Motivation to teach surgery at non-university affiliated hospitals in Saudi Arabia: A qualitative study

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**Abstract**

**Background:** Most Saudi Arabian medical colleges rely on non-university affiliated hospitals for clinical training of their students. We explored what motivates or demotivates the surgeons who work in these hospitals to teach.

**Methods:** Eighteen surgeons from five non-university affiliated hospitals in the Al-Qassim region of Saudi Arabia who were directly involved in teaching surgery participated in this qualitative study. The surgeons’ in-depth interviews with a semi-structured questionnaire were audio-taped, transcribed, and analyzed to identify responses related to motivating and demotivating factors for teaching surgery.

**Results:** Surgeons identified three unique factors related to teaching: (1) to accumulate spiritual credit for good deeds (motivating), (2) refusal by patients to be examined by trainees (demotivating), and (3) refusal by female patients to be examined by male trainees (demotivating). Additional motivating factors were self-satisfaction, earning a good reputation, updating knowledge, and witnessing the success of trainees. The demotivating factors were unenthused trainees, inadequate teaching settings at the hospitals, an absence of medico-legal protection for the trainees, a heavy workload, and no incentives for teaching activities.

**Conclusion:** Providing student-trainees legal protection, offering incentives for teaching, and marketing the hospitals as training facilities will likely improve the teaching environment in non-university affiliated hospitals in Saudi Arabia.

**Keywords:** surgery; teaching; hospital; Saudi Arabia

**Introduction**

A hospital constitutes a unique and essential learning setting for under- and postgraduate medical students. A
hospital can be affiliated with a medical school (i.e., university affiliated hospital) or independent (i.e., non-university affiliated hospital). University affiliated hospitals have more resources and greater opportunities for research than independent hospitals. Therefore, the majority of medical graduates in the US prefer residency training programs at university affiliated hospitals (Nomura et al., 2008; Stahn and Harendza, 2014; National Resident Matching Program, 2015).

The evidence is mixed about the difference in clinical training quality between university and non-university affiliated hospitals. Medical students from non-university affiliated hospitals scored lower on written exams than their peers from university affiliated hospitals (Sutkin et al., 2008). There was, however, no statistically significant difference between these two groups of students in the objectively structured clinical examinations (OSCE) (Satran et al., 1993; Carney et al., 2005). There is also evidence that those who received emergency clerkships at non-university affiliated hospitals were exposed to more patients and performed more procedures than their colleagues at university affiliated hospitals (deLahunta and Bazarian, 1998).

There are a total of 32 medical colleges in Saudi Arabia, and only five have an affiliated hospital (Newspaper, 2018). The rest of the colleges send their students to university affiliated hospitals for clinical training (Newspaper, 2018). Physicians who currently teach in these non-university affiliated hospitals did not join in anticipation of spending much of their time teaching. Many of these hospitals are understaffed. Therefore, physicians who are already overwhelmed with their clinics, ward, and administrative tasks find it difficult to teach in addition, particularly when there is no financial compensation or when it is inadequate for this extra work.

No other discipline has this strain more than surgery. Teaching surgery by nature is time-consuming and needs continuous demonstration of clinical skills, direct observation, and assessment of the trainees. Moreover, almost half of the medical students in Saudi Arabia opt into surgical specialties (Kaliyadan et al., 2015).

The question naturally arises regarding what motivates (or demotivates) the surgeons in non-university affiliated hospitals to teach. Evidence from other countries has shown that physicians are motivated to teach for personal satisfaction, enjoyment, having a good relationship with the trainees and witnessing their successful progress, being a role model, keeping their knowledge up-to-date and improving their skills, and financial incentive (Leitch and Walker, 2000; Kumar, Kallen and Mathew, 2002; Dahlstrom et al., 2005; Cochrane Ward et al., 2013; Burgess and Ramsey-Stewart, 2014; Budden, Svechnikova and White, 2017). In contrast, having uninterested trainees or trainees with poor attitudes, a lack of time, feeling overwhelmed by a large number of students, a lack of recognition or appreciation, a lack of institutional support, unsatisfactory financial incentives, a lack of teaching skills and knowledge of course development have been identified as demotivating factors (May et al., 2012; Shukr, 2016; Budden, Svechnikova and White, 2017).

There is reason to believe that the set of motivating and demotivating factors for teaching among surgeons working in the non-university affiliated hospitals in Arab countries (i.e., Saudi Arabia) might be somewhat different and are likely to be shaped by prevalent religious and social norms as well as by the attitude of patients and their attendants towards the trainees. In the sheer absence of data in this regard, this study explored these factors with qualitative in-depth interviews of surgeons.

