

## Comparing The Internal Medicine And Pediatric Morning Report With The Standard Morning Report

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### Abstract

**Background:** The morning report (MR) seeks different goals in various centers and departments, and considering the undeniable importance of these sessions in curricula, The purpose of the present study is to investigate the presentation of internal medicine and pediatric MR of hospitals affiliated with Tabriz University of Medical Sciences.

**Methods:** A 24-item questionnaire containing questions on the MR structure, presentation of the cases discussed in MR, giving importance to research, learning level and, finally, giving importance to ethics and forensic medicine was designed. These questionnaires were completed by externs and interns working in pediatric and internal medicine wards in June 2014 (n=50 people per ward).

**Results:** One-hundred 24-item questionnaires were completed. The “Optimal” and “Excellent” were the most frequent options selected in questions on faculty members' abilities (157), the presence of permanent members in MR sessions (56), the presentation quality of MRs by the interns in the internal medicine (78) and the residents in the pediatric ward (68). However, the “Optimal” and “Excellent” were the least frequently options selected in questions on encouraging students to clinical research (6), the presence of guest members (6), paying attention to medical and forensic ethics (18), and discussing differential diagnoses by article reviews (11).

**Conclusion:** The MR presented in the two wards has extensive defects in all areas and there is a need for more accurate control and extensive evaluations at all levels of medical education.

**Keywords:** Morning report, Medical Education, Clinical Education

### Introduction

The morning report (MR) is the most basic case-based conference in the majority of clinical wards where faculty members, residents, and medical students meet within the first office hours and discuss the patients admitted during the last 24 hours. Surveys have shown that approximately 98 teaching daycare hospitals hold an MR session for at least five days a week, although the format and content, participants, and goals are completely different in various hospitals.<sup>1,2</sup> Although the MR was considered one of the inpatient curricula since its beginning in the Medical Mecca during the years 1800 to 1850 in Paris until the past few decades, with the expansion of outpatient education in most teaching hospitals since the past few decades, it has become one of the main clinical curricula (inpatient and outpatient).<sup>3</sup> MR seeks completely heterogeneous goals including patient-based education, education on and monitoring of patient introduction, education on disease process, and diagnostic workup, discussions on tests and procedures, improving intellectual and research curiosity, improving decision-making skills, teaching medical ethics, forensic medicine and research and reviewing articles in most educational centers.<sup>2,4</sup> The evidence seems necessary in MR. To show the importance of outpatients, it can be stated that nearly one-fourth of curricula in reputable centers around the world focus on outpatient MR.<sup>5,6</sup>

Another important component of MR sessions included patient follow-ups, which play an important role in residency education so that a significant part of the diagnoses discussed in the follow-up a few weeks after MR is not compatible with final diagnoses.<sup>7</sup> Maliheh Kadivar et al. found in a study in Iran that 34% of the diagnoses discussed in MR were not compatible with the final diagnosis.<sup>8</sup> Therefore, this training method can play a positive role in improving the clinical

management of patients by residents. Hsu HC et al. showed in a recent study that MR can enhance the basic skills of medical students and residents. They further stated that regular MR enhances the skills of first-year residents and thinking aloud MR enhances the skills of interns and apprentices.<sup>9</sup> Brass showed the importance of paying attention to the pathophysiology and biochemistry of diseases as well as investigating the cases discussed in MR since it helps us achieve a better understanding of the mechanism of diseases and increases the educational quality of MR for medical students and residents.<sup>10</sup>

