining actions were taken. To prepare for this stage, references such as UPTO DATE had to be reviewed the night before. At the next stage, the senior resident of the morning shift posed questions, and the invited faculty members were asked to comment as advisors. A conclusion was drawn by the resident of the night without discussion. Each case was completed within 20 minutes with an emphasis on providing evidence-based and friendly advice by the faculty members to the residents rather than questions and answers.

### 3.4. Evaluation the Impact of the Intervention

The experiences of 16 participants were extracted by qualitative content analysis; the participants included the faculty members and residents of the internal ward of Al-Zahra Teaching Hospital who attended the MR sessions in a modified manner. The participants were selected via purposive sampling. Data were collected via individual semi-structured interviews, which continued until data saturation. For the convenience of the participants, the location of the interviews was Al-Zahra Hospital.

The questions asked in the interviews were focused on the experiences of the participants with the imple-

mentation of the changes in the MR sessions, the positive and negative impacts of the changes, and views on the strengths and weaknesses of the changes. In addition, probing questions were asked for more details on the main questions. The duration of the interviews was 30 - 45 minutes, and the interviews were recorded with the permission of the participants.

### 3.5. Statistical Analysis

Data coding and management was performed in the MAXQDA10 software. By using an inductive approach and qualitative content analysis, we extracted codes, subcategories, categories, and main categories. Data analysis was carried out using the content analysis method proposed by Graneheim and Lundman (2004), which involved the verbatim transcription of the interviews, the repeated review of the transcripts, dividing the transcripts into abbreviated semantic units, summarizing the abstract semantic units, and tagging by code. The extracted codes were classified into various categories through comparison based on their similarities and differences and arranging the categories as an indicator of the 'hidden content' of the text (15).

We used the data accuracy indices proposed by Guba and Lincoln (1994) for data analysis (16). The data were provided to the participants for confirmation and the research process was explained in detail to facilitate the transfer. The process of conducting a qualitative study was also confirmed by a specialist in qualitative research methods, and the approval of a quality expert outside the research team was also obtained regarding the reliability of the study.

## 4. Results

In total, this study had 16 participants, including seven clinical faculty members (two men and five women) with the mean age of $39 \pm 2.4$ years and nine residents (four men and five women) with the mean age of $32 \pm 3.3$ years.

After the implementation and analysis of the interviews, a total of 153 codes were extracted. Moreover, evaluation of the changes made in the MR sessions resulted in two main categories of education and dimensions of change, six categories of educational deficiencies, influential factors in the quality of education, requirements, barriers, benefits, and response to change, and 20 subcategories (Table 1).

### 4.1. Main Category One: Education

In this theme, the identified categories were educational deficiencies and the influential factors in the quality of education.

#### 4.1.1. Category One: Educational Deficiencies

In this category, the gap between educational needs and the status of the educational field of the MRs was reviewed. The category consisted of two subcategories, which were 'the need to improve clinical competence' and 'the need to register and follow-up patients'.

"Clinical competence has not changed, and there is still work to be done. Faculty members should give us diagnostic and therapeutic body counseling" (P3.R).

"When we seek advice from faculty members, we know what our problem is and how we can manage our patient, but when the demonstration session takes place, we cannot find the answers to our questions" (P7.R).

"Most residents say we usually follow up with the patient ourselves. But if there is a monthly session for special cases and there is follow-up, we will aware of the patient and it will have an educational aspect for us too. I will do the same in the evening when I am on duty, but if there was a session to discuss these special cases, it would be much better" (P5.R).

#### 4.1.2. Category Two: Influential Factors in the Quality of Education

The participants discussed the influential factors in promoting the quality of education in MRs at the hospital. The subcategories in this regard were 'evidence-based search competency', 'importance of education', 'professional ethics', and 'motivational role of faculty members'.

"We should not shut down educational fields, especially MR. Our presence should be strong so that our education could be improved" (P5.FM).

"In general, there has always been training in MR. Some faculty members also teach quite well. Doctor … stands in front of the hall and explains the tasks to us, which is greatly educational to use. We (residents) and the faculty members study the night before MR, and cases play a key role in our learning" (P9.R).

"Even if the fault is known, they provide feedback to the resident after MR. We have very good faculty members, and they are a role model in professional ethics" (P8.R).

"I think doctor … has always tried to be friendly" (P6.R).

### 4.2. Main Category Two: Dimensions of Change

In this theme, the identified categories were requirements, barriers, benefits, and response to change.

#### 4.2.1. Category Three: Requirements

In this category, the requirements of MR sessions were expressed by the participants. The subcategories included 'timely and appropriate justification', 'changes in the classroom layout', and 'mandatory presence of residents in meetings'.