**Methods**

**Design, sample and sampling strategy:** A qualitative design with in-depth interviews of study participants was used. The participants were surgeons, and at the time of the interview, were employed in the five non-university affiliated hospitals (i.e., Central Hospital, King Fahd Specialist Hospital, and Maternity and Children Hospital in Buraidah, King Saud Hospital in Unaizah, and the General Hospital in Al-Rass) in the Al-Qassim province of Saudi
Arabia. The study protocol was approved by the Medical Ethics Research Committee at Sulaiman Al Rajhi Colleges in Al-Qassim, Saudi Arabia, and data were collected between January and March of 2019.

Surgeons were included as participants if they (a) worked as a consultant or specialist in the selected hospitals, (b) were currently involved with teaching surgery, and (c) were not affiliated with a medical school. Of the 22 surgeons who were eligible, 18 agreed to participate in the study (response rate: 82%). All participants signed an informed consent that explained the study's purpose, risk and benefit of participation, rights, and data confidentiality.

Data collection: The authors of this study followed the methodology of data collection and analysis that they used in a previous study of surgeons (Zaghloul et al., 2018). Two research assistants, who received training on how to conduct in-depth face-to-face interviews, interviewed the participants. Each interview was between 30 and 45 minutes long. The interviewers used a semi-structured questionnaire, audio recorded the interviews, and transcribed them afterwards. Quotes have been altered to correct small grammatical errors as participants were non-native English speakers. Some of the Arab doctors (n=5) preferred to conduct the interviews in Arabic; hence, their responses were recorded in Arabic and translated into English while transcribing the audio recordings. A second pair of research assistants checked the recordings, translations and transcripts for data accuracy. The interviews centered around two broad themes (factors that motivated or demotivated them to teach surgery in their workplace, i.e., non-university affiliated hospitals) along with certain demographical questions (e.g., age, nationality, professional position, and surgical specialty). These questions were pilot tested on two surgeons at different non-university affiliated hospitals and modified based on their suggestions.

Analysis: The interview transcripts were analyzed according to the Qualitative Content Analysis method (Graneheim and Lundman, 2004). The analysis included five steps. First, transcripts were read thoroughly several times in order to get an overall sense of the data. Second, participants’ responses related to the study aims were identified and were categorized according to themes. Third, frequently occurring content themes were condensed and identified using codes. Fourth, these codes were then grouped together. Finally, the transcripts were re-read to make sure that all relevant responses had been identified.

Results/Analysis

Most of the participants were male (n=15, 84%) with a mean age (standard deviation, SD) of 48.4 (9.2) years. The predominant specialty was general surgery (33.3%), followed by vascular and thoracic surgery (16.7% each), and obstetrics and gynaecology (11.1%). The majority worked as consultants (44.4%). The participants' mean work experience was 22.6 (SD = 6.5) years. The majority of the surgeons were Egyptian (33.3%), followed by Saudi (22.2%), and Indian and Pakistani (16.6%).

Motivating factors: Surgeons in our study reported five main motivating factors (Figure 1a):

Figure 1a. Motivating factors.
1- Self-satisfaction and intrinsic happiness

All surgeons (n=18) expressed that teaching was a source of self-satisfaction, enjoyment and personal happiness. “I feel personal happiness and satisfaction are the best motivations ever.” "It is an internal motivation that comes from inside, feeling the self-satisfaction and happiness that is built on the basis of giving and providing." “The biggest things that I get from teaching are personal happiness, satisfaction and pride.”

2- Good reputation

Most of them (n=11) believed that being a good teacher helped build a respectable reputation. "Teaching and being good at explaining difficult things helped me build an excellent reputation among students, interns and residents. Most of them choose my team in their rotations, and my team is almost always crowded. I also receive a lot of compliments for that." "What motivates me the most is when I see some of my students remembering me wherever they go and always being thankful for what I have done for them."

