

### How to Improve the Quality of Morning Report; Department of Internal Medicine, An action research

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**Background:** Morning reports (MRs) are commonly used as an efficient technique in Medical Education. This study was intended to assess the developmental process following Iranian definable standards in the Internal Medicine Department, Imam Reza General Hospital, Mashhad, Iran.

**Methods:** Following an initial one-month assessment through direct observation of morning reports held in Imam Reza Hospital Internal Medicine Department, workshops were run for 6 weeks aiming at rectifying the flaws and reforming the trends practiced contrary to current standards. Checklists were filled by the attending researcher, subsequent to which feedback was given regarding possible flaws and/or challenges to the attending physicians. Reforms as well as alterations were urged to improve the status quo, which were eventually accepted and implemented by the Head of Department. Reassessment was conducted six weeks afterwards, using checklists having been prepared in advance. An equal number of MR Sessions (n=25) was evaluated prior to and following the Reform Scheme.

**Results:** Significant differences can be seen in the level of participation by nephrologists, infectious disease specialists and clinical pharmacologists after the scheme (P<0.001). Better arrangements were made between the coordinator and the resident in charge prior to the MR session, mainly via short text messages (44%). This encompassed the case selection, number of cases to be presented and the chief objective behind these presentations. Of the total of 65 patients presented, 50 (77%) were complicated ones whereas common disorders only reported in 6% of the cases. Presentations became growingly shorter in case of the first cases (P=0.022) while second and third ones took as much time as prior to the Reformation Scheme. There could be seen no considerable improvement in the accuracy of the final diagnoses yet punctuality was reported to have improved significantly as morning reports routinely and regularly commenced at 8 a.m. following alterations (P=0.025). A significant rise in the number of cases presented and discussed in every meeting (p=0.006).

**Conclusions:** Training and feedback seem to have improved the quality of morning reports in different respects, especially when augmented by applying national as well as international standards used in this and other studies.

**Key words:** Morning Report, Teaching Method, Action Research

### بهبود کیفیت گزارش صبحگاهی در دیارتمان داخلی، یک اقدام پژوهی (Action Research)

**زمینه و هدف:** گزارش صبحگاهی یکی از روشهای رایج آموزشی در آموزش پزشکی است که بویژه در طب داخلی از اهمیت بیشتری برخوردار است. این مطالعه به تعیین میزان ارتقاء فرایند گزارش صبحگاهی در دیارتمان داخلی بیمارستان امام رضا (ع) در صورت رعایت نمودن استانداردهای کشوری خواهد پرداخت. **روش:** در طی یک دوره چهار ماهه گزارش های صبحگاهی بخش داخلی بیمارستان امام رضا (ع) مورد بررسی قرار گرفته اند. در اولین ماه پژوهشگر با شرکت در تمامی جلسات گزارش صبحگاهی با پر نمودن پرسشنامه از قبل طراحی شده به بررسی وضعیت موجود پرداخته است. در انتهای همین ماه کارگاه آموزشی نحوه صحیح برگزاری گزارش صبحگاهی برگزار گردید. در طول شش هفته بعد پژوهشگر با شرکت در تمامی جلسات گزارش صبحگاهی علاوه بر پر نمودن پرسشنامه به ارائه بازخورد به شرکت کنندگان پرداخته است. در انتهای این شش هفته محقق با نوشتن نامه ای از مدیر گروه داخلی درخواست یکسری مداخله جهت بهبود کیفی این متد آموزشی گردید. در شش هفته آخر پس از محقق شدن مداخلات درخواستی، پژوهشگر با شرکت در تمامی جلسات گزارش صبحگاهی اقدام به پر نمودن پرسشنامه مربوطه نموده است. در مجموع ۲۵ جلسه قبل از مداخله با ۲۵ جلسه بعد از مداخله به تنهایی و با یکدیگر مورد بررسی قرار گرفته اند. **یافته ها:** از لحاظ مشارکت اعضای هیات علمی از رشته های مختلف بعد از مداخله نسبت به قبل از مداخله تفاوت معنی داری در رشته های کلیه، جنرال، عفونی، داروشناسی بالینی و قلب مشاهده گردید (P<0.001). بعد از مداخله صورت پذیرفته در تمامی موارد هماهنگی بین گرداننده و آسیبستان ارشد قبل از برگزاری جلسه صورت پذیرفته که شایعترین روش هماهنگی، ارسال پیامک کوتاه در شب قبل از برگزاری جلسه بوده است (۴۴٪). مواردی که هماهنگی بر روی آنها متمرکز بوده شامل تعداد بیماران، انتخاب بیمار و نکات آموزشی که باید در مورد هر بیمار مورد بحث قرار گیرد می باشد. از ۶۵ بیماری که طی ۲۵ جلسه بعد از مداخله در جلسات گزارش صبحگاهی مطرح گردیده در ۵۰ مورد (۷۷٪) اساس انتخاب بیمار، بیماران عارضه دار و مشکل بوده و بیماری های شایع تنها ۶٪ موارد را شامل می شده است.

