WhatsApp messenger for surgical team coordination. Initial experience of a hip team in a third level hospital.

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ABSTRACT

Background/Aims: The use of instant messaging has emerged in our work as surgeons. Incorporated now as a routine tool, we aimed to evaluate its use in aiding to coordinate a team of orthopedic surgeons, nurses and anesthesiologists focused on hip surgery.

Methods: A retrospective was conducted, reviewing the number of messages performed using WhatsApp Messenger, and also evaluating its content from 1 April 2013 to 31 December 2013. Number of messages were differentiated regarding age, and the app use was evaluated comparing users over and under 45 years-old. Any interference with medical devices in the operating room was registered.

Results: 890 posts in 177 conversations were performed during the specified period of time. Most of the conversations were caused to talk about the prosthetic materials or about operating room occupancy. No differences were observed regarding age of the user. No interference with medical devices in the operating room was registered.

Conclusions: Instant messaging can be used as a valuable tool in order to coordinate surgical teams. We consider this as a valuable approach in order to streamline the communication between members. We consider that future development of specific apps to improve communication between health professionals is granted.

KEYWORDS
Hip, Instant messaging, WhatsApp, medical App, surgical team, coordination, mHealth.
communication of the members in the surgical area both while preparing surgeries for the forthcoming days, as well for the surgeries prepared for the same day.

In the present study we show our initial experience in the use of instant messaging (IM) as an adjunct to traditional systems.

METHODS

In April 2013 the Hip Unit at the Hospital Clinic (University Hospital, third level) created a WhatsApp® group named “Maluc Team OR” including all health professionals involved in the surgical treatment of the patients. The recruitment for the group was not forced, and members were allowed to maintain in the group if they found it useful or to leave the group if they didn’t want to stay. Members used different smartphones, and both Whatsapp Messenger for android and for iPhone was used as updated by April 2013. Languages used for messaging were spanish and catalan as preferred by users (Fig.1).

The program for each week was discussed on Mondays in a first hour session, including the time of surgery to be performed, the type of implants to be used and the time required. Members at this session are the orthopedic surgeons at the hip unit, orthopedic residents, and the patient coordinator. Once the list was confirmed, the patient coordinator contacted the patients and confirmed the program on Thursdays by email attaching and excel file including all the data. The Whatssapp group was created as an aid to ease communication between members after the reception of this file for any purpose related to each surgery.

A group coordinator was designated (JFV), being responsible for the incorporation of new members, and to moderate the conversations if required. At all times, the explicit use of the names or images of patients was avoided. Any reference to a specific procedure for a patient was commented referring to the case as the number of order and day of the week as scheduled in the excel planning sent by the patient coordinator. The group included a total of 15 professionals.

Eight months after the introduction, all the posts performed were downloaded (as WhatsApp allows this option) and reviewed. We evaluated which professionals made greater use based on age (comparing members under vs over 45 years-old), and analyzed what was the reason for the conversations (studied period: 1/4/2013 to 31/12/2013). The topic of conversations was classified according to the following categories: 1) Operating room occupancy; 2) Schedule; 3) Prosthetic Material; 4) Patient’s clinical issues; 5) Surgical Information; 6) Miscellaneous.

On the other hand, some of the messages were performed in the surgical area or even in the operating room. We registered any interference with medical devices, taking into account the recommendation to restrict mobile phone use to greater than 1 meter from equipment. [3]

RESULTS

A total of 890 posts were made, 60 of which were excluded from the analysis because they were messages of support or withdrawal from the group, as well as initial tests. It gave us a total of 830 messages, grouped in 177 conversations.

Two surgeons left initially the group, but re-joined shortly after. They argued that at the beginning they were overwhelmed by the excessive messages. However, after
regulation of the content by the administrator, they found useful to re-join the group.

The reasons for conversation were 1) Prosthetic Material (48 conversations, 27.1%) and 2) Operating room occupancy (47 conversations, 26.5 %) and 3) Schedule ( 21 conversations, 11.8%). Issues such as the time of entry of the patient or startup time for surgery were included in the operating room occupancy. The Prosthetic Material conversations mainly were about special needs of implants or the confirmation of reception of material (different than the available in the hospital stock). Surgical Information represented 18 conversations and patient’s clinical issues 6 conversations. Some examples of the pictures included in the messages is shown in Fig. 2.

In the Miscellaneous section we found unexpectedly 1) social group messages (29 conversations), 2) scientific articles of interest with link (6 conversations) and 3) sessions of interest to the team (2 conversations).

There were no significant differences in the use of instant messaging based on age (p < 0.05).

We did not observe any interference with medical devices in the operating room.

DISCUSSION

Previous reports about the use of IM for medical or surgical teams is scant but growing. Wani et al performed a similar study as the reported in the present article, aiming to assess the efficacy of WhatsApp as a communication method amongst the staff of plastic and reconstructive surgery, used for various aspects of patient management and as a tool for academic endorsements. [4] They analyzed 116 episodes regarding patient management. In addition opinion of rotating residents in the section was sought regarding the efficacy of this method of communication. They report that overall majority of residents were satisfied with this mode of communication. At our unit, we have incorporated rotating residents in the WhatsApp group after they asked for it, in order to share information among all the participating health professionals. It can be also valuable as a teaching tool, as it exemplifies the planning necessary to prepare each surgical program and the common problems encountered.

Johnston et al provided results about WhatsApp use in and emergency surgery team (40 members). [5] They evaluated response times and communication types. 1,495 communication events were evaluated. They observed that the attending initiated the most instruction-giving communication, whereas interns asked the most clinical questions (P < 0.001). The resident was the speediest responder to communication compared to the intern and attending (P < 0.001). In this study, the participants felt that WhatsApp helped flatten the hierarchy within the team.

Giordano et al obtained plain radiographs and CT scans from 13 cases of tibial plateau fractures and sent them to six observers via the WhatsApp Messenger application in order to determine the standard deviation and type of injury, the classification according to the Schatzker and the Luo classifications schemes, and whether the CT scan changed the classification. [6] The inter- and intra-observer agreement ranged from excellent to perfect (0.75<κ<1.0) across all survey questions. They propose the systematic use of the application to facilitate faster documentation and obtaining the opinion of an experienced consultant when not on call.

Regarding the possible interference with medical devices in the operating room, it never occurred in the present study. Some anecdotal reports have been published, interfering with medical devices at operating rooms or intensive care units. The use of mobiles has been reported to interfere mainly with cardiac monitors or with pacemakers. [7] However, in the case of the interference with the pacemaker, it occurred with the mobile phone at a distance of up to 10 cm from the equipment. [8] Probably, newer generation mobile phones might be used much closer to equipment than their predecessors but we adhere to observe still the recommendation to restrict mobile phone use to greater than 1 meter from the equipment.

We consider that it is necessary to regulate the use for each group, and the administrator has to assume this role, specially taking care for the appropriate use of this channel of communication.

This study has several limitations. Our main purpose was to evaluate our initial experience and it lacks of details such as the time taken to perform the responses when a question was done or the degree of satisfaction of the users. However, it is noticeable that this group is still active on May 2015, and has increased its members to 25 participants.

In conclusion, our experience in the introduction of IM has been favorable. The talks dealt most frequently about prosthetic material and operating room occupancy, with a resolution of the issues through the messaging system itself. Since there were no differences in the use regarding age group, and because its use is now consolidated after two years of use, we believe that the incorporation of IM can be generalized to optimize patient care in surgical areas. We consider that future development of specific apps to improve communication between health professionals is granted.

REFERENCES


Fernández-Valencia JA et al. Whatsapp Messenger for Surgical Team Coordination. This and more Open Access and Peer Reviewed publications at www.healthyjoints.eu/IJAJR


