

Advantages and Perspectives of Teaching in Outpatient Clinics: A Systematic Review

Hani Almoallim^{1,2,3}, Joan Minguet¹, Khaled Albazli^{1,4}, Manal Alotaibi^{1,2}, Samar Alwafi^{1,5}, Maun Feteih⁶

¹Alzaidi Chair of Research in Rheumatic Diseases, Umm Alqura University, Makkah, Saudi Arabia

²Department of Medicine, Medical College, Umm Alqura University, Makkah, Saudi Arabia

³Department of Medicine, Dr. Soliman Fakeeh Hospital, Jeddah, Saudi Arabia

⁴Department of Medicine, Medical College in Alqunfudah, Umm Alqura University, Makkah, Saudi Arabia

⁵Department of Dermatology, King Abdulaziz Medical City, Jeddah, Saudi Arabia

⁶Department of Medicine, King Faisal Specialist Hospital and Research Centre, Jeddah, Saudi Arabia

Email: hanialmoallim@gmail.com, bazlikhaled@gmail.com

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Abstract

Although the number of patients seen in outpatient clinics far surpasses those managed in inpatient settings, many medical training programs lack outpatient clinic teaching initiatives. Thus, we have conducted a systematic review of the literature in order to raise awareness of the important role that outpatient clinics can play in enhancing medical education, and to assess current perspectives on improving outpatient training. Our analysis reveals that outpatient clinics can offer an efficient and holistic view of patient care, while covering a wide range of general and specialty medical practices. Moreover, several fundamental skills can be acquired by students in outpatient clinics, which effectively combine elements encountered in routine ward-based teaching (etiology, history, physical examination, laboratory tests, and therapy) with those found in ambulatory care (continuity, context, health education, economics, and responsibility). Approaches to teaching in an outpatient setting vary greatly, with extensive differences in levels of supervision and feedback evident. It is clear that, at present, there is no general consensus on the best strategy for realizing the potential of outpatient clinics in the training of students and junior doctors. With the changing face of health systems, the identification of methods by which maximal benefits of this setting can be achieved would be highly advantageous for future medical trainees.

Keywords

Outpatient Clinic, Ambulatory Care, Teaching, Training, Medical Education

1. Introduction

To effectively deliver patient care, physicians must attain a high level of knowledge and advanced skills during their training. In this regard, shifting from informational learning strategies to hands-on approaches in medical education has enhanced training programs (Bentley et al., 1989). Thus, current medical instruction is based on the premise that students and residents learn best by participating, under supervision, in the day-to-day care of patients (Bentley et al., 1989).

Although case-based teaching approaches may be desirable, changes in patient management within hospital wards currently provides fewer opportunities for training in core clinical areas (Fincher & Albritton, 1993; Krackov et al., 1993). Indeed, modern methods and patient expectations have contributed to shorter hospital stays, with patients that present common conditions (even acute cases) now routinely managed as outpatients. Lawson and Moss reported that the average inpatient stay for acute specialties in the UK dropped from 11.3 to 6.1 days from 1970 to 1990 (Lawson, 1993). Therefore, as much as 70% of hospital-patient contact now occurs within outpatient settings (Dent, 2005). As a result, inpatients are often critically ill and only represent subspecialties, making them less characteristic of standard medical practice (Fincher & Albritton, 1993, Seabrook et al., 1997).

For this reason, modern medical education has increasingly shifted toward providing real world exposure by employing ambulatory services as educational tools (Harden et al., 1999, Wieland et al., 2013). Ambulatory care refers to all parts of the hospital that provide outpatient consultation or diagnostic/therapeutic procedures that do not require patient admission (McGee & Irby, 1997). However, even though the number of patients seen in outpatient clinics (OPCs) far surpasses those managed in inpatient settings, it is questionable whether they are being sufficiently utilized for teaching purposes (Dent, 2005; Meyers et al., 2007).

Here, we discuss the potential benefits of teaching in an outpatient setting, and how the different approaches are viewed by the trainees. Based on a critical review of the literature, we evaluate the advantages and current perspectives associated with such methodology.

2. Methods

2.1. Systematic Search of the Literature

Electronic literature searches were performed using PubMed in July 2014. To identify information on current perspectives and advantages associated with teaching in outpatient settings, the following terms were searched in various combinations “outpatient clinic”, “ambulatory”, “training”, “residents”, “education”, “outpatient teaching”, “feedback” and “supervision”. The search was then extended by manual screening of the references to identify additional supporting material.