**Table 1.** Main Categories, Categories, and Subcategories Resulting from Impact of Intervention on Participants' Perspectives

| Main Categories | Categories | Subcategories |
|---|---|---|
| **Education** | Educational deficiencies | Need to improve clinical competence |
| | | Need to register and follow-up patients |
| | Influential factors in quality of education | Evidence-based search competency |
| | | Importance of education |
| | | Professional ethics |
| | | Motivational role of faculty members |
| **Dimensions of Change** | Requirements | Timely and appropriate justification |
| | | Changes in classroom layout |
| | | Mandatory presence of residents in meetings |
| | Barriers | Lack of motivation for attendance in faculty members |
| | | Priority of treatment over education |
| | | Insufficient justification |
| | | Non-continuity of change |
| | | Faculty members' resistance to change |
| | | Disinterest of some residents |
| | Benefits | Faculty response |
| | | Teaching and learning |
| | | Positive impacts on residents |
| | Response to change | Attraction for residents |
| | | Minor faculty changes |

"In general, what do we need to change? First, training and justification. Second, if you do not act accordingly, there will be a penalty. Change must take place. If you want to perform as such, there is no problem, but if you do not, it is a problem!" (P3.R).

"A change in the layout is needed. They put a table in front of the class, and the senior resident managed the meeting. It was very effective" (P1.R).

"Attendance an MR session was mandatory, and the residents had to attend in the sense that the impact of the final score depended on their MR attendance" (P3.FM).

### 4.2.2. Category Four: Barriers

In this category, the main obstacles were introduced to implement changes in the MR sessions by the participants. The identified subcategories were 'lack of motivation for the presence of faculty members', 'priority of treatment over education', 'insufficient justification', 'lack of continuity of change', 'faculty members' resistance to change', and 'lack of interest in some residents'.

"The presence of faculty members in MR sessions is effective in career advancement and motivation" (P7.FM).

"The residents were not justified. Some of the residents did not take responsibility. Some of the faculty members were unaware of the change. They asked questions in a traditional manner. This lack of coordination made it difficult" (P4.FM).

"I think the MR session moderator should be a faculty member and challenge the residents, not the other way around!" (P1.FM).

"Some of the residents resisted attending the MR session. At the time, only I performed. They said that we do not know how to manage the faculty members. The residents' confidence in speaking and managing the meeting is low. It is socially important to develop body language skills, and it would be great if it worked and helped their social skills" (P5.R).

### 4.2.3. Category Five: Benefits

In this category, the benefits of change presented in the MR sessions were expressed by the participants. The extracted subcategories in this regard were 'faculty response', 'teaching and learning', and 'positive impacts on the residents'.

"I think the presence of the faculty members has increased. They attended the sessions more frequently, explained more, and their presence was felt more" (P9.R).

"We studied the night before so that we could ask our faculties questions in the morning. It was very effective. It was also interesting that the faculty members had to get involved as well" (P8.R).

"These changes were really good and exciting, and everything felt so much better. The third-year resident was sitting in a chair in front of the hall. He sat down and asked the faculty members many questions. The residents became more comfortable, and the atmosphere was friendlier and better. We did not feel stressed with the third-year resident sitting in front of the class" (P1.R).

### 4.2.4. Category Six: Response to Change

In this category, contributing responses to the educational changes presented in the MR sessions were raised. The identified subcategories in this regard were 'attraction for residents' and 'minor faculty changes'.

"It was not a bad atmosphere. The residents liked it. It was better. We were flexible, accepting, and thought it was much better than the previous sessions. The third-year residents accepted it better and easier as well. They were managers and liked to ask questions" (P1.R).

"Well, coercion to implement change is only done for the residents. Of course, the faculty members cooperate, but not much" (P6.R).

## 5. Discussion

The present study aimed to evaluate the changes in the implementation of MR sessions based on an interactive and consultative approach rather than questions and answers during these sessions. The experiences of the faculty members and residents of the internal medicine department were reviewed regarding these changes. The analysis of the participants' experiences indicated that the intervention, which involved changes to improve the educational atmosphere of MR sessions in a friendly atmosphere between the faculty members and residents and interaction among the residents, could improve the quality of MR session training if continued.

### 5.1. Education

The analysis of the participants' views encompassed aspects such as attention to education in this important clinical area, considering and resolving the current educational deficiencies, and attention to the significant influential factors in the quality of education, such as promoting the quality of clinical education.

### 5.2. Dimensions of Change

A review of the participants' comment indicated that the implementation of educational changes in MR sessions depends on a series of executive requirements, barriers to change, benefits, and predicting the stakeholders' response to change. In order to optimize the effect of the effected changes, the participants were justified about these changes and were aware of its benefits so that they could cooperate in the implementation of change.

In the present study, the time of MR sessions was associated with a specific timeline for introducing and reporting selected disease cases, and the duration of the session was designed to be 45 minutes. In some studies, the duration of MR sessions varies from 30 minutes to two hours (13, 17, 18), while the duration of 40 minutes has been reported in other studies (19-21); this is consistent with the time set in our study. In another research, the introduction of 2 - 3 patients was reported to be favorable (19), which is also consistent with the introduction of two patients in the present study.