3- Updated knowledge

All participants (n=18) reported that interaction with juniors while teaching created a great learning environment and kept them up-to-date with surgical knowledge. "Sometimes, I also feel that it consolidates my knowledge." "(Laughing) I tend to forget things right now due to aging and by explaining things I recall them." “I usually assign some topics to my students that I myself would like to be updated on. When we discuss their findings, it builds a great educational environment for all of us.”
4- Sense of duty to improve and maintain the teaching standard

All participants (n=18) in the study felt a duty to teach future physicians and to maintain and improve the surgical profession. "I feel that it is my duty to teach. And that is a good way to pay back those who taught me very well and because of whom I am who I am today." Some participants (n=7) did not have a proper learning environment during their time as students, which motivated them to create one when they found themselves as teachers. "I had a very bad teaching environment when I was a student, intern, and resident. The teaching was not proper, and we worked with some physicians who used us to execute their orders and do their paper work. One of my biggest motivations is that I want to change this poor attitude and enhance the teaching environment."

5- To witness the outcomes of their teaching

All participants (n=18) reported great joy when they witnessed the progress and success of their trainees. In addition, they enjoyed the relationship with their trainees that continued even after the trainees entered into their professional lives. Some considered it to be the most important motivating factor for teaching. "What motivates me is when I see my students are capable of saving lives. A long time ago, I saw one of my students saving a patient's life. At that moment, I felt that I had participated indirectly in saving that life. I felt so proud and promised myself to teach my students with all my strength."

Demotivating factors: The participants reported five factors that demotivated them from teaching (Figure 1b):

Figure 1b. Demotivating factors.
1- Uninterested trainees

The majority of participants (n=15) came across trainees who were not interested in learning or much worse, even disliked the surgical specialty. Those trainees, according to the participants, were there to fulfill their course obligations (e.g., attendance, logbook, etc.) rather than to receive theoretical or practical training. "Also, many of the students and interns do not show any interest in surgery, and they are there only because of the course obligations. They are not going to get any benefit, and we tend not to interact with them. They are only here to fill their logbooks and complete their evaluations."

"Students have become assessment oriented. They care less about the actual learning and some only show up for assessment!"

2- Under-equipped teaching settings at the hospitals

Some participants (n=10) identified that being obligated to teach in a non-university affiliated hospital was a challenge and a source of frustration. They cited examples of the lack of teaching facilities (e.g., rooms, boards, models, etc.) and educational activities (e.g., journal club, research seminar, or research activities, etc.). They also stated that the hospital administration did not have a clear policy on teaching and maintained weak collaboration with coordinators of the medical colleges from where the student-trainees came. "There are no structured instructions or policies for the teaching activities for the students. Since we are not a pure university affiliated teaching hospital, we tend to teach in an improvisational way."

"We feel that the students have their own professor from the college, and thus there is no need to teach them."

"A lot has changed in the last decade and there are new advances every day in medicine. If I am going to teach in an acceptable way, I have to know the latest articles and to understand their results. This is very difficult given our busy schedule. Also, there are no journal club meetings or staff development activities to help us update our knowledge"

3-No legal protection for trainees

Trainees are very eager to have a hands-on experience with physical examinations, minor procedures (e.g., inserting lines and tubes, performing stitching and removal of sutures, etc.), and assistance during surgery. A majority of the participants (n=15) reported that trainees do not have legal coverage to perform these activities, and therefore end their training without getting any practical experience. "With all the rising complaints the patients are making nowadays against their physicians even on minor things, we are more cautious while dealing with them. Specifically, there is no protection system that exists for us as foreign physicians, not to mention the trainees themselves. To avoid headaches with some types of patients, it is almost impossible for us to demonstrate teaching as it seems quite clear that those patients seek to complain about whatever they feel is not going as they wish."

"I know that my trainees will never harm a patient, but I can never guarantee that. Since there is no malpractice coverage/insurance for the students and they have no responsibility no matter what happens, we tend to be very meticulous and cautious."

4- Overwhelming workload

The participants (n=17) believed that providing care to patients was their first priority and expressed that teaching a large group of students as overwhelming. "It is all about workload and a busy schedule with no free time to teach."

"Our schedule is too busy. We are literally overwhelmed with so many obligations (e.g., new admissions, clinical rounds, duties in the outpatient clinics, operating room (OR) appointments, OR days, emergency ORs, meetings, and paperwork). We lack time to conduct all the aforementioned daily tasks and medical duties, and adding teaching responsibilities onto that will increase the burden on us and might affect patient care."

5- No financial incentives or promotion for teaching

Most of the participants (n=15) expressed that their demotivation to teach was the lack of any financial benefit for it, and it did not help them get promoted despite the fact that they put tremendous effort into it. "If I do something extra, I should expect an outcome, right? We do not receive any incentives or raises if we teach. There is no promotion
policy that indicates teaching is a positive requirement, so why bother to teach and make extra effort?”