Before MR, discussable cases are selected based on their educational value by the senior resident. However, if there is complete freedom in the selection of these cases, the common cases and their management procedure, as well as the ethical and economic issues, would be neglected. In this regard, Gerard JM et al. showed that the residents decide to introduce problematic cases in MR in most cases.<sup>11</sup> Presentation is the most important factor determining the transfer and quality of information, which is carried out by one of the attending physicians during the previous 24 hours. However, some of the information can be incomplete or incorrect because the attending physicians usually lack complete knowledge and skills. It has been shown in various studies that recruiting senior residents as teachers can play an important role in the training of junior residents and medical students, as well as enhancing the scientific and presentation skills of senior residents themselves.<sup>12</sup> It has also been shown that reducing the psychological stress dominating the MR environment, in addition to enhancing the various skills of the residents, can be one of the important achievements of this method during MR.<sup>13</sup> Various studies have shown that MR, as the most useful component of the residency curriculum, should be carefully monitored because various evidence shows that increasing the MR quality, in addition to the various aforementioned positive educational effects, can increase the quality of healthcare services. In this regard, Daniel E Banks reported that MR reduces the length of stay in the cases presented in this report, adds evidence-based management at the patient's bedside, and increases the quality of patient care.<sup>14</sup>

There have been some studies on the MR structure in Iran. In the study by Mansour Razavi et al. at Tehran University of Medical Sciences, MR started at 8:00 a.m. for 5 days a week and 3 cases are discussed per session by an intern.<sup>15</sup> In the study of Masoud Ziaei et al. at Birjand University of Medical Sciences, the participation of students and faculty members was also investigated and results showed the poor educational impact of the sessions from the students' perspective.<sup>16</sup> Another domestic study<sup>17</sup> also evaluated MRs and showed the "non-optimal" reception and hardware facilities such as the Internet. In a study at Tehran University of Medical Sciences, Kamran Azma et al. showed a difference of opinion between students and faculty members regarding the goals of the MR sessions, so most faculty members consider case-based therapy and education as the main goals of these sessions, while students have referred to diagnostic assessment and self-assessment as their purpose for attending such sessions.<sup>18</sup>

In this regard, a review article should be presented by the senior resident or a member of the faculty members for each patient introduced in the MR. The critical article review, which is suggested by some articles, provides appropriate conditions for self-directed learning. In most reputable educational centers, the main educational points are written in the form of a few key sentences as a take-home message, copied, and provided to the participants at the end of each session. The MR organization is another topic discussed in MR that is out of the scope of the present research. Attempts have been made in the present study to investigate the needs and expectations of the target group, which are mainly externs and interns working at internal medicine and pediatric wards using the above-mentioned materials and by preparing a questionnaire.

## Methods

This is prospective descriptive-analytical research. The study population includes 100 externs and interns participating in MRs of the internal medicine and the pediatric wards of Imam Reza Hospital of Tabriz. The sample size was estimated at 100 people according to various studies aimed at assessing MR quality.

Inclusion criteria included consent to participate in the study, and being externs and interns. Exclusion criteria also included a lack of consent to participate in the study.

Also, a total of one-hundred 24-item questionnaires with MR-related questions such as its structure, presentation, cases discussed, the importance of research, learning level, and finally the importance of ethics and forensic medicine. These questionnaires were distributed among internal medicine and pediatric medical students, both externs and interns (n=50) in the last office days and before the completion of internal medicine and pediatric wards in June 2014. These 24-item questionnaires included "No" and "Poor", moderate, "Optimal" and "Excellent" options. The responding medical students completed the questionnaire after MR. The collected questionnaires underwent data analysis using SPSS ver. 32 and data confidentiality was ensured. The frequency with which "Optimal" and "Excellent" options are chosen in both internal medicine and pediatric wards was determined as the desired outcome in that field.

## Results

Among the 100 respondents to the question “Exchanging medical knowledge about the patient”, 33 people chose the “Optimal” and “Excellent” options in internal medicine (n=13) and pediatric MRs (n=20). Among the 100 respondents to the question “Encouraging students to clinical research”, 6 people chose the “Optimal” and “Excellent” options, while 36 people chose the “No” and “Poor” options.

Among the 100 respondents to the question “Abilities to attend faculty members”, 57 people chose “Optimal” and “Excellent” options.

