What are the Sources of Learning Medical Skills for Medical Students and Interns of Birjand University of Medical Sciences and Health Services?

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Abstract

Background and purpose: More attention to clinical skill training is essential for better medical education. In this study, the sources students used for learning these skills are investigated.

Methods: In this cross-sectional study all medical students who at least passed 6 month of their clinical rotations and all interns participated. A questionnaire was used to collect the data which includes items on demographic data and items about the setting and sources of learning procedural skills. The questionnaires were developed based on a review of clinical skill training in Shahid Beheshti Tabriz, Tehran, Isfahan, and Kerman Universities of Medical Sciences. The questionnaire was examined for content validity by a panel of experts including 6 faculty members. For assessing the reliability of the questionnaire, a test-retest procedure on 10 students was conducted with an r = 0.85. To analyse the data we used SPSS ver. 16 and to examine the significance of findings we used a t-test and chi-square test.

Results: In this study 90 medical students and interns participated of all participants, 49 were interns; 45.6% were male. The interns were more likely to learn the more common procedures including intravenous blood sampling, intramuscular injection, subcutaneous injection, urinary catheter placement, naso gastric tube placement, wound dressing and care, stitching, splinting from hospital staff and 25% of interns had no learning source for more advanced procedure such as intubation and CPR while only 20% of them learned these skills from specialist.

Conclusion: It seems that more faculty members involvement with students’ skill training and promoting more effective use of skill labs potential can improve the clinical skill training of medical graduates.

Key words: PROCEDURAL SKILLS, PROCEDURE TRAINING SOURCE OF CLINICAL TRAINING

Introduction

Medicine is art and science (1). Clinical skill including procedure skills are core contents of medical curriculum (2). To become doctor requires, one has to learn many skills and the curriculum should be developed to help students acquire these competencies and skills (3). Today due to more attention to patients rights shortened hospital stay, well developed outpatient service the traditional opportunities for learning clinical skills are becoming more limited (4). In many medical universities including Iranian Universities, skill labs are established where students can be trained in safe environment
with simulators, models and manikins (5, 6,7).
More attention to clinical skill training is essential
for better medical education. In this study, the
sources students used for learning these skills
are investigated.

Methods

In this cross-sectional study all medical students
who at least passed 6 month of their clinical
rotations and all interns participated.
A questionnaire was used to collect the data
which includes items on demographic data and
items about the setting and sources of learning.
The interns should specify who taught them the
following skills: Intubation, CPR, normal vaginal
delivery (NVD), supra public urinary drainage
placement, lumbar puncture, peritoneal pleural
effusion, obtaining arterial blood gas sampling.
The interns and students specified who taught
then the following skills: Intravenous blood
sampling, subcutaneous injection, intra-muscular
injection, naso-gastric tube placement, urinary
catheter placement wound dressing, stitching,
casting, and obtaining ECG.
The questionnaires were developed based on a
review of clinical skill training in Shahid Beheshti
Tabriz, Tehran, Isfahan, and Kerman Universities
of Medical Sciences. The questionnaire as
examined for content validity by a panel of
experts including 6 faculty members. For
assessing the reliability of the questionnaire, a
test-retest procedure on 10 students was
conducted with an r = 0.85.
To analyse the data we used SPSS ver. 16 and
to examine the significance of findings we used
a t-test and chi-square test.

Results

In this study 90 medical students and interns
participated of all participants, 49 were interns;
45.6% were male.
Table 1 shows the sources of learning clinical
skills for 10 common procedures for medical
students. The most frequent source of learning
was hospital non-teaching staff while the lowest
frequency was for general practitioners.

Table 2 shows the sources of learning common
procedural skills for interns.The interns were
more likely to learn the more common
procedures including intravenous blood sampling
intramuscular injection, subcutaneous injection,
urinary catheter placement, naso gastric tube
placement, wound dressing and care, stitching,
splinting from hospital staff and 25% of interns
had no learning source for more advanced
procedure such as intubation and CPR while only
20% of them learned these skills from specialist.

Discussion

The most frequent learning source of many
clinical skills (10 skills) for students was hospital
staff. These skills were common skills. The next
more frequent source of learning clinical skills
for students was skill lab. Since medical students
are not directly involved with patient care and
rather they observe the process of care in this
phase, there is a good opportunity for training
the required clinical and particularly procedural
skills in skill lab. Skill labs provide safe setting
that can be used for students’ skill training by
most experienced instructors and the students
can practice newly learned skill till they get to a
level of dexterity that allow them to provide a
safe care to patients in later phases of their
education.
A study by Khodabakhshi et al showed that
medical students and interns lacked sufficient
clinical skills (8). In this study 78.6% of medical
students said that they didn’t had a planned
training of these skills and asked for a training
course in this regard. More over, 66.3% of
respondent believed that clinical instructors were
the most effective choices for instructing these
skills (8).
Less than 20% of our interns stated the clinical
instructors as the sources of learning clinical skills
while they learned more frequently from hospital
staff. In study by Farahani et al of 96 medical
students, 31% said that they were competent in
21 skills out of a total 31 skills; 60.8% of
respondent said that they learned the skills by
themselves or from other students, and only 39%
of respondents said that an instructor taught
Table 1. Frequency distribution of procedural skill learning sources for medical students of Birjand university of medical sciences and health services

<table>
<thead>
<tr>
<th>Source of learning</th>
<th>Venous blood sampling</th>
<th>Intramuscular injection</th>
<th>Subcutaneous injection</th>
<th>Intracutaneous injection</th>
<th>Urinary catheter placement</th>
<th>Naso-gastric tube placement</th>
<th>Wound dressing</th>
<th>Stitching</th>
<th>Splinting</th>
<th>ECG</th>
</tr>
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<tbody>
<tr>
<td></td>
<td>Skill lab</td>
<td>Clinical faculty members</td>
<td>Hospital staff</td>
<td>Other students</td>
<td>Self learning</td>
<td>Others</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No (%)</td>
<td>2 (4.9)</td>
<td>0 (0)</td>
<td>15 (36.5)</td>
<td>3 (7.3)</td>
<td>1 (2.4)</td>
<td>20 (48.7)</td>
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<td></td>
<td>15 (36.5)</td>
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<td>18 (43.9)</td>
<td>8 (19.5)</td>
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<td>0 (0)</td>
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<td></td>
<td>(21.9)</td>
<td>(2.4)</td>
<td>(29.2)</td>
<td>(7.3)</td>
<td>(4.9)</td>
<td>(34.1)</td>
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<td></td>
<td>8 (19.5)</td>
<td>3 (7.3)</td>
<td>7 (17.7)</td>
<td>4 (9.7)</td>
<td>2 (4.9)</td>
<td>17 (41.4)</td>
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<td>6 (14.6)</td>
<td>2 (4.9)</td>
<td>10 (24.3)</td>
<td>9 (21.9)</td>
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<td>12 (29.2)</td>
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<td></td>
<td>5 (21.1)</td>
<td>5 (12.1)</td>
<td>10 (24.3)</td>
<td>3 (7.3)</td>
<td>2 (4.9)</td>
<td>16 (39.02)</td>
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<td></td>
<td>11 (26.8)</td>
<td>1 (2.4)</td>
<td>17 (41.5)</td>
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<td>14 (34.1)</td>
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<td>5 (12.1)</td>
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</table>

them these skills (9).
In a study by Amini et al in Tabriz university of medical sciences, most students never had any supervision over the procedure they did by faculty members or residents(6). In a study by Fazeli et al in Isfahan on surgical procedures that interns did the most frequent instructors were residents while clinical faculty members were the least frequent source of learning (10). As shown in our study and in many other studies (6, 9, 10, 11) in most Iran medical schools students clinical skills are not well planned which leads to the fact that students most frequently learn these skills by themselves or from hospital non-teaching staff or even from another students. Many students said that they didn’t learn most of clinical skills in skill lab and even when training is offered in skill lab it is usually not of good quality. It seems that focusing on students’ skill training and promoting more effective use of skill labs potential in this regard can improve the clinical skill training of medical graduates in Iran.

References

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5. Taylor L, Vergidis D, Lovaski A, Crockford
Table 2. Frequency distribution of procedural skill learning sources for interns of Birjand university of medical sciences and health services

<table>
<thead>
<tr>
<th>Source of learning</th>
<th>Clinical faculty members</th>
<th>GP</th>
<th>Hospital staff</th>
<th>Other Students</th>
<th>Self learning</th>
<th>Others</th>
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<tr>
<td></td>
<td>No (%)</td>
<td>No (%)</td>
<td>No (%)</td>
<td>No (%)</td>
<td>No (%)</td>
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<td>0 (0)</td>
<td>25 (51.02)</td>
<td>7 (14.2)</td>
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<td>3 (6.1)</td>
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<td>Naso-gastric tube placement</td>
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<td>Peritoneal fluid aspiration</td>
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