Original Article

Are we giving proper feedback to medical students? Experience from a Saudi Medical College

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Abstract

Objectives: Providing feedback to medical students improves the quality of medical education. However, there is still a paucity of published data on feedback, particularly in the Gulf region. The aim of this study is to assess the feedback given to medical students and examine the obstacles and predictor factors preventing medical staff from providing their students with appropriate feedback.

Methods: This cross-sectional study was conducted at the College of Medicine, Taibah University, KSA. All teaching staff were invited to fill in a predesigned structured questionnaire about socio-demographic characteristics, data related to feedback given to students the previous academic year, and obstacles preventing them from providing appropriate feedback.

Results: Of the 110 invitees, 95 faculty members responded (response rate of 86.4%), and 65.3% reported giving feedback (95% CI 55.8%–74.8%). There were no significant differences in the characteristics of the given feedback when analyzed according to staff gender, department, degree, and academic rank. The mean number and duration of the given feedback were significantly higher among professors, followed by assistant then associate professors respectively. Self-confidence, being judgmental, no time to give appropriate feedback (female and clinical staff), teachers’ inadequate skills in giving feedback (basic sciences staff), and absence of students’ advisorship (male staff) were the most important obstacles to providing feedback.

Conclusions: This study showed that a considerably high proportion of medical staff provide student feedback. There is a need to improve obstacles that potentially...
prevent giving appropriate feedback to medical students and to provide remediable solutions.

Keywords: Feedback; KSA; Learning; Medical education; Self-confidence

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Introduction

Medical education is regularly challenged with new and innovative ideas in the field of teaching processes and assessment. Feedback is an essential component of medical education that provides vital information to enhance the quality of students’ learning experiences.

Feedback is an essential component of teaching and learning both in the basic and clinical medical sciences, and is simply defined as ‘giving specific information about a person’s current behavior in order to help him/her either continue the behavior or modify the behavior’. Giving accurate, timely, and effective feedback to students may help narrow the gap between actual and desired performance. Moreover, providing feedback to medical students improves the quality of medical education in terms of knowledge, professional skills, and attitudes.

Feedback refers to sharing information on students’ performance. Here, positive feedback, also known as reinforcing, serves to sustain appropriate and effective behavior, while negative or corrective feedback, on the other hand, serves to change and correct students’ inappropriate behavior. Subsequently, some authors prefer to provide students with a mixture of positive and negative feedback.

The process of giving appropriate feedback is not always straightforward, and obstacles and problems may emerge that should be considered. Among these problems, students may not recognize the information they receive as feedback. Furthermore, the timing, place of giving feedback, language used when giving the feedback, fear of students, the confidence of staff to give feedback, fear of being judgmental and unfair to the student, and other related interpersonal and situational factors may affect the successfulness of the feedback process.

There is still a paucity of data published on the art of feedback in our region. From this point, the present study was conducted to assess the process of giving feedback to medical students to identify the obstacles preventing medical staff from giving them appropriate feedback and to determine the factors predicting feedback obstacles.

Materials and Methods

This descriptive cross-sectional study was conducted at the College of Medicine, Taibah University, Almadinah Almunawwarah, KSA at the beginning of the academic year 2014/2015 to assess the feedback given to medical students at the college during the academic year 2013/2014. Furthermore, the study examined obstacles and factors predicting the obstacles preventing staff from giving appropriate feedback to their students.

Sampling procedures

All medical teachers were eligible to participate in this study. The number of teaching staff at the college during the academic year 2013/2014 was 115. Of those, five retired or resigned at the end of the academic year. Accordingly, the study enrolled 110 staff members who renewed their contracts and continued to work at the college during the academic year of this study (2014/2015).

Data collection and tools

Everyone who completed the questionnaire consented to participate at the beginning of the survey. Furthermore, they were informed that participation was voluntary and given the option to decline. All participants consented to participate, and none declined the survey. They were asked to fill in a predesigned structured questionnaire. The questionnaire was developed based on the findings in the available literature and reviewed for biases, language ease, and clarity. Finally, it was validated by three medical education experts with Master’s degrees in medical education. Reliability was tested in a pilot study of 20 teaching staff, after which the questionnaire was revised based on their feedback. The form was then finalised and used in the data collection process.

Besides socio-demographic and identification data (age, gender, department, qualification, and academic ranking), the questionnaire included questions related to the feedback staff had given their students during the previous academic year. The feedback variables included giving feedback during the academic year 2013/2014 (yes versus no), type of feedback given (positive reinforcing versus negative corrective), place and way of giving feedback (lecture room, office, e-mail, and others), and the number and duration of the feedback given.

The study questionnaire also included questions about the obstacles and barriers preventing staff from giving appropriate feedback to their students. The items for feedback obstacles included in the questionnaire were formulated according to the data available in previously published qualitative studies. These were then categorized to include the following three aspects: administrative aspects (five items), feedback perception aspects (five items), and staff-related aspects (four items). Each of the studied 14 obstacle items was scored on a five-point Likert scale as follows: 1 = totally disagree, 2 = disagree, 3 = neutral, 4 = agree, 5 = totally agree. ‘Totally agree’ and ‘agree’ were then merged into one category to compare these items among the studied staff according to their gender, department, and current academic ranking. To examine the obstacle predictor factors preventing the studied staff from giving appropriate feedback, each analyzed obstacle item was scored as follows: ‘totally agree’ and ‘agree’ = 1, and ‘totally disagree’, ‘disagree’, and ‘neutral’ = 0.

The study questionnaires were self-administered and distributed manually to the participating college staff.

Statistical analysis

Data were analysed using the Statistical Package for Social Studies (SPSS 17; IBM Corp., New York, NY, USA).
Data were presented using frequencies, means, and standard deviations as appropriate. A Chi-square test was performed for the qualitative variables, and an unpaired t test for quantitative variables. The feedback given by staff was assessed and compared according to staff gender, department, qualification, and academic ranking.

The obstacle items preventing staff from giving appropriate feedback were assessed according to the five scores given by studied teaching staff and by staff gender, department, and current academic rank using appropriate statistical tests. The level of statistical significance was defined as \( P \leq 0.05 \). In addition, obstacles predicting the giving of feedback among the studied staff were examined using predictive regression models based on a stepwise regression with a \( P \)-value of 0.10 as the entry criterion and \( P \)-value of 0.15 as the exclusion criterion.

*Ethical considerations*

Participation in this study was voluntary. All participants consented to participate and were given the choice to withdraw from the study at any time. The privacy and confidentiality of data were considered as the data were collected and manipulated anonymously. Approval from the college research ethical committee was obtained.

**Results**

The number of teaching staff in the College of Medicine is 110 (56 males and 54 females). The response rate was 85.7% among male staff (48 of 56) and 87.0% among female staff (47 of 54), with an overall response rate of 86.4% (95 out of 110).

The demographic data of the studied staff are presented in Table 1. The mean age of the studied staff was 46.5 ± 6.7 years, of which 50.5% were male and 49.5% female. More than half the studied staff (59%) have obtained a Ph.D. degree, and about one third (36%) were full professors. In total, 65.3% (\( n = 95 \), 95% CI = 55.8–74.8) of the studied staff reported giving feedback to their students during the academic year 2013/14.

Table 2 shows the characteristics of the studied teaching staff based on their giving appropriate feedback to their students. Giving feedback to students was higher among staff with a higher mean age and among males, although no significant statistical differences were detected. Furthermore, the percentage of staff who reported that they had given feedback was higher among the basic sciences staff (53%) than among clinical sciences staff (47%) by a small margin, and higher among those with Ph.Ds. (57%) than among those with M.D.s (43%), although no statistically significant differences were found. A statistically significant difference was found among staff when compared according to their academic rank. Here, a high percentage (45%) were professors, followed by assistant professors (34%) and associate professors (21%).

The characteristics of feedback given to students by department are outlined in Table 3. No significant differences were found regarding the mean number and duration of the feedback given, and the type and place thereof. However, the mean number of the feedback given was slightly higher among clinical staff than among basic sciences staff. Feedback was mostly given using positive approaches (94%) by both the clinical and basic sciences staff. However, a significant difference emerged between the clinical and basic sciences staff regarding the place of feedback was given in \( (p = 0.002) \). Here, 96.5% of clinical staff and 73% of the basic sciences staff gave feedback in the lecture room.