Among the 100 respondents to the question “Presence of permanent members managing the MRs and their abilities”, 56 people chose “Optimal” and “Excellent” options in internal medicine (n=32) and pediatric (n=24) morning report. Among the 100 respondents to the question “Presence of guest members and their influence on the morning report”, 6 respondents chose the “Optimal” and “Excellent” options, while 71 respondents chose the “No” and “Poor” options. Among the 100 respondents to the question “Role and impact of the senior resident”, 13 and 24 respondents of the internal medicine and pediatric morning reports chose “Optimal” and “Excellent” options, respectively. While 26 respondents of internal medicine morning reports chose “Poor” and “No” options. Among the 100 respondents to the question “Using specialists as permanent and responsible members and recruiting sub-specialists as guest members”, 13 and 4 respondents to internal medicine and pediatric morning reports chose the “Optimal” and “Excellent” options, respectively

Among the 100 respondents to the question “The importance and effectiveness of specialists and sub-specialists”, 20 and 12 of respondents to internal medicine and pediatric morning reports chose “Optimal” and “Excellent” options, respectively. While 25 respondents to internal medicine morning reports chose the “Poor” and “No” options. Among the 100 respondents to the question “The role of the article reviews as a teaching method”, 3 and 8 of respondents to internal medicine and pediatric morning reports chose “Optimal” and “Excellent” options, respectively. While 36 and 28 respondents to internal medicine and pediatric morning reports chose the “No” and “Poor” options. Among the 100 respondents to the question “The role of the teaching method based on the intellectual discussion about patient management”, 28 chose the “Optimal” and “Excellent” options, while 21 and 12 respondents to internal medicine and pediatric morning reports chose “Poor” and “No” options, respectively. Among the 100 respondents to the question “Selecting patients for the morning report after the quick presentation of all the patients by the senior residents and selection of patients by the teachers”, 24 and 18 respondents to internal medicine and pediatric morning reports chose “Optimal” and “Excellent” options, respectively, and 20 of them chose “Poor” and “No” options.

Among the 100 respondents to the question “Selection of patients by the senior resident or residents”, 15 and 26 respondents to internal medicine and pediatric morning reports chose “Optimal” and “Excellent” options, respectively. Also, 21 and 14 respondents to internal medicine and pediatric morning reports chose the “Poor” and “No” options, respectively. Among the 100 respondents to the question “Satisfaction with quantity and quality of the case presentation”, 26 and 20 respondents to internal medicine and pediatric morning reports chose “Optimal” and “Excellent” options, respectively and 9 respondents to pediatric morning reports chose “Poor” and “No” options. Among the 100 respondents to the question “Presentation of patients by interns”, 39 and 16 respondents to internal medicine and pediatric morning reports chose the “Optimal” and “Excellent” options, and 4 and 18 respondents to internal medicine and pediatric morning reports chose “Poor” and “No” options, respectively. Among the 100 respondents to the question “Patient presentation by the resident”, 25 and 34 respondents to internal medicine and pediatric morning reports chose “Optimal” and “Excellent” options, respectively and 16 respondents to pediatric morning reports chose “Poor” and “No” options.

Among the 100 respondents to the question “Discussion on the disease process”, 16 and 20 respondents to internal medicine and pediatric morning reports chose “Optimal” and “Excellent” options, and 11 respondents to pediatric morning reports chose “Poor” and “No” options. Among the 100 respondents to the question “Discussion on diagnostic tests and procedures”, 16 and 12 respondents to internal medicine and pediatric morning reports chose “Optimal” and “Excellent” options, and 19 and 14 respondents to internal medicine and pediatric morning reports chose “Poor” and “No” options, respectively. Among the 100 respondents to the question “Discussion on ethics and forensic medicine”, 14 and 4 respondents to internal medicine and pediatric morning reports chose “Optimal” and “Excellent” options, and 24 and 36 respondents to internal medicine and pediatric morning reports chose weak and no options, respectively.