Factors related to participants’ faith and the sociocultural context of Saudi Arabia: The participants identified a few motivating and demotivating factors related either to their own faith or to the prevalent sociocultural norms of Saudi Arabia (Figure 1c):

Figure 1c. Cultural and religious factors.

Credit for good deeds (motivating)

Motivating factors
1- Teaching to accumulate spiritual credit for good deeds (hasanat): All participants (n=18) were from the Muslim faith, which states that all good deeds are rewarded by God (hasanat). The majority of our participants (n=16) stated that they teach in order to accrue credit for such a good deed and expressed that they have a religious obligation to spread their knowledge and skills to their trainees. “Our religion is very generous when it comes to positive attitudes. Our Almighty God promises us hasanat and encourages us to spread knowledge.” “Our prophet, peace be upon him, encouraged us on multiple occasions not to keep knowledge to ourselves and to do our best to spread it.”

Demotivating factors
1- Patients' refusal to be examined by the trainees: The participants (n=10) reported that misconception was rampant among patients about trainees, whose knowledge and skills they question. They also reported that patients knew that it was not a university affiliated hospital, and therefore, they were not obligated to be examined by the trainees. “We are a non-university affiliated governmental hospital. Patients know that and expect to be treated like kings. I witnessed many embarrassing situations when patients refused examination by students. In some instances, the patients expressed that they did not want their bodies to be practiced on like lab animals.”
2- Female patients and male trainees: Many participants (n=15) reported that it was common for female patients to refuse examination by male medical students or to even allow them to be present in the room, alluding to the conservative nature of Saudi society. They also reported that the refusal not only came from the patients themselves, but also from their male attendants, for example a husband. "Male-female interaction in our culture is very sensitive. Even we, as treating physicians, do not have our full freedom to ask sensitive questions or to do examinations on our female patients. Their male guardians (e.g., father, brother or husband) are almost always there. It is very difficult for us to teach and demonstrate for the students. Some patients even refuse the presence of students, especially male students."

Discussion

Our study reported motivating factors similar to other studies (Leitch and Walker, 2000; Kumar, Kallen and Mathew, 2002; Dahlstrom et al., 2005; May et al., 2012; Cochran Ward et al., 2013; Burgess and Ramsey-Stewart, 2014; Budden, Svechnikova and White, 2017). Personal satisfaction mainly drove our physicians to teach and share their expertise, and this self-satisfaction outranked their financial expectation from teaching (Kumar, Kallen and Mathew, 2002). They also expressed that they enjoyed teaching, and showed a strong sense of responsibility toward their trainees; they believed that through teaching, they were giving back what they earned while they were students (Cochran Ward et al., 2013; Budden, Svechnikova and White, 2017). They reported a lifelong bond with some of their trainees and expressed satisfaction at their successes (May et al., 2012; Cochran Ward et al., 2013; Budden, Svechnikova and White, 2017). In addition, teaching encouraged these physicians to review and update their knowledge (Budden, Svechnikova and White, 2017). Finally, our study showed that getting spiritual credit for good deeds through teaching was a unique motivating factor for these physicians; this factor was not previously known to the literature and likely has its root in the religion of Islam, which these physicians belonged to.

Some of the general demotivating factors that our study found (e.g., lack of time to teach with overwhelming responsibilities, having uninterested learners or learners with bad attitudes, and insufficient payment and recognition) were also reported in previous studies (May et al., 2012; Shukr, 2016; Budden, Svechnikova and White, 2017). However, there were a few factors that were unique in the context of Saudi Arabia (e.g., underequipped teaching settings at the hospitals and no medico-legal protection for the trainees). Non-university affiliated hospitals in Saudi Arabia are generally small in size, have a limited number of beds, and lack the set up and equipment needed for teaching and research (e.g., classrooms, audio-visual technology, Internet connection, etc.). Two other demotivating factors related to sociocultural norms of Saudi Arabia were refusal, in general, by patients to be examined by the trainees and refusal, in particular, by female patients (or by their relatives) to be examined by male trainees even in the presence of supervising surgeons.

Saudi culture is unique, and religion plays a vital role in shaping it. Saudis have strict family values, which require genders to be segregated, and females exhibit modesty in dress and behavior (al-Shahri, 2002). Curiously, the Saudi health care system is mainly staffed by non-Saudi physicians, of whom most are men recruited from all over the world. These physicians have their own cultural beliefs and practices that are somewhat different from the Saudis, and these differences make their job more challenging (Gallagher and Searle, 1985). It has been reported that some patients prefer to communicate and be treated by physicians with whom they share the same cultural and religious beliefs and who have the same ethnicity and gender (Rocque and Leanza, 2015).