مدت زمان خواندن شرح حال توسط کارروز بعد از مداخله برای بیمار اول کاهش یافته (P=0.022) لیکن تغییری در مدت این زمان برای بیماران دوم و سوم مشاهده نمی شود. زمانهای اختصاص داده شده به آسیبستان و اعضای هیات علمی تغییری مشاهده نمی گردد.

بعد از مداخله در رسیدن به تشخیص نهایی برای هر بیمار تغییری مشاهده نمی گردد لیکن بهبود قابل چشمگیری در وقت شناسی ملاحظه گردید و جلسات بطور منظم راس ساعت ۸ آغاز گردید (P=0.025). تعداد بیماران معرفی شده بعد از مداخله در هر جلسه بطور معنی داری افزایش نشان می دهد. (P=0.006)

**نتیجه گیری:** آموزش و بنابراین دادن بازخورد به اعضای هیات علمی منجر به بهبود کیفیت گزارش صبحگاهی از جهات مختلف گردیده است. این امر بویژه هنگامی محقق شد که طبق استانداردهای کشوری و بین المللی رفتار گردید.

**واژه های کلیدی:** گزارش صبحگاهی، روش تدریس، اقدام پژوهی

### تعمیر مستوی التقرير الصباحی فی القسم الباطنی، البحت الاجرائی.

**التعمیر و الهدف:** إن التقرير الصباحی من الأساليب التعليمية الراجحة فی التعليم الطبی و خاصة ذو الصیة فی القسم الباطنی. تم هذه الدراسة بهدف مستوى ارتقاء التقرير الصباحی فی القسم الباطنی فی سفنی الامام الرضا (ع) التعليمی علی اساس مراعات المعاییر الموضوعه من قبل الدوله .

**الطریق:** تم تحلیل التقارير الصباحیه فی القسم الباطنی فی سفنی الامام الرضا (ع) فی التقارير الصباحیه و استخدم استماره تم تحضيرها من قبل و فی نزیاه لغنا الشیر تم اجراء صف تعليمی لاجل اجراء التقرير الصباحی بشكل صحیح و فی الاسابيع الست القبلیه اشترك الباحث فی جمیع جلسات التقارير الصباحیه بشكل منظم و استخدم استمارات و ایضا اعطی النتائج و النظریات اللازمه و فی نزیاه الاسابيع الست، كتب الباحث رساله الی رئیس القسم الباطنی یطلب منه اجراء مداخلات تعلمی بالبحث لاجل رفع مستوى هذا الأسلوب التعليمی . و فی الاسابيع الست القبلیه، بعد تحقق المداخلات المنشوره اشترك الباحث فی جمیع جلسات التقرير الصباحی و استخدم استماره فی هذا المجال . بشكل عام كان هناك ۲۵ استماره قبل اجراء المداخلات و ۲۵ استماره بعد اجراء المداخلات التي تم تحلیلها و مقابلاتها .