The content of MR sessions has been reviewed in a study in this regard. According to the obtained results, MR sessions started at 8 AM on average and continued for one hour. These sessions were held five times a week, and three cases were reported in each session. Each patient was referred for 20 minutes, and patient introduction was the responsibility of the intern. The selected patients mostly had complex illnesses and were led by a resident. The venue and physical conditions of the meetings were also reported to be favorable. The faculty members stood in front of the learners and did not interact face-to-face. The presence of other experts has also been reported in these meetings. Most learners have reported moderate benefits by attending these sessions (6). Although the present study shows the current status of MR sessions, the reasons for the average satisfaction of learners should also be determined. Furthermore, the changes implemented in our study in terms of schedule and implementation contributed to the coherence of the proposed framework and its observance by the participants.

In the present study, changes in the management of MR sessions were implemented by the senior resident through interaction with the faculty members and other students. The effected change was satisfactory to most of the residents, while it was not well received by some of the faculty members who resisted the change. In some studies, the responsibility of managing MR sessions has been given to a faculty member (7, 19), which differs with the current research. The study by Razavi et al. was conducted in Tehran (Iran), and the senior resident was responsible for the management of MR sessions (6), which is similar to the present study. However, not all the faculty members

in our study were satisfied with the senior resident managing the meetings and asking faculty members questions for advice. Therefore, it could be inferred that the faculty members resisted the change in this regard.

In the study by Farhadifar et al., the traditional approach was compared to EBM from students' perspective, and it was reported that faculty members sat in front of the students, thereby establishing interaction (7). This is in line with the present study in terms of interaction between the participants. In our study, the senior resident was sitting in front of the classroom, and some faculty members also stood in front of the classroom to give explanations to the students with the consent of both the students and faculty members.

In the present study, the residents reported that they did not have a problem with evidence-based searches (especially UPTO DATE searches) despite not having the opportunity to do so due to busy sections, especially in the case of the first- and second-year students. The crowded nature of teaching hospitals and the heavy workload of the residents, which signifies prioritizing treatment over education, are major obstacles to change. In order to increase learner interaction and improve clinical competency, it is essential to provide the necessary EBM training to faculty members and residents (7).

Applying a structured program in accordance with the presented standards and holding purposeful meetings with a patient-centered approach play a pivotal role in promoting clinical education.

In our study, specialists in other fields did not attend the MR sessions, which is contrary to the recommended standard (8). Therefore, it is necessary to create sufficient motivation for the presence of specialists in other fields (e.g., radiology, surgery, and pharmacology), as well as the subspecialty faculty members of the internal medicine department, to attend MR sessions so as to promote training and provide guidance and advice to residents.

The five main goals of MRs are education, service quality assessment, identification and reporting of adverse events, non-medical issues, and social interactions (8). The results of a study in this regard indicated that from the perspective of stakeholders, MRs could improve social skills and become a suitable environment for social interactions (8). Furthermore, the study conducted by West et al. showed that students of different levels emphasized on interactive and group discussions, as well as active learning and its educational benefits (22). These findings are consistent with the results of the present study in terms of improving social skills and self-confidence in residents by accepting responsibility, managing meetings, and holding interactive meetings with faculty members and other students.

The key strength of our study was the greater interaction of the faculty members with the residents and the provision of clinical counseling. Speech skills and social interaction with other learners were also among the positive outcomes of the changes made in the MR structure.

To improve the efficacy of training in this area, it is essential to prioritize patient management and receive constructive feedback from medical education professionals to effectively monitor the conduct of these meetings. To enhance the quality of education, holding training workshops could also be effective. Moreover, using educational booklets by learners about clinical education standards and the provision of standard checklists for field evaluation could remarkably improve the current state to reach higher educational goals within the system (11).

According to the results of the present study, the residents were satisfied with the effected changes, while justification and motivation should be offered to the faculty members in this regard. In addition, the identified barriers to change in our study should be examined and eliminated to lay the groundwork for wider measures. Failure to monitor these changes and returning to the old routine sounded unpleasant to most of our participants. In addition to emphasizing the continuity of the change, they requested periodic justifications for more effective changes and counseling on implementing subsequent changes. Evidently, providing solutions for effective and desirable education in MR sessions as an important area of clinical education could be incorporated into specific models in other fields and contexts. Therefore, further investigations should recruit participants from students of different levels. It is also recommended that the extracted dimensions in our study be considered as solutions to change the desirability and promotion of education.

### 5.3. Limitations of the Study

Due to the large sample size and resistance to change in the faculty members, proper control over the monitoring of change and its continuity was not possible. It is hoped that by extracting the favorable and unfavorable aspects of change, our findings be used as a prelude to making changes that will pave the way for reviewing the framework of MR sessions with the cooperation of the participants. Moreover, this study was conducted in a teaching hospital within an educational group, while the focus was on a limited group despite the large number of the participants. It seems that the general aspects of the used approach could be generalized to other educational groups.

### 5.4. Conclusion

If the use of EBM continues with an interactive and consultative approach in MR sessions, decision-making and

clinical reasoning skills will be improved. In addition, this approach could enhance social skills, eloquence, and self-confidence. An interactive and participatory approach to learning by accepting responsibility in MR sessions by residents and resolving clinical ambiguities by asking questions from faculty members are highly recommended for promoting the quality of education.

## Footnotes

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