Among the 100 respondents to the question “Giving importance to the board exams and case review in the morning report”, 4 and 8 respondents to internal medicine and pediatric morning reports chose “Optimal” and “Excellent” options, and 33 and 32 respondents to internal medicine and pediatric morning reports chose “Poor” and “No” options, respectively. Among the 100 respondents to the question “Presenting a daily note, or a daily message”, 1 and 2 respondent(s) to internal

medicine and pediatric morning reports chose “Optimal” and “Excellent” options, and 41 and 36 respondents to internal medicine and pediatric morning reports chose “Poor” and “No” options, respectively.

Among the 100 respondents to the question “The role of subspecialty fellows in the morning report”, 7 and 10 respondents to internal medicine and pediatric morning reports chose “Optimal” and “Excellent” options, and 38 and 30 respondents to internal medicine and pediatric morning reports chose “Poor” and “No” options, respectively (Figure 1).

Among the 100 respondents to the question “Role and influence of the morning report in increasing self-directed learning”, 8 and 16 respondents to internal medicine and pediatric morning reports chose “Optimal” and “Excellent” options, and 25 and 20 respondents to internal medicine and pediatric morning reports chose “Poor” and “No” options, respectively (Figure 2).

Among the 100 respondents to the question “The role and influence of the morning report in increasing self-learning”, 9 and 16 respondents to internal medicine and pediatric morning reports chose “Optimal” and “Excellent” options, and 18 and 28 respondents to internal medicine and pediatric morning reports chose “Poor” and “No” options, respectively.

Among the 100 respondents to the question “Discussion on the method of patient management and diagnostic methods”, 19 and 16 respondents to internal medicine and pediatric morning reports chose “Optimal” and “Excellent” options, and 12 and 20 respondents to internal medicine and pediatric morning reports chose “Poor” and “No” options, respectively (Figure 3).

## Discussion

MR is one of the pillars of medical education. The results of the present study can be discussed in 6 groups: MR structure, presentation, cases discussed in MR, giving importance to the research, learning level, and, finally, giving importance to ethics and forensic medicine. MR structure includes 7 questions. The results show that the permanent MR members, who are considered as faculty members of the relevant department, have acceptable abilities from the students' perspective (57%) and the permanent people manage MRs (56%). According to the respondents, the structural weakness included the non-recruitment of guest members (6%), and specialist as permanent and responsible members and the subspecialists as guest members should be recruited.<sup>13</sup> However, this weakness is more noticeable in the pediatric ward than internal medicine (26%). Regarding the role of residents in MRs, it can be stated that none of the senior resident and subspecialist resident played their role appropriately according to the respondents. Interestingly, pediatric ward had a better condition (48% and 20%) than to internal medicine (26% and 14%). Similarly, the main audience of the MR sessions was not clear and specialists from other fields of study were not present in the sessions in a previous study at Tehran University of Medical Sciences in 2011.<sup>15</sup> Similarly, in another previous study at Tehran University of Medical Sciences, although the students regarded the subspecialist faculty members as the suitable person in charge of the session, the attending faculty members referred to the specialist faculty members as the suitable person in charge of this position.<sup>16</sup>

Method of presentation: patients can be selected in two ways, i.e. by teachers after quick presentation of all cases by the senior resident and selection of patients by the senior resident or residents. According to the results, it can be stated that the former, i.e., the selection of patients by the teachers in the internal medicine is carried out more desirably (28% vs. 30%). In contrast, the latter, namely, patient selection by residents in pediatric wards is performed more desirably (52% vs. 36%). The satisfaction with the intern's presentation in internal medicine is significantly more than pediatric ward (78% vs. 32%). In contrast, pediatric ward students had a higher satisfaction with the residents' presentation (68% vs. 50%). The overall presentation satisfaction was 46% in internal medicine and pediatric wards, and 52% and 40% in each of them, respectively. According to other domestic studies, such as the one carried out in Qom University of Medical Sciences, there was a higher satisfaction with presentation compared to other components of MRs.<sup>17</sup>