2.2. Selection Criteria

The selected articles reported results or perspectives that directly yielded insight into outpatient education and were written in English. As per Best Evidence Medical Education (BEME) review guidelines, studies were not excluded based on the type of study design. Relevant articles were evaluated and discussed by two reviewers in order to assess quality. A flow diagram outlining our systematic literature search is shown in **Figure 1**.

3. Findings

3.1. Key Advantages of OPC Training

It has been proposed that clinical teaching opportunities should involve treating and managing patients in OPCs, operating rooms, and hospitals in order to develop a system of evidence-based medical education that promotes continuous development of competencies and produces self-directed learners (Kotur et al., 2012). However, although the number of patients seen in outpatient settings has grown, development of OPC training initiatives has been limited (Dent, 2005; Meyers et al., 2007). Ultimately, the outpatient setting has the potential to provide numerous benefits, including greater exposure to cases, experience with diverse clinical topics, and efficient development of doctor-patient relationships.

3.1.1. Volume and Diversity of Case Exposure

There is some evidence that a higher volume of cases improves the knowledge and skills acquisition of medical

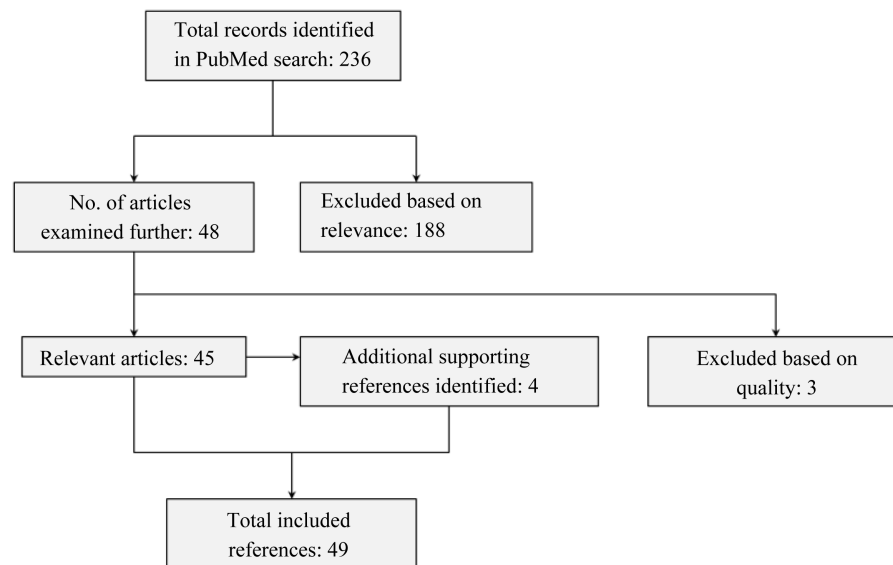


Figure 1. Flow diagram showing our systematic literature search on outpatient education.

trainees. Albert et al. found that the volume of cases logged by individual medical students in a neurology OPC correlated with their performance on knowledge and clinical skill tests (Albert et al., 2014). In a urology setting, Kerfoot et al. reported an increase in the number of patient encounters in an outpatient setting, which was associated with perceived skills improvement by the medical students involved in the study (Kerfoot & DeWolf, 2002). On the other hand, it has been shown that participation in more outpatient surgeries or surgical clinics yielded no improvement in written examination performance (Chatenay et al., 1996, Neumayer et al., 1998, Seabrook et al., 1998). As there is a wide range of general and specialty medical practices represented within OPCs, it has been acknowledged that ambulatory care settings are advantageous for maximizing learning opportunities (Stewart et al., 2005). To ensure a more complete education, medical trainees need to be exposed to a wide variety of cases (Stahl et al., 2014). Kerfoot et al. compared inpatient and outpatient urology training, and found that students randomized to OPC-based urology education were likely to gain exposure to a greater diversity of patients with common urological problems (Kerfoot & DeWolf, 2002). This resulted in the students reporting improvements in a range of skills, in particular, those regarding physical examinations. Moreover, they perceived that they had learnt more about given curricular topics and skills (Kerfoot & DeWolf, 2002). In a pediatric setting, medical students who completed a short rotation in an outpatient department reported that they had gained knowledge regarding a range of common conditions, in addition to improved confidence in handling patients and their families (Behmanesh et al., 2014). Post-rotation test scores were also found to be higher than those of students that had been based in an inpatient environment. Similarly, in a study regarding clinically challenging cases, residents perceived that exposure to more complex patients in OPCs made valuable contributions to their learning (Cook et al., 2008). However, it was also found that subsequent knowledge test scores were unaffected.

3.1.2. Increased Patient Diversity

Several skills can be acquired by students in OPC settings (e.g., continuity, context, health education, and responsibility), along with fundamental elements that are normally encountered in routine ward-based teaching (e.g., etiology, history, physical examination, laboratory tests, and therapy). Furthermore, OPCs can present specialized learning opportunities to medical trainees. The outpatient environment often allows valuable exposure to social, psychological, financial, and ethical aspects of patient management, which may not be experienced in inpatient settings (Cook et al., 2008; Moon et al., 2009; Carrese et al., 2011; Sturm et al., 2011). Notably, knowledge of these topics is essential for effectively treating patients in the modern healthcare system. Yikilkan and colleagues even suggested that training should take place at various primary care units according to the sociodemographic characteristics of the country (Yikilkan et al., 2013). In this regard, experiencing differences between rural and urban outpatient settings can diversify training. Therefore, some medical schools have begun to implement requirements for rural internships, when appropriate, to meet the unique needs of their re-

gion (Sen Gupta et al., 2008). In addition, there is a major trend to develop community-based education programs, which can provide contextual learning and allow trainees to acquire the competencies needed to deliver healthcare in local communities. However, in order to efficiently implement community-based programs, structured models and tools for evaluating the outcomes of these approaches need to be established (Mariam et al., 2014). Interestingly, free clinics also represent platforms for community-based continuity education that can offer unique social and economic perspectives (Pincavage et al., 2013).

3.1.3. Cultivating Effective Doctor-Patient Interactions

Outpatient departments often avoid some of the pressures associated with availability and care commitments that are inevitable within inpatient settings. Thus, they might represent ideal environments for trainees to develop essential patient interview and communication skills. However, within busy OPCs, rushed interviews and large case volumes could diminish the effectiveness of outpatient teaching (Irby, 1995; McGee & Irby, 1997; Stewart et al., 2005). Therefore, designating certain OPCs as teaching environments could ensure optimal patient numbers for the development of essential communication skills in trainees (Stewart et al., 2005). This would ultimately provide a setting in which instructors can efficiently observe trainee-patient interactions in order to deliver valuable feedback and promote independent learning (Almoallim et al., 2006).

In this regard, assessment tools have already been developed to evaluate the communication skills of residents within OPCs (Gigante & Swan, 2010; Skillings et al., 2010). For example, the Set the stage, Elicit information, Give information, Understand the patient's perspective, and End the encounter (SEGUE) Framework, which is recommended by the Accreditation Council for Graduate Medical Education (ACGME), is a checklist-style rating scale that facilitates teaching and assessment of communication skills in trainees through direct observation. Notably, this framework was recently modified specifically to evaluate discrete interviewing behavior in outpatient settings (Skillings et al., 2010). Thus, the continued development of such observational tools (e.g., the mini clinical evaluation exercise [mini-CEX] for workplace-based assessment) should facilitate the ability of attending physicians to provide beneficial critiques for trainees in order to cultivate effective doctor-patient interaction skills (Hecker et al., 2012).

3.2. Learning through Supervision

In any clinical setting, the level and quality of trainee supervision is of great significance for learning. However, owing to the high volume of patients that pass through an OPC, training may suffer as a result of time constraints. Indeed, in a survey of junior doctors in the UK, while on-ward supervision was perceived to be acceptable, 30% of respondents found outpatient supervision to be unsatisfactory (Panayiotou & Fotherby, 1996). There are a number of factors that have been shown to affect the opinion of a trainee regarding training quality within an outpatient setting. Roth et al. investigated perceptions of the learning environment in ambulatory residency clinics, and identified a number of factors that contributed to the perceived quality of teaching (Roth et al., 2006), while Probst et al. assessed the significance of organizational environment (Probst et al., 1998). The authors found that the presence of structured learning opportunities contributed most to judgment of teaching quality, and suggested that regular knowledge assessment, the setting of goals, and appropriate levels of responsibility were important for improving training outcomes. The usefulness of skills assessment and feedback was also noted in a study by Wendling et al. (Wendling et al., 2004). They described the use of a resident competency evaluation strategy, and investigated its usefulness as perceived by residents in an outpatient setting. A high proportion of residents found the information provided regarding their skills to be useful, with 88% indicating that they would like the evaluation process to continue. In agreement with these findings, Dubey et al. reported that a high proportion of rheumatology trainees felt that they would benefit greatly from a 30 minute debriefing session after an OPC (Dubey et al., 2004).

There are different approaches to learner supervision, with varying levels of independence granted to the trainee (MacDougall, 2003). Azher et al. conducted a randomized controlled trial to assess the perception of surgical outpatient consultations involving medical students (Azher et al., 2013). They found that students preferred an approach by which they performed an initial interview with the patient in the absence of the doctor, which was then followed by an examination in their presence. This preference was attributed to the students' feeling more involved with the patient, and being able to communicate with them more effectively. Similarly, 92% of students who had spent time in outpatient ear, nose, and throat clinics reported that they liked to see patients alone,

while 65% stated that they liked to watch the doctor (Hajioff & Birchall, 1999). Student satisfaction was higher when they saw patients alone, and was also found to correlate with appointment duration.

4. Discussion

Despite the lack of systematic studies regarding the advantages and disadvantages of teaching in an OPC setting, evidence from the variety of reports that we have identified in this review suggests that there are many potential benefits. With the changes to healthcare dramatically increasing outpatient numbers, the initiation of more extensive and structured OPC training programs is perhaps inescapable.

However, there are certain limitations to teaching in OPCs that may hinder the wider use of such methods. Firstly, a willingness on the part of the faculty to make changes to the traditional inpatient-based teaching approaches may not be forthcoming. The time and organizational input required to establish a new program within an already busy training schedule provides a significant barrier to its implementation. The inevitable costs of initiating OPC teaching are another drawback, although an up to date and detailed cost-benefit analysis is needed in order to clarify the current situation (Flanagan et al., 1995; Sostok et al., 1995).

The likely increase in outpatient appointment time will reduce the number of patients that can be seen during a clinic, significantly decreasing the productivity of the supervisor (Gamble & Lee, 1991). Furthermore, attempts to minimize this burden may result in insufficient time being used for student discussion and feedback. As the evidence points to learners finding this time to be highly beneficial, insufficient input by the supervisor may have a highly negative effect on their training (Dubey, 2004). In line with this is the level of teaching skills of the supervisor. It is only recently that teacher training has become a more routine component of the professional development of physicians (Bowen & Irby, 2002; Busari et al., 2005). If outpatient teaching was to constitute a significant proportion of a student's training, time would need to be spent on ensuring that all participating trainers displayed adequate teaching and supervision skills.

While it may be thought that a lack of willingness by patients to have a student participate in their outpatient appointment would be a problem, studies suggest that this is not a significant issue (Crawford et al., 2005; Choudhury et al., 2006; Shah-Khan et al., 2007; Al Ghamdi et al., 2014). It appears that a sufficient proportion of patients are happy to have the student present during their consultation, providing adequate cases for training purposes.

The studies that have been carried out on the topic of teaching in an OPC setting have generally been limited to a single specialty, making generalization difficult. Furthermore, it is likely that certain fields of medicine will be more suited to this approach, and future research should take this into account.

Although many questions regarding teaching in an OPC have been raised in the past, there remains inadequate evidence for the benefits to trainees (Bowen & Irby, 2002). This may be a significant contributory factor to the slow rate at which such training is becoming part of the medical curriculum. In order to fully realize the potential benefits of teaching in an OPC setting, these questions need to be satisfactorily answered.

5. Conclusion

Our systematic analysis of the literature has revealed several advantages to teaching residents and students within outpatient environments, including adequate case exposure, experience with diverse clinical topics, and efficient development of doctor-patient relationships. Approaches to teaching and supervision in the outpatient setting vary greatly depending on the trainer and location of the clinic, with little consensus on the optimal strategy. Continued research within outpatient settings will be required to better understand the relationships between resident supervision, medical education, and patient outcomes in outpatient training environments.

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