In this study, the religious conviction of the surgeons played an important role in their attitude toward teaching, i.e., getting rewarded by God for good deeds through teaching. However, there were other cultural factors that negatively affected the surgeons in their motivation to teach. Patients in general in Saudi Arabia, and in particular those admitted to non-university affiliated hospitals, harboured a misconception about trainees. They were not comfortable being examined by the trainees even in the presence of the supervising surgeons, which hindered the teaching
process and frustrated both the trainees and the trainers. In a conservative society like Saudi Arabia, interactions with the opposite gender are limited, and this is true even in a health care setting. Female patients, especially in the obstetrics and gynaecology ward, would like to be seen by female physicians and are strongly reluctant to be seen by male physicians or trainees. The male guardians of female patients further restrain the teaching process by refusing the presence of male trainees while the supervising physicians demonstrate to them how to take patient history or how to do a physical examination. A study conducted in the United Arab Emirates showed that almost all female patients refused to have a male medical student perform a gynaecological or abdominal examination on them, and more than half would not allow a male student to even see their faces (the face veil is customary in Arab societies) (McLean et al., 2010). However, the majority believed that it is a national responsibility to contribute toward training national students (McLean et al., 2010).

Together, the present study’s findings support established theories related to motivation. To illustrate, the self-determination theory (Deci and Ryan, 1985; Ryan and Deci, 2000) developed by Ryan and Deci outlines a spectrum of motivation that includes intrinsic, extrinsic and amotivation, which are reflected in our observed motivating factors (e.g., self-satisfaction and intrinsic happiness), cultural/religious (e.g., spiritual reward) and demotivating factors (e.g., lack of support), respectively. In addition, our observations are in line with another well-known theory—the Herzberg theory (Herzberg, Mausner and Snyderman, 1959). Within this theory, also known as the two-factor theory, factors leading to motivation at work are divided into motivating factors and hygiene factors. We found that deficiencies of essential hygiene factors related to workplace conditions, such as lack of financial support, equipment and legal security, as well as a poor relationship with uninterested trainees were important demotivators for the surgeons, while the presence of motivators including self-achievement, recognition and responsibility influenced the surgeons positively. This sheds light on the importance of an integrative approach that includes all factors when looking into motivation at any workplace in order to improve developmental and educational practices.

The present study had several limitations. It was not able to include surgeons from a broad variety of subspecialties, which may have precluded it from identifying a comprehensive list of motivating and demotivating factors. It also did not rank the identified factors, and therefore was unable to comment on the most influential factors for teaching. The study did not include surgeons who are affiliated with medical schools, and thereby was not able to compare the factors between these two groups of surgeons. Finally, it included surgeons from a specific region of Saudi Arabia and hence could not comment on whether surgeons employed in non-university affiliated hospitals elsewhere in the country have the same motivating and demotivating factors to teach surgery to their students and trainees.

**Conclusion**

The study’s findings suggest that the teaching environment in non-university affiliated hospitals in Saudi Arabia can be greatly improved with little additional cost. Most are related to administrative and legal measures and require cooperation between the Ministry of Health and Ministry of Education, which oversee the non-university affiliated hospitals and medical colleges, respectively. For example, the hospitals in question can display signs and provide information through their public relations departments regarding how cooperation with student-trainees is a social responsibility to build up the country’s workforce and help assure the nation’s future health care professionals are skilled and well qualified. Physicians that have cultivated trust with their patients through good communication will also help patients more readily accept when those physicians bring student-trainees into the appointments. Hospital administration should also evaluate the obstacles that prevent them from bringing the student-trainees under legal protection and offer solutions. Finally, a certain portion of the fee that hospitals receive from the medical colleges for training their students should be allocated for physicians as monetary incentive for their involvement in teaching.
Take Home Messages

- Spiritual reward was a unique motivating factor among surgeons choosing to teach.
- Further motivations included duty, self-satisfaction, and reputation, among others.
- Female patients refusing contact with male trainees was a demotivating factor.
- Other demotivators were lack of incentive for teachers and lack of legal protection for trainees.

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### Appendices

None

### Declarations

*The author has declared that there are no conflicts of interest.*

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### Ethics Statement

This study was approved by the Medical Ethics Research Committee at Sulaiman Al Rajhi Colleges in Al-Qassim, Saudi Arabia (SRC/01/2018/009).

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