

Response to the article titled “The role of smartphone game applications in improving laparoscopic skills”

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Dear editor

Thank you for this article by Chalhoub et al,¹ which gave a new insight into the use of smartphone gaming technologies to aid trainees develop their surgical skills.

This study is somewhat contrary to current ideas where a stigma exists toward smartphone and videogame play with reported adverse effects on physical and mental health.² It is, therefore, quite refreshing and perhaps revolutionary to read that smartphone gameplay can actually have a major impact and potentially be part of a surgical training curriculum to ensure that future surgeons attain the right set of skills. This is something that has been hinted at by a previous study which explored the link between smartphone gameplay and increase in cognitive and perceptual abilities.³

Interestingly also, there has been a significant surge of smartphone use over the past decade that has led to a new 21st century phenomenon known as nonmophobia (no-mobile-phobia), where individuals find it difficult to cope with day-to-day activities without a mobile phone.² Therefore, after having read this article, and knowing that most individuals use a mobile phone, it is paramount to use this newly found link to our advantage and ensure smartphone gameplay is integrated into surgical training programs as to aid developing essential surgical skills.

At the moment, the study showed that any type of smartphone game seemed to have a positive impact on the development of surgical skills. I, however, believe that more research needs to be done to identify whether more tailored games geared toward surgery with an equally good interactive and engaging platform for users could have a greater benefit in developing laparoscopic skills. This could potentially be a more effective teaching method, one that can be used while on-the-go and remotely, away from hospital, in contrast to surgical simulators that can only be used for a limited time while at hospital.

Furthermore, the study required intervention participants to play the smartphone games for 30 minutes; one area of further research could be potentially investigating a correlation between the type of game, time spent playing the game, and the extent of improvement seen in the laparoscopic skills. The aim of this is to identify the type of game that allows for the best comparative skill development within the shortest time of play to make such game plays useful for time-constrained surgeons.

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Additionally, the study also highlights that there is an unequal male-dominant sex ratio in the surgical field and also suggests that women perform worse in laparoscopic tests. Therefore, knowing now from this article that smartphone gameplay can improve surgical skills, we should consider creating smartphone gameplays tailored toward females, which may generate an increased interest in female surgical participation and potentially lead to an improvement in women's performances in laparoscopic tests.

Overall, this study provides insight into a potentially new teaching method for surgical trainees that can both be more cost and time effective in training our future surgeons.

Disclosure

The author reports no conflicts of interest in this communication.

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Authors' reply

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Dear editor

This letter is in response to the letter by Mehar Chawla to our paper describing the role of smartphone game applications in improving laparoscopic skills.⁴

When, recently, the surgical community started to study and “dissect” the learning process of laparoscopic surgery, it was concluded that two types of skills have to be learned before heading to the operation theater and completing the classic mentor-trainee model, or head-to-head teaching.

These skills have to be acquired at a dry lab to save learning time and reduce complications.

They are divided into two types: the basic skills including camera navigation, eye–hand coordination, and bimanual coordination. The more complex skills are the laparoscopic suturing.

When Campo et al¹ studied and validated training tools for the basic skills, our team described the tools and the learning process of the laparoscopic suturing.² Both skills are presumed to be affected by many factors, including the role of video games because they also stimulate the psychomotor coordination. We went deep into the subject, and we published an extensive review about the role of video games in the acquisition of psychomotor skills.³

If we can make it simple, all the advanced augmented reality simulators are just like a video game oriented in a surgical direction, simulating a surgical situation: a game for the surgeons. Saying that, video games are still using the hand motions. We asked then the question that can eventually lead to a very avant-garde speculation. We moved from the era of laparotomy to the era of laparoscopy, and it was 1 day a revolution.

Are we moving in the future from the hand motion in laparoscopic and robotic surgery to the finger touch motion or as I would like to call the “i-surgery” era?

We then started studying the very basic process of the effect of smartphone games, which are found to improve specific skills.⁴ Being very sharp in our study, unlike stated in the letter, we only selected three specific games (Candy Crush Saga – King ©, Temple Run – Imangi Studios ©, or Crazy Balancing Ball – Free App Logic ©), we specified the training time (2 months, 30 minutes a day), and the skill that is improved (camera navigation mainly). On the other hand, whether the nomophobia is going to be the illness of the century or not, the touch technology is a fact now, and it is introduced to every aspect of our lives including the medical and the surgical fields.

At the end, as is said by our colleague, simulators are expensive and we are trying to find the most cost-effective tools. We already described a very effective low-cost box trainer for residents;⁵ why not then a tailored effective smartphone application for the surgical resident with heavy and tight residency program?

Disclosure

Dr Zaki Sleiman is a consultant for Karl Storz. He declares that his relationship with the company has no impact upon the scientific value and the content of the submitted work. The author reports no other conflicts of interest in this communication.

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