**النتیجه:** كان هناك ارتفاع فی نسبة المشارکة من قبل اعضاء الریثه العلمیه بنسبه الی ما قبل المداخله (p<0.001) بعد اجراء المداخله فی جمیع العوارض، التناغم بین المجرى و المساعدا الاعلی قبل اجراء التقرير الصباحی الذي كان عبر رساله هاتفیه (۴۴٪) و الامور التي تمت فی التناغم هو عدد المرضی . اختیار المرضی . النقاط التعليمیه التي یجب ان يتم البحت فیها. من اصل ۶۵ مرضی تم البحت بشأنهم فی التقرير الصباحی خلال ۲۵ جلسه . كان هناك خمسون مرضی ای ۷۷٪ ذو حالات صعبه و مقدره و هناك فقط ۶٪ من الحالات السانئه. تم تقلیل مده قراءه تقرير المرضی الاول (p=0.022) و لكن لم يكن هناك تغییر فی المرضی الثاني و الثالث لم یلاحظ تغییر فی الوقت المعطى لطلاب التخصص و اعضاء الریثه العلمیه لم یلاحظه تغییر فی الوصول الی التشخیص و لكن هناك تخمین واضح فی وقت معرفه المرضی و كانت تبدأ الجلسات بشكل منظم فی تمام الساعه الثامنه (p=0.025) اتارت الدراسة الی ان هناك ارتفاع فی نسبة تعريف المرضی بشكل ملحوظ (p=0.006).

**الاستنتاج:** إن التعليم و اعطاء نتیجه التعليم یساعدان علی تحسین مستوى اداء التقرير الصباحی من جبرات غیره و تحقق هذا الامر خصوصا عند تطبیق المعاییر الدولیه و من قبل الدوله ایضا.

**الكلمات الرئیسیه:** التقرير الصباحی . اسلوب التدریس . البحت الاجرائی .

### انترنل میڈیسن شعبہ میں صبح کی رپورٹ کو بہتر بنانے کی تحقیقات کا جائزہ.

**بیک گراؤنڈ:** میڈیکل شعبے میں مارننگ رپورٹ طبی تعلیم کا ایک اہم اقدام شمار ہوتا ہے۔ اس تحقیق کا مقصد مشہد کے امام رضا (علیہ السلام) اسپتال کے شعبہ انٹرنل میڈیسن میں مارننگ رپورٹ کو بہتر بنانے کی کوششوں کا جائزہ لینا ہے۔

**روش:** چار مہینوں تک مشہد میں امام رضا اسپتال کے شعبہ انٹرنل میڈیسن میں مارننگ رپورٹوں کا جائزہ لیا گیا۔ پہلے مہینے میں محقق نے مارننگ رپورٹ کے تمام جلسوں میں شرکت کر کے سوالنامے کو پر کیا تھا جس میں موجودہ صورتحال کے جائزے پر مشتمل سوالات تھے۔ اسی مہینے کے آخر میں صحیح مارننگ رپورٹ دینے کے بارے میں ورک شاپ منعقد ہوئی۔ آئندہ چھ مہینوں میں بھی محقق نے تمام جلسوں میں شرکت کی اور شرکاء اجلاس کو بریفنگ بھی دی۔ اس کے بعد اس نے ہیڈ آف ڈپارٹمنٹ سے بعض تبدیلیوں کی سفارش کی جو مان لی گئیں۔

**نتیجہ:** شعبے کے سربراہ کی جانب سے سفارشات کے تسلیم کے جانے کے بعد مارننگ رپورٹ کے عمل میں مختلف شعبوں کے ماہرین نے شرکت کی جس کیوجہ سے جنرل میڈیسن، نفرالوجی، کلینیکل میڈیسن اور کارڈیالوجی شعبوں کی کارکردگی میں بہتری آئی۔ مجموعی طور سے بیماروں کی نگہداشت اور انہیں سروس دینے میں کافی بہتری آئی۔