Table 4 shows the distribution of the items related to obstacles to giving feedback among all studied staff. For administrative aspects, significant differences were detected. Regarding items 1, 3, and 4, a higher percentage of staff indicated that they ‘totally agree’ and ‘agree’ with the statement on not giving feedback. Furthermore, a high
The predictor factors preventing staff from giving feedback to students are presented in Table 5. The predictive regression analysis indicated that the most important predictor factors for the studied staff not giving effective feedback to students were ‘no time to

percentage of ‘totally agree’ and ‘agree’ was also indicated for items 7, 8, and 10 (feedback perception aspects), as well as items 11 and 12 (staff-related aspects) by staff reporting that they had not given feedback. In addition, these differences were statistically significant.

Table 3: Characteristics of feedback given to students by department.

| Characteristics                        | Basic sciences staff (n = 33) | Clinical sciences staff (n = 29) | P. value |
|----------------------------------------|-------------------------------|---------------------------------|----------|
| Number of given feedback per year, mean ± SD | 4.1 ± 2.3                    | 5.6 ± 3.5                       | 0.06     |
| Type of feedback                        |                               |                                 |          |
| Positive                                | 31 (93.9)                     | 27 (93.1)                       |          |
| Negative                                | 2 (6.1)                       | 2 (6.9)                         | 0.99     |
| Place of feedback                       |                               |                                 |          |
| Lecture room                            | 24 (73.0)                     | 28 (96.5)                       |          |
| Staff office and e-mail                 | 9 (27.0)                      | 1 (3.5)                         | 0.002b   |
| Duration of given feedback in minutes, mean ± SD | 15.5 ± 9.3                 | 12.9 ± 14.5                     | 0.41     |

Table 4: Distribution of obstacles to giving feedback among all studied staff (n = 95).

| Obstacle itemsa | Giving feedback Total N = 62 | Not giving feedback Total N = 33 | P value |
|-----------------|------------------------------|---------------------------------|---------|
| Administrative aspects |                               |                                 |         |
| 1. No time to give appropriate feedback to students | 8 (12.9) | 14 (42.9) | 0.001b |
| 2. No suitable place to give appropriate feedback to students | 28 (45.2) | 16 (48.5) | 0.17   |
| 3. No activation of students’ advisorship | 13 (21.0) | 19 (57.6) | <0.0001b |
| 4. No dedicated time assigned in schedule for giving feedback | 26 (41.9) | 21 (63.6) | 0.03b  |
| 5. Lack of direct observation of students in action | 15 (24.2) | 14 (42.4) | 0.15   |
| Feedback perception aspects |                               |                                 |         |
| 6. Creating a disrespectful, unfriendly, closed, threatening climate | 1 (1.6) | 4 (12.1) | 0.07   |
| 7. Being judgmental | 7 (11.3) | 11 (33.3) | 0.02b  |
| 8. Fear of doing more harm than good | 3 (4.8) | 8 (24.2) | 0.01b  |
| 9. Fear of upsetting the student or damaging the student–teacher relationship | 4 (6.5) | 4 (12.1) | 0.05   |
| 10. Students may not recognise the information they receive as feedback | 7 (11.3) | 12 (36.4) | <0.0001b |
| Staff-related aspects |                               |                                 |         |
| 11. Self in-confidence (received no training on how to give feedback) | 3 (4.8) | 7 (21.2) | 0.003b |
| 12. Lack of respect for the source of feedback | 8 (12.9) | 8 (24.2) | 0.003b |
| 13. Teachers’ inadequate skills in giving effective feedback | 8 (12.9) | 2 (6.1) | 0.22   |
| 14. Teacher’s personality | 19 (30.6) | 10 (30.3) | 0.17   |

Table 5: Obstacle predictors of not giving feedback to students: Results of the predictive regression analysis.