### *Cases discussed in the morning report*

Only 33% and 36% of the respondents were satisfied with the method of exchanging patient information and discussions on the disease process, respectively. It can also be stated that only 28% and 35% of respondents (two questions) were satisfied with discussions on diagnostic procedures. Only 28% of students were satisfied with the differential diagnoses presented in the MR, which is one of the important weaknesses of teaching and discussion in MR. Results of the study conducted in Tehran University of Medical Sciences showed a small percentage of the participants were satisfied with the method of exchanging patient information in MRs held in the studied centers.<sup>16</sup>

### *Giving importance to research*

In contrast to intellectual presentation of differential diagnoses and subsequent teaching, there is a teaching based on article reviews, which is performed significantly weaker than the intellectual method, so that only 11 students stated that it was implemented favorably. Also, a 64% dissatisfaction rate shows the importance of paying attention to articles and using them in the course of teaching and presenting differential diagnoses. The MR sessions performed poorly in encouraging students to clinical research in internal medicine and pediatric wards so that only 6% of the respondents had

a good assessment in this regard. Interestingly, pediatric ward had a poor performance, that is, there is 80% dissatisfaction in this regard.

Several domestic studies included this topic and all of them have pointed out that the article review and subsequent teaching is neglected in MRs.<sup>18</sup> Learning level (2 questions): only 24% of respondents mentioned good learning, and this rate was twice as high in pediatric ward as in internal medicine. Only 12% had a favorable opinion regarding giving importance to the board exams, which shows a strong weakness in this regard. An interesting point to note is that 3% of the participants referred to the good presentation of messages and daily reports, which indicates that an effective summary of the discussed topics is not provided. Consistent with these results, according to the previous study at Tehran University of Medical Sciences, only 18% of the students stated that they learned a lot from the MR sessions.<sup>15</sup> Similarly, in a previous study at Birjand University of Medical Sciences in 2013, the teaching and transfer of MR concepts was evaluated to be poor from the students' perspective, while they considered the quality of MR sessions was at an average level in other areas.<sup>18</sup> Ethics and forensic medicine are one of the questions of the questionnaire, and the results showed that only 18% of participants referred to the good presentation of ethics and forensic medicine, which was much poorer in the pediatric ward (8% vs. 28%). However, this case has been neglected in other studies so that attention to forensic medicine and medical ethics has been mentioned only in one domestic study.<sup>9</sup>

## Conclusions

The results of the present study showed weaknesses in all areas of the internal medicine and pediatric MRs. However, the quality of some areas, such as patient presentation, as well as the presence of permanent faculty members in morning reports and their abilities is far better than other areas. That is, there is a significant weakness in the presence of guest members and their role, learning level, discussing differential diagnoses, especially discussion based on article reviews, and, finally, medical ethics and forensic medicine, therefore, it is necessary to form a committee to monitor the implementation of MRs at Tabriz University of Medical Sciences in order to improve the quality of these sessions.

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**Conflict of interest:** The authors declare that they have no conflict of interest.

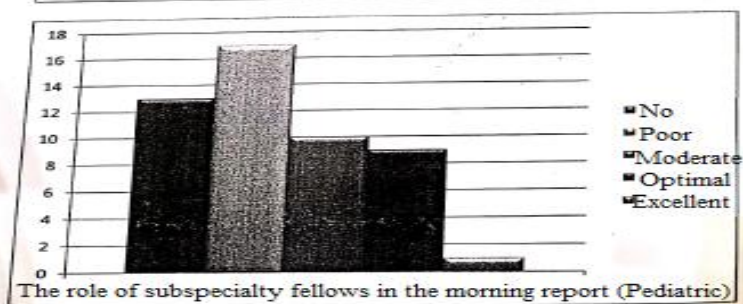
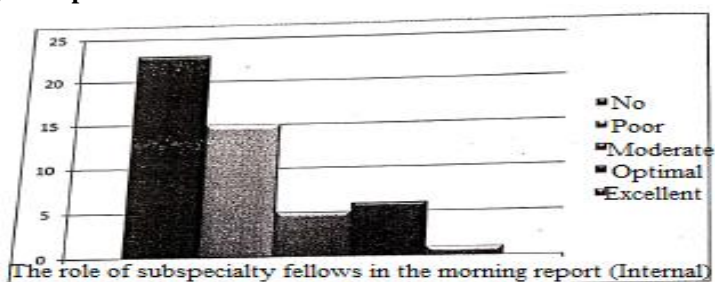
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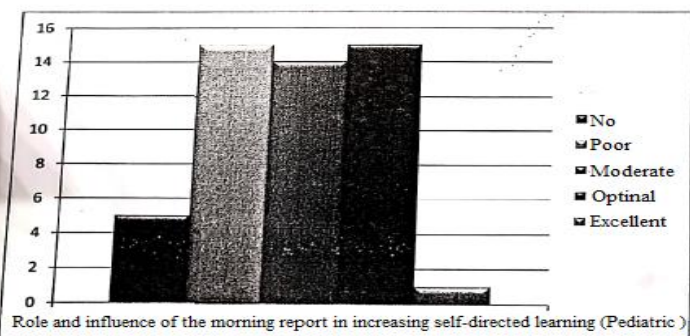
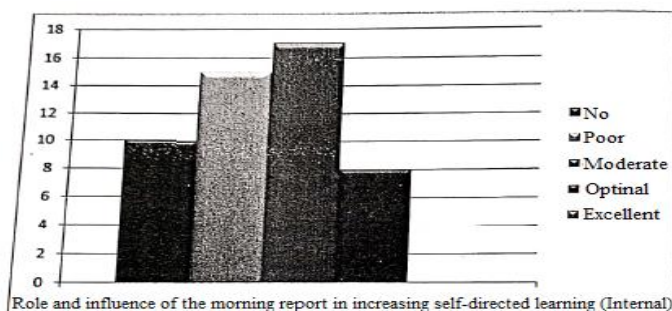
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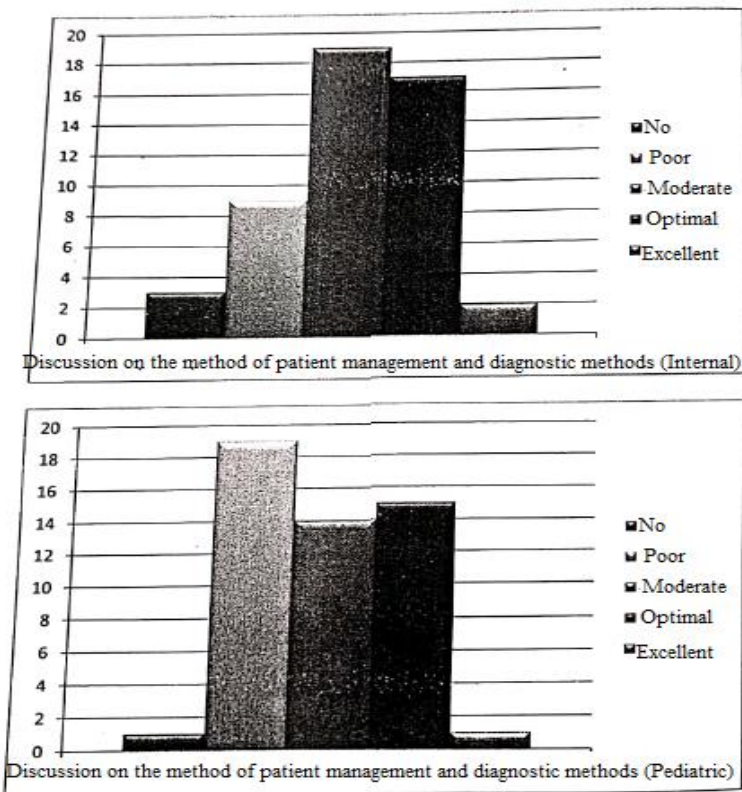
**Figure captions**



**Figure 1.** The role of subspecialties fellowship in internal medicine and pediatrics morning report.



**Figure 2.** The role and influence of morning reports in increasing self-directed learning in internal medicine and pediatrics.



**Figure 3.** Cases discussed in the morning report in internal medicine and pediatrics morning report.