PERSPECTIVE

Exploring the role of moulage in facilitating the acquisition of clinical skills among medical students

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ABSTRACT

Training of medical students in the domain of clinical skills is an indispensable component of medical education delivery. Moulage in medical training deals with producing genuine simulations of wounds, injuries, and other medical conditions, so that students can relate to lifelike scenarios. Medical students through moulage are exposed to the complexities of real-world clinical practice to bring about an improvement in their confidence and competence levels as healthcare professionals. Integrating moulage into medical training essentially requires systematic planning and implementation to ensure that simulations are effective. The success of moulage, in terms of attainment of the learning objectives, can be enhanced by beginning with a few modules and then based on the experience, success, and acceptance, gradually expanding the process. In conclusion, the introduction of moulage into the existing medical curriculum can prove to be an effective tool to enrich the learning experience and aid in the process of acquisition of clinical skills. However, the success of the same in terms of attainment of the learning outcomes essentially depends on the planning and collaboration between different departments and stakeholders.

KEYWORDS

Moulage, Medical simulation, Clinical skills, Medical education

INTRODUCTION

Training of medical students in the domain of clinical skills is an indispensable component of medical education delivery (1). Among the various clinical skills, exposing medical students to the management of wounds has immense significance, as it prepares them with the desired skills to provide immediate and effective care in heterogeneous clinical settings (2). At the same time, the training imparted to medical students ensures that they are well-equipped to effectively respond

to healthcare emergencies, like road traffic injuries, man-made or natural disasters, etc., (2). Considering the significance of trauma training, in terms of being the difference between life and death, one of the feasible and cost-effective approaches is to train medical students in simulated settings, as it will remarkably reduce the probability of errors from healthcare professionals and even make them proficient in assessing, and managing wounds (2,3).

Moulage in medical training: Significance and Merits

Moulage in medical training deals with producing genuine simulations of wounds, injuries, and other medical conditions, by making use of makeup, materials, and other techniques (3,4). The idea behind the use of this approach is to produce a replica of different medical conditions (viz. gunshot wounds, road traffic injuries, burn wounds, rashes, etc.) so that students can relate them with the lifelike scenarios (5-7). In-fact, depending on the specific learning objectives of the session, medical teachers can customize the complete scenario to ensure training of the defined competencies (4,8). Once medical students are trained using these moulages, the entire hands-on experience becomes a source of experiential learning, enabling them to actively engage in visually realistic clinical conditions (9). Further, these realistic scenarios can challenge students to make critical decisions (improved diagnostic abilities) to manage the given case, thereby augmenting their clinical reasoning and decision-making skills (3,9,10).

At the same time, there is a definite opportunity for students to interact with simulated patients, and this is expected to acquire effective communication skills (3). In addition, these settings can also be utilized to expose medical students to diverse patient demographics, thereby training them in the domain of cultural competence (11). In continuation, students realize the importance of patient perspective, thereby bringing about an improvement in the domain of empathy and reinforcing patient-centered healthcare delivery (3,4,12). Moreover, the scenarios using moulage are created in such a way that they provide a platform for medical students to interact with professionals from other disciplines as well, and this not only improves their communication skills but also makes them realize the importance of professionals from different disciplines to work together as a team (3,8,10).

As the created scenarios are very realistic, they can help students to acclimatize to stress and pressure, thereby enhancing their resilience and bringing about an improvement in performance in clinical practice (13). Another merit is in terms of standardization of medical training by ensuring that all students are subjected to similar and realistic scenarios, which can significantly aid in the development of uniform skills. Depending on the performance of students in these simulated scenarios, students can be given constructive feedback about their performance and also encouraged to reflect on the same in debriefing sessions, all of which help students to identify their areas for improvement and work accordingly (10). In short, medical students through moulage are exposed to the complexities of real-world clinical practice to bring about an improvement in their confidence and competence levels as healthcare professionals (4).

Applications of moulage in medical training

Moulage can be extensively used in simulation labs to create realistic scenarios, which is crucial to ensure that students learn the art of practicing clinical skills in controlled settings (4). These can also be employed to train medical students in emergency medicine and disaster response drills, and accordingly learn the skill of rapid decision-making and triage (3,4). It has found application even in surgical training and psychiatric simulations, to prepare students to assess and manage surgical conditions or mental health crises (3,5,14). Further, specific clinical workshops can be organized by different departments using moulage to help students acquire specific clinical skills. Moreover, students can also be subjected to simulate home-based healthcare situations, and accordingly help students to adapt their skills to different contexts (11). From an assessment perspective, moulage can be used as a part of Objective Structured

Clinical Examinations to assess various clinical and communication skills (15,16).

Plan for integrating moulage into medical training

Integrating moulage into medical training essentially requires systematic planning and implementation to ensure that simulations are effective (13). The first step is to perform a thorough review of the medical curriculum and identify different learning objectives that can be covered using moulage (13,17). As teachers will be the ones who will be moderating the entire session, they must be trained in moulage techniques to enhance their proficiency in creating realistic wounds and other conditions (8). Teachers from different departments should define specific learning objectives for each such session and there is an essential need to perform thorough curriculum mapping to plan when each of the learning objectives will be covered (3,4). We must remember that these learning objectives must be in alignment with the broader educational goals of the curriculum and aid in the process of creation of competent medical graduates (3,4).

Considering that some amount of money is involved in creating moulage and also to sustain for all sessions, we must plan for the desired budget before implementing them in any medical college (18). It is also essential to create a team, the members (including makeup artists, educators, etc.) will be responsible for designing and applying moulage (19). In continuation, we must also plan for specific moulage material that will be used for different scenarios, and that too depending on the learning objectives (18). We also have to take a call on the quality of the material and other attributes (like ease of application, how long it will last, skin-friendly, etc.) before going ahead (18,19). It is always encouraged to conduct a pilot run of the session to ascertain any concerns, obtain feedback from teachers and candidates, and address them before the actual session (3). Teachers can also explore the possibility of integration of technology to complement and enhance the overall simulation experience.

We must prepare a proper schedule for such sessions and circulate it to all the concerned stakeholders well in advance to not only streamline the planning process but also avoid overlapping and ensure the availability of resources (3,4). Each session should be followed up with obtaining feedback from all the involved sessions to ensure continuous improvement in future sessions (20). Also, we must plan for debriefing sessions to enable reflection from students and accordingly identify areas of strengths, and the domains that require improvements. The entire process should be documented in the form of a standard operating procedure to make it useful for all facilitators (13). Finally, we must take specific measures to regularly evaluate the impact of moulage in meeting learning objectives. On adhering to the above steps, the probability of successful integration of moulage in medical education and giving a realistic experience to students can be significantly enhanced (17).

Moulages and Community Health

Moulages can be used in different areas in community health, starting with providing training to community health workers in disaster preparedness and response, which becomes crucial for improving readiness and coordination (21). In addition, even community health workers can be trained using these moulages to recognize and respond to different health conditions. These can also be used to educate members of the community about the consequences of trauma or other chronic conditions, and thus promote community engagement and participation (21). Further, health workers can also be trained in basics of first aid and other wound management techniques to empower them to provide quick assistance in emergency scenarios before medical help arrives at the emergency site (21).

Additional considerations

The success of moulage, in terms of attainment of the learning objectives, can be enhanced by beginning with a few modules and then based on the experience, success, and acceptance, gradually expanding the process. It is encouraged to merge these moulages with existing simulation modalities and this will enable seamless integration (3,9). As already specified above, it is a must that the designed

moulage scenarios resemble and be relevant to the clinical practice (20). We should also explore the possibility of collaborating between different disciplines and promoting interprofessional education. There is always a scope to obtain input from students about the potential scenarios and whether these designed scenarios are in alignment with the educational needs and expectations (10).

CONCLUSION

In conclusion, the introduction of moulage into the existing medical curriculum can prove to be an effective tool to enrich the learning experience and aid in the process of acquisition of clinical skills. However, the success of the same in terms of attainment of the learning outcomes essentially depends on the planning and collaboration between different departments and stakeholders.

AUTHORS CONTRIBUTION

All authors have contributed equally.

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CONFLICT OF INTEREST

There are no conflict of interest.

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