



A detailed analysis of messages posted on the 'Turk-Orthopod' mailing list over a 13-year period

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Objective: The objective of this study was to analyze the content of the 'Turk-Orthopod' mailing list between 2000 and 2013.

Methods: All messages posted to the 'Turk-Orthopod' mailing list were documented and categorized by 4 orthopedic surgeons who were active members of the mailing list into 11 categories based on the content of the messages.

Results: A total of 15,699 messages were evaluated and included in the analysis. The mean number of daily messages in 2000 was 0.98 messages/day and increased to 7.23 messages/day in 2013. The most common type of message was announcements (37.5%) about national or international congresses, conferences, symposia, meetings, and panels. The second most common type of message was condolence messages (11.7%). Case discussions and academic discussions comprised 6.3% and 4.5% of the messages, respectively.

Conclusion: The 'Turk-Orthopod' mailing list serves primarily as an information board and a powerful social media platform for communication among Turkish orthopedic surgeons. However, scientific case discussions and other professional issues comprise a minority of the messages.

Keywords: Communication; computer communication networks; Internet.

The communication of information within a profession requires a forum where it can be transmitted to a wide audience, which—in the case of medicine—has traditionally been accomplished through scientific conferences and medical journals. However, the past two decades have seen a dramatic shift, as the internet has become an indispensable part of communication, allowing healthcare professionals—including orthopedic surgeons—across the world to share their knowledge and experience.^[1-4] Participative internet is also known as so-

cial media and is composed of online discussion groups, blogs, and social media networking platforms such as Facebook and Twitter.^[5-7] Electronic mailing lists, also called e-groups, are one of the most commonly used channels of communication between internet users because they are fast, cheap, easily accessible, and efficient mechanisms of information exchange. Members of the mailing lists can express their thoughts and discuss any subject freely with a broad audience and follow all messages and discussions via email.^[8-10]

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Submitted: April 09, 2014 **Accepted:** November 15, 2014

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Available online at
www.aott.org.tr
doi: 10.3944/AOTT.2015.14.0135
QR (Quick Response) Code



It is clear that these mailing lists have undertaken important tasks and served as a collaborative medium for healthcare professionals. Parallel to these worldwide developments, in March 2000 the 'Turk-Orthopod' mailing list was established under the leadership of one of the authors (M.A.) in order to connect Turkish-speaking orthopedic surgeons and trauma surgeons and to provide a high-quality academic forum.^[11,12] Currently, the 'Turk-Orthopod' mailing list has more than 2,000 members, and more than 15,000 messages have been posted to date. The purpose of this study was to describe the activity of the 'Turk-Orthopod' mailing list as a social media instrument between 2000 and 2013 through analyzing the number of messages and the content of the postings. This data may provide a broad perspective about how the 'Turk-Orthopod' mailing list has been used to date and how it can be used more effectively in the future.

Materials and methods

All messages posted to the 'Turk-Orthopod' mailing list from March 2000 to December 2013 were included in the study. The messages were documented and categorized into 11 groups. Message categories and descriptions are presented in Table 1. The message categorization process was performed by 4 orthopedic surgeons who were active members of the mailing list. They followed the descriptions strictly in order to standardize the categorization process and minimize any discrepancies between assessments. Any doubt regarding the category of the message was left blank, and these blank

messages were then discussed until a consensus was obtained among all the authors. Data on the number of list members, number of new members each year, and dates of messages posted were accessed through the web page of the 'Turk-Orthopod' mailing list. Continuous variables were stated as mean and standard deviation, and categorical variables as percentages and frequency distribution. Changes in various variables with time were presented using graphics. No statistical analysis was performed in this descriptive study.

Results

At the end of 2000, the 'Turk-Orthopod' mailing list included only 113 members, but the total membership reached 2,253 by the end of 2013. The change in the number of members according to the years is presented in Figure 1. Each year, an average of 164.6 (range: 97-205) members joined the mailing list. A total of 15,742 messages were posted between March 2000 and December 2013. Forty-three messages were deleted by the list moderators due to inappropriate content; thus, a total of 15,699 messages were evaluated and included in the analysis. The mean number of daily messages during 2000 was 0.98 messages/day, and this increased to 7.23 messages/day in 2013. The number of messages increased tremendously over the years (Figure 2). The most common type of message was announcements (37.5%), followed by condolence messages (11.7%), professional issues (11.3%), social sharing (9.1%), case discussions (6.3%), acknowledgments (5.8%), spam and

Table 1. Categories of the messages and their description.