**سفارش:** تعلیم اور اسکے بعد اکیڈمک کونسل کے اراکین کو بریفنگ دینے سے مارننگ رپورٹ کی کیفیت میں کافی بہتری آئی ہے، یہ اقدام اس وقت اور بھی موثر واقع ہوتا ہے جب اس پر عالمی معیارات کے مطابق عمل کیا جائے۔

**کلیدی الفاظ:** مارننگ رپورٹ، اکیڈمک کونسل کے رکن، ورک شاپ .

**INTRODUCTION**

Morning Reports (MRs) are commonly used as an efficient as well as effective technique in medical education, with growing popularity and importance in internal medicine (1). Attendants endeavor to solve a kind of medical puzzle by contributing to discussion and exchange of viewpoints on a presented patient. Cases often vary from simple to complicated, ranging from a newly-admitted patient the night before to an already hospitalized one with new and/or atypical presentations (2, 3).

Cases are introduced by interns and residents, under the consultant instructors' supervision in line with learning objectives specified in the course lesson plan. Residents put forward a number of differential diagnoses, which are finally narrowed down to a definitive one, with the aid of proper diagnostic procedures. Thus it can be inferred that interns and residents are the key players in this learning process, which not only facilitates clinical skill and knowledge acquisition, but also ensures a fair and accurate assessment defined in the curriculum (4, 5).

Morning reports are also effective assessment tools when it comes to quality ensurance in clinical healthcare provision (6), aside from their key role in developing physician-patient communication skills, problem-solving skills and self-assessment and/or criticism (7).

Morning reports constitute a relatively considerable proportion of formal education time- one hour in the morning (1). Given the current observation of limited productivity of MRs in Imam Reza Hospital, and the significance of appropriate and duly-guided conductance in achieving the determined goals, we intended to investigate the ways to promote the quality of performance in MRs.

**METHODS**

The entire research lasted four months in four distinct stages:

**1) Initial assessment and workshops (4 weeks)**

The researcher attended all MRs held since Feb 22, 2014 by the Internal Medicine Department, Imam Reza Training Hospital. Usually 6 professors, 15 residents, 10 interns participate in MRs, which are being hold 4 times a week. A checklist was designed, encompassing 20 questions with regard to the curricular content and outline, which was filled by the researcher throughout the reports sessions. Meanwhile, consultant instructors and faculty members involved in clinical training were participating in 4 hours workshops aiming to present the latest approved methods and techniques, both nationwide and worldwide; to be applied in MRs. Residents underwent similar training but separately.

**2) Observation and feedback (six weeks)**

Another checklist was made to assess consultant trainers' as well as residents' performance following the training stage. The researcher observed all morning reports held in the same centre by the same trained professors and students for six weeks, having assessed their performance and providing feedback when and where necessary.

At the end of this stage, guidelines were provided in line with pre-defined national objectives and given the current status and possibilities. These guidelines led to measures and

alterations to be entirely approved and adopted by the Head of Internal Medicine Department.

**3) Re-assessment following proposed measures and changes (6 weeks)**

The re-evaluation took place between May 22 and July 6, 2014, through observation and the subsequent checklist filling.

**4) Analysis and outcome**

Data were fed to SPSS version 16, having been analyzed applying descriptive as well as inferential tests namely independent T and Chi-Square tests. In cases of abnormal data distribution, non-parametric tests were applied.

**RESULTS**

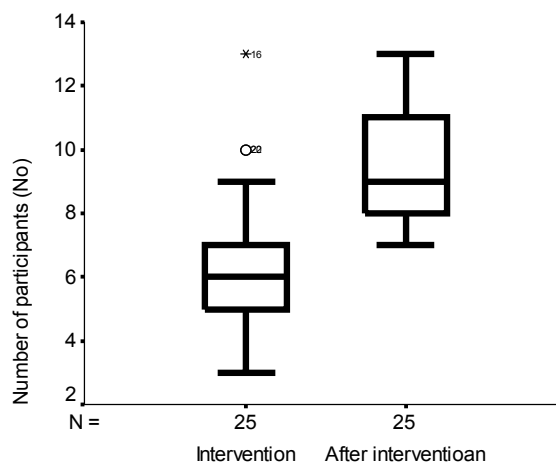
In total 50 sessions were evaluated, in which 124 cases were reported. Number of sessions per week increased from 3 to 4. Number of participating faculty members increased from 6 to 9. Allocated time by the intern for the first patient (minutes) decreased from 9 to 7 minutes. The number of presented patients has increased from 2 to 3.

Punctuality improved significantly following the implementation of guidelines (start time: 8 a.m., finish time: 9 a.m.). (p=0.025) There could also observed that MRs patients registry improved in precision (p=0.025).

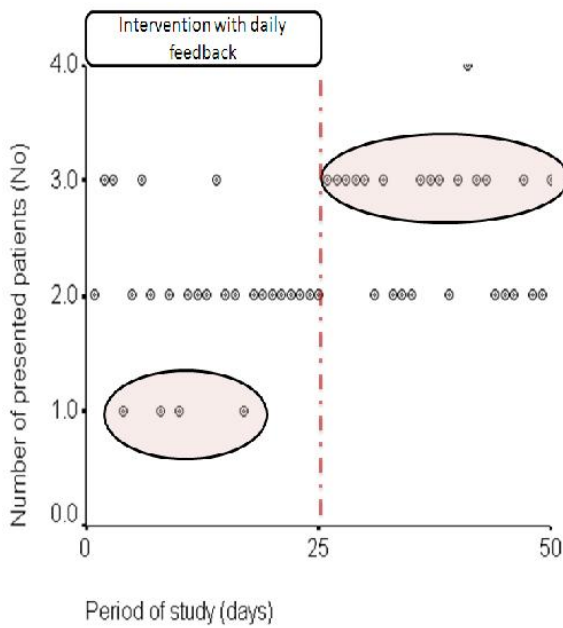
As for the atmosphere of the held sessions, none were frustrating or aggressive following guidelines, which used to have been reported only in four reports prior to intervention with insignificant statistical difference (p=0.055). The atmosphere was reported amicable (14 sessions) and formal (11 sessions), indicative of changes for the better (p=0.014). Also, there could be seen a significant rise in the number of attendants, both instructors and trainers (graph 1) (p<0.001), as well as the average number of cases presented and discussed in every meeting. (Graph 2), (p=0.006).

General internists (P=0.001) and nephrologists (P=0.024) also participated more actively in percentage terms. In contrast, GI specialists, pulmonologists, endocrinologists, radiologists and toxicologists did not differ in their participation rates prior to and following the scheme.

Neither the head of department nor the moderator was



**Graph 1.** Frequency distribution of the faculty participants



**Graph 2.** The number of cases presented in the morning sessions

affected in their engagement by the plan. Residents year 1-4 were subject to obligatory participation and thus were not affected in their percentage by the Reformation Scheme. There had been no prior arrangements between the moderator and the chief resident the night before the MRs. The Scheme urged both to do so regarding the number of patients selected (96%), the choice of patients presented (96%) and the educational content to be delineated (44%). This was chiefly done via sending short text messages (SMS) (43%), direct face-to-face contact before the session was held (35%) and phone conversations the night before the MR (22%). Of the total number of 65 patients presented in 25MR sessions after the scheme is implemented, 50 (77%)

comprised complications, 11% were rare cases and 6% presented with common conditions.

Interns took less time to present their first case following the scheme ( $P=0.022$ ) whereas presentation time had not differed significantly in the subsequent cases (second and third patients who were introduced). Time allocation per case also did not change when considering the consultants and residents. The Scheme did not seem to improve diagnostication although none of the presented cases had been with a definitive diagnosis ( $P=0.002$ ).

Table 1 summarized the entire findings, compared where relevant standards existed.

## DISCUSSION

We found that conducting this method improved the number of participating faculty members, the number of presented patients, and the number of sessions per week. Prior arrangements with the moderator, recording in the folder of the morning report, conducting follow up sessions and face-to-face contacts have also improved via this action research. Morning Reports (MRs), along with Grand Rounds (GRs), are widely used as efficient and effective teaching methods in Medical Education (1).

MRs held in the Internal Medicine Department in Imam Reza General Hospital commence at 8:00 a.m., as has been the norm in many other education centers worldwide (2, 7, 8). In certain training centers, these sessions are reportedly held at 9:00 a.m., mid-day and even in the afternoon, defying the literal nomenclature (3, 6, 9).

Varying between 30 minutes (10) and 2 hours (3) in duration in other centers, Morning Reports took approximately 60 minutes in our centre, as has been observed in many other hospitals (2, 8, 11, 12).

There were, on average, 4 sessions weekly in this centre, akin to many other universities (7, 8, 11).

Patients here are presented by interns, as opposed to what is conventional across the world, where residents are in charge of this importance (2, 6, 9, 13, 14).

**Table 1. Summary of obtained results**

Variable	Before intervention	After intervention	Impact	
Punctual time schedule	Irregular	Regular	Improved	
The atmosphere of the held sessions	Formal or friendly or boring	Formal or friendly	Improved	
Prior arrangements with the moderator	No	Yes	Improved	
Recording in the folder of the morning report	Irregular	Regular	Improved	
Follow up sessions	Irregular	Regular	Improved	
face-to-face contacts	No	Yes	Improved	
	Mean (SD)	Mean (SD)	P value	Standards
Number of sessions per week	3.00 (0.0)	4.00 (0.0)	-	5.00
Number of participating faculty members	6.00 (2.1)	9.00 (1.9)	$P<0.001$	6.00
Allocated time by the intern for the first patient (minutes)	8.90 (2.8)	7.20 (2.0)	$P=0.022$	5.00
Number of presented patients	2.00 (0.6)	2.60 (0.6)	$P<0.001$	3.00

There could be seen a predominance for complications in our presentations, whereas other centers also consider common (12) as well as rare (15) disorders, with regards to all admitted patients (3, 6, 16, 17, 18) and those the moderator found interesting (14).

This inclination, in the long run, can lead to the negligence of commonly encountered condition, which trainees must learn about during their general training.

On average, it has taken almost 20 minutes for every case, with 3 patients presented in total, similar to other hospitals (7, 12, 18).

Likewise, we rarely bring patients to be examined in the MRs (9, 10, 11, 12, 13, 16).

Contrary to elsewhere in which the moderator is often one of the chief residents, our MRs are moderated by a member of faculty (2, 6, 9, 11, 18, 19).

According to our scheme instructions, consultants have to face audience when discussing patients whereas they used to be seated at the front row, with their backs to trainers. Other studies mentioned nothing in this regard.

None of our 25 sessions under observation were attended by specialists from other fields of medicine. Yet MRs following the training and feedback scheme were attended by radiologists, infectious disease specialists, cardiologists and clinical pharmacologists. Other studies were indicative of active participation by 70% of experts from other fields namely clinical pharmacology, nutrition, radiologist and medical ethics (4, 9).

As for the content, MRs in Imam Reza Hospital tend to emphasis history-taking, differential diagnostics and physical examination while topics including patients' referral, health-associated funds

and patients' right were somewhat neglected. Other research reveals topics of interest including health management, medical ethics, evidence-based medicine (1), history-taking, physical exam, radiological and pathologic. Investigations, medical consultation, prognostication, patients' care (6), iatrogenic conditions, admission criteria, clinical skills (16), initial assessment, differential diagnosis (7), pharmacological side-effects (19), physiopathology, lab orders, interpretation of lab results and other data, complications, causes of death (18), morale (1,9), health-associated funds (4,6,18), mistreatment (9,20), and disease trend or progression (7,19).

While variables related to quantity and quality of MRs is significantly different among various departments, it is plausible applying similar methods may lead to discovery and improvements of the sessions. Tailor made action research are recommended for similar sessions.

It is advised that the following topics are included in the MRs, along with applying national and international standards defined and customized to boost both efficiency and efficacy.

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