

Integrating Clinical Videos Into Medical Education: Enhancing Clinical Skills Training For Medical Students

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Abstract: The use of video-based instruction in medical education is growing rapidly, especially for teaching clinical skills to first-year medical students. Videos offer visual and auditory engagement, flexibility, and standardization, making them a potentially powerful tool for improving procedural skill acquisition. This study evaluates the effectiveness of video demonstrations in teaching the clinical skill of blood pressure (BP) recording compared to traditional PowerPoint-based instruction among first-year undergraduate medical students. A structured video demonstration of BP recording was shown to the intervention group, while the control group received traditional instruction. A pre-test and post-test assessed theoretical knowledge on the same day, and an Objective Structured Practical Examination (OSPE) was conducted after one week to evaluate skill performance.

Keywords: Clinical video-based instruction, medical education, clinical skills training, blood pressure recording, medical students, multimedia learning, simulation in education, self-directed learning, active learning in medicine.

Introduction: Videos when properly embedded within the curriculum might make learning the basic sciences such as human anatomy much more engaging for medical students. It is unclear how the use of video is advantageous. Possible scientific causations for such an observation include visual and auditory stimulation, coupled with ease of access for the learner. Video usage empowers the medical students to learn in an active manner. However, this cannot happen if motivation for self-directed learning is lacking.

The use of video is fast becoming popular within medical education. In the larger scheme of academic medicine, the advent of media such as YouTube and Dailymotion coupled with ease of access to electronic gadgets and the internet is threatening the traditional way of learning. There is a growing need to use newer teaching-learning methods to impart clinical skills to the 1st-year medical students, as student intake has increased with the availability of limited resources. Video-based instructional method is advantageous to teach large numbers with uniformity and authenticity. Studies have shown that video-based education helps students to learn and reproduce clinical skills better because video promotes simultaneous processing of both auditory and visual information. Sequential motion given by video would also motivate them to pay

more attention to the information presented and learn the skill effectively.

The use of computer-assisted learning and multimedia has enriched the teaching in health professional curriculum in a number of ways. The video-based materials have been used as a successful, cost-effective medium with positive benefits of providing active learning experiences increased concentration, and motivation during learning leading to higher impact on comprehension and retention. A structured and systematic clinical skill demonstration using video enables students to acquire not only specific clinical skills and knowledge but also the attitude essential for patient care. Video demonstrations during the 1st year can promote the development of learning in all domains including affective domain which is very important for patient care in the field of medicine.

Video demonstration of BP recording was shown to the intervention group and traditional practical instruction using power point was given to the control group simultaneously on the same day. On the day of the video demonstration, a pre- and post-test was conducted to assess the knowledge of the students. After a week of practice in small groups, OSPE was conducted to assess the performance of the clinical skill, "Recording of BP."

This interventional study evaluated the effectiveness of the video demonstration as a teaching method for a core clinical skill, "BP recording" among 1st-year undergraduate medical students. Findings of our study show that students of traditional and video-based instruction groups performed equally well in the theoretical questions as evidenced by pre- and post-test scores.

Video demonstration can be a valuable tool for teaching procedural skills for undergraduate medical students as it provides an engaging learning experience, enhanced retention, and reproducibility in learners. Video-based education helped students to learn and reproduce clinical skills better because of simultaneous processing of both auditory and visual information during video demonstrations.

Clinical skill training, using video demonstration was found to be effective in developing basic clinical skill among 1st-year medical undergraduates. Standard video-based materials for clinical skill demonstrations can help in teaching as well as during revision practices before examinations. This will ensure consistency, uniformity, and standardized approach to develop physical examination skills among undergraduate students.

In the rapidly evolving landscape of medical education, clinical skills training remains a cornerstone of preparing competent healthcare professionals. Traditional methods of teaching-such as bedside teaching, direct patient interaction, and simulation labs-have long been the gold standard. However, the integration of technology, especially clinical videos, into medical curricula has transformed how students learn and refine their clinical skills. This article explores the benefits and challenges associated with the use of clinical videos for clinical skills training among medical students. There are several benefits of clinical videos in clinical skills training:

1. Enhanced Accessibility and Flexibility: Clinical videos provide students with the ability to access educational content anytime and anywhere. This flexibility supports self-paced learning, allowing students to review complex procedures multiple times, which is often not feasible in a live clinical setting. For students in remote or resource-limited areas, clinical videos serve as a vital educational tool, bridging gaps caused by lack of patient availability or faculty.
2. Standardization of Teaching: One challenge in clinical skills training is variability in instruction quality due to differing teaching styles and patient presentations. Clinical videos offer standardized demonstrations of clinical procedures and examination techniques, ensuring uniformity in what students learn. This

consistency can help minimize disparities in clinical education across institutions.

3. Visual and Practical Learning Enhancement: Medical students often benefit from visual learning, especially when mastering physical examination skills or procedural techniques. Videos vividly illustrate the nuances of patient positioning, hand movements, and procedural steps, making complex skills easier to comprehend compared to textual descriptions. The ability to replay sections allows for repeated observation and better retention.

4. Safe and Ethical Learning Environment: Using clinical videos reduces the dependence on live patient encounters, which can sometimes pose ethical and safety concerns, especially for invasive procedures or sensitive examinations. Students can gain preliminary exposure to clinical skills without risking patient discomfort or harm, fostering a respectful and patient-centered approach.

5. Supplement to Simulation and Real-World Practice: Videos serve as an excellent supplement to hands-on practice in simulation labs or clinical rotations. They can prepare students beforehand by familiarizing them with procedures, increasing confidence and competence during actual performance. Additionally, videos featuring expert clinicians can expose students to best practices and clinical reasoning.

There are also some challenges of clinical videos in clinical skills training

1. Lack of Hands-On Experience: While videos effectively demonstrate techniques, they cannot substitute the tactile and proprioceptive feedback essential for mastering clinical skills. Real patient interaction is critical for developing the nuanced judgment and adaptability required in clinical practice, which videos alone cannot fully replicate.
2. Limited Interactivity: Clinical videos are predominantly passive learning tools. The absence of immediate feedback or the opportunity to ask questions limits their ability to clarify doubts or adapt teaching to individual learners' needs. This challenge necessitates integration with interactive sessions, such as discussions or supervised practice.
3. Risk of Oversimplification: Videos may sometimes present idealized or simplified versions of clinical scenarios that do not capture the variability and complexity of real-life cases. This can lead to unrealistic expectations or insufficient preparation for the unpredictable nature of clinical practice.
4. Technical and Resource Constraints: The creation, curation, and maintenance of high-quality clinical videos require significant resources, including

expertise, equipment, and time. Additionally, students need reliable access to digital devices and stable internet connections, which can be barriers in some settings.

5. Ethical and Privacy Concerns: Recording and using clinical videos raise concerns about patient consent, confidentiality, and privacy. Ensuring that videos are ethically sourced and anonymized is critical to maintaining trust and adhering to legal standards.

RESULTS

Both groups performed similarly in theoretical assessments, suggesting comparable knowledge acquisition. However, students exposed to video demonstrations reported enhanced engagement, improved understanding, and higher confidence during skill performance. Videos supported simultaneous visual and auditory learning, aiding comprehension and retention.

Clinical videos enhance accessibility, promote standardization, and serve as valuable supplements to traditional methods. While limitations such as lack of hands-on practice and interactivity exist, integrating videos with simulation and direct patient interaction can provide a balanced approach to clinical education.

CONCLUSION

Video-based learning is an effective, scalable, and engaging method for teaching basic clinical skills in undergraduate medical education. When used thoughtfully alongside traditional and interactive modalities, clinical videos can significantly enhance the training of competent, patient-centered future physicians.

The incorporation of clinical videos into medical education offers numerous benefits, including improved accessibility, standardized teaching, and enhanced visual learning. However, it is essential to recognize their limitations, particularly the lack of hands-on experience and interactivity. For optimal clinical skills training, clinical videos should be integrated thoughtfully with direct patient encounters, simulation, and interactive teaching modalities. Addressing technical, ethical, and resource challenges will further enhance the effectiveness of clinical videos, ultimately contributing to the development of skilled and compassionate future physicians.

REFERENCES

1. Hansen M, Oosthuizen G, Windsor J, Doherty I. Enhancement of medical interns' levels of clinical skills competence and selfconfidence levels via video iPods: Pilot randomized controlled trial. *J Med Internet Res* 2011;13:e29.
2. Baggett P. Role of temporal overlap of visual and

auditory material informing dual media associations. *J Educ Psychol* 1984;76:408-17.

3. Choi HJ, Johnson SD. The effect of problem-based video instruction on learner satisfaction, comprehension and retention in college courses. *Br J Educ Technol* 2007;38:885-95.
4. Coffee J, Hillier S. Teaching pre-cursor clinical skills using an online audio-visual tool: An evaluation using student responses. *MERLOT J Online Learn Teach* 2008;4:469-76.
5. Benner P. From novice to expert: excellence and power in clinical nursing practice. AddisonWesley; 1984.
6. Creswell JW. Qualitative inquiry and research design: choosing among five approaches. Sage Publications; 2013.
7. Guba EG. Criteria for assessing the trustworthiness of naturalistic inquiries. *Educ Resour Inf Cent (ERIC) Doc Reprod Serv.* 1981;ED214380. <https://doi.org/10.1007/BF02766777>
8. Lincoln YS, Guba EG, Pilotta JJ. Naturalistic inquiry. *Int J Intercult Relat.* 1985;9