| Obstacle items | β Coefficienta | Score test value | SEb | P value |
|----------------|----------------|------------------|-----|---------|
| All subjects   | No time to give appropriate feedback to students | 1.47 | 5.57 | 0.62 | 0.02c |
| Being judgmental | 1.37 | 3.48 | 0.74 | 0.06   |
| Self in-confidence | 1.42 | 2.47 | 0.90 | 0.11   |
| Teachers’ inadequate skills in giving feedback | −2.51 | 5.56 | 1.06 | 0.02c |
| No activation of students’ advisorship | 1.85 | 9.58 | 0.59 | 0.002c |
| Basic sciences staff | No suitable place to give feedback to students | 2.37 | 7.55 | 0.86 | 0.01c |
| No dedicated time assigned in schedule for giving feedback | 1.32 | 2.74 | 0.79 | 0.10   |
| Teachers’ inadequate skills in giving feedback | 2.15 | 5.65 | 0.90 | 0.02c |
| Clinical sciences staff | No time to give appropriate feedback to students | 3.65 | 10.1 | 1.15 | 0.001c |

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a The number and % for each item in the two groups represents the staff who agreed that this factor is an obstacle to giving feedback. b Significant.
give appropriate feedback to students’, ‘being judgmental’, ‘self-confidence’, ‘inadequate skills for giving feedback’, and ‘no activation of students’ advisorship’. These obstacles demonstrated a significant increased probability of not giving feedback to students according to the obtained statistical parameters (β coefficients, score test values, and P-values). The obstacle item ‘no activation of students’ advisorship’ was the most important obstacle predictor factor for male staff, and the item ‘no time to give appropriate feedback to students’ the most important for female staff. For the basic sciences staff, the items ‘no dedicated time assigned in schedule for giving feedback’, and ‘inadequate skills for giving feedback’ were the most important predictor factors preventing staff from providing appropriate feedback to their students. Finally, the item ‘no time to give appropriate feedback to students’ was the most significant predictor factor for clinical sciences staff.

Discussion

The current study found that a high percentage of clinical and basic sciences staff were giving feedback to their students. This reflects their belief that in the academic setting, students learn more effectively when feedback is an inherent constituent of the overall assessment. Many researchers have demonstrated the potency of feedback as a mechanism to improve learning outcomes, particularly in the early years of medical student education. Furthermore, in clinical education, feedback is usually given by attending physicians, residents, students’ peers, and group facilitators. These factors may explain the study finding that a lower percentage of clinical staff gave feedback (47%) than basic sciences staff (57%).

In this study, most of the studied characteristics of feedback (mean number given per year, mean duration, type, and place) among staff who reported giving feedback to their medical students demonstrated no statistically significant differences among staff departments. Most reported feedback was of the positive type (reinforcing), particularly among the basic sciences staff. Similar Results of more positive reinforcing feedback were also obtained when the feedback characteristics were examined according to the staff’s gender, rank, and qualification.

Giving feedback, whether corrective (negative) or reinforcing (positive), is an essential part of medical education. It helps to promote learning and ensures that standards are met. Given correctly, positive feedback can improve learning outcomes and enable students to develop an analytical approach to learning. It can also improve competence, at least in the short term.

A review in 1998 showed that constructive feedback produced significantly better learning outcomes in a wide variety of learning situations. Knowles showed that adult learners welcomed feedback when it was based on their performance and tailored to their goals.

The findings of this study revealed statistically significant differences between the staff giving and not giving feedback in terms of the analysed administrative, perception, and staff-related obstacle items.

Limitations of the study

The limitations of this study include the inclusion of one college only and a modest sample size. Future research should include multiple colleges to improve the generalizability of the study. In addition, a qualitative study is needed to consider students’ perspectives.

Conclusions

A considerably high proportion of teaching staff are giving students feedback at the studied college. No time to
give appropriate feedback to students, being judgmental, a lack of self-confidence, inadequate skills, and no activation of students’ advisorship were the most important predictor factors for not giving feedback among the studied subjects. A multi-college study is needed to explore this important issue in medical education alongside studying medical students’ perceptions of the feedback they are receiving.

Recommendations

Disseminating these findings at the college level and to other medical colleges is essential in emphasising the importance of feedback as an integral component in medical education and in discussing and solving the most important obstacles to providing appropriate feedback reported in this study.

Staff training on feedback using a well-structured continuous medical education program will add to the quality of the education provided by assuring higher-quality feedback.

Saving time in our medical curricula to provide feedback to students is another step towards better medical education.

Source of funding

There is no source of funding.

Conflict of interest

The author have no conflict of interest to declare.

Ethical approval

The paper was approved by the IRB committee at the college of medicine at Taibah University with a number of 1436/14/226.

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