Number	Category	Description
1	Announcements	All announcements about national and/or international congress, conference, symposium, meetings, panels, course, exams, etc
2	Case discussions	Discussion about a presented case regarding its diagnosis, diagnostic work-up, management, treatment, surgical approach, and follow-up
3	Academic discussions	Discussion on an emerging technique, new evidence-based findings, popular science, journal articles, etc
4	Professional issues	Personal and occupational rights, medico-legal debate, hospital management, legal regulations and/or arrangements
5	Greetings	Greetings about national and religious holidays, new year, and festivals
6	Acknowledgements	Congratulations, 'thank you' messages sent to a particular member, institution or association due to their success, assistance, or dedication
7	Political subjects	Contemporary politics and political issues and messages
8	Condolence messages	Messages expressing sympathy to a particular member who is experiencing distress from death, disease, accident, etc
9	Social sharing	Paramedical or non-medical announcements such as a retirement ceremony, personal opinions and expressions in non-medical issues
10	Uncategorized messages	Any message which cannot be included in any of the above message categories
11	Spam and viruses	Unsolicited bulk messages, empty messages, advertising messages, and viruses

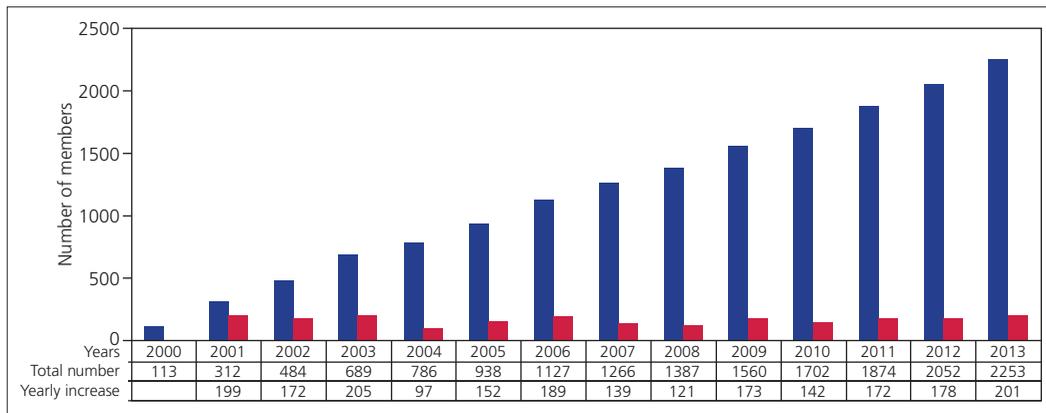


Fig. 1. Number of members and yearly membership increase. [Color figure can be viewed in the online issue, which is available at www.aott.org.tr]

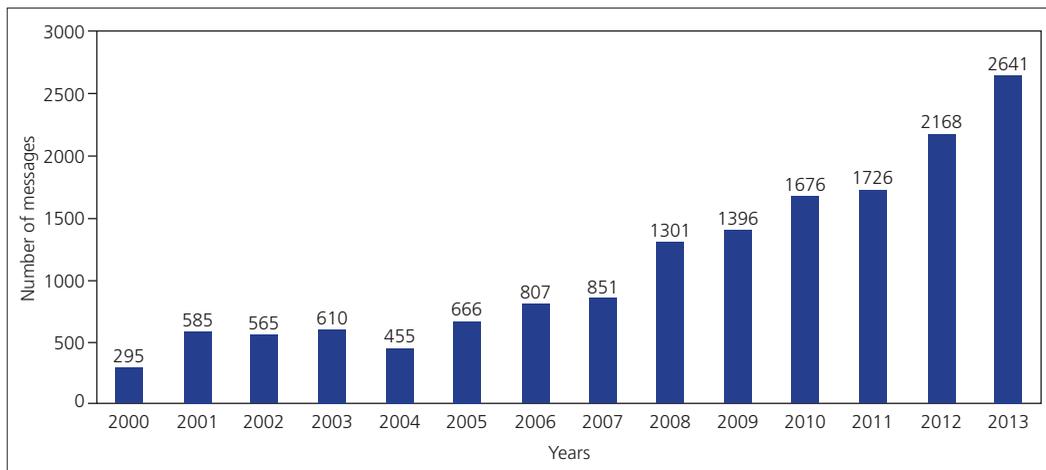


Fig. 2. Number of messages by year. [Color figure can be viewed in the online issue, which is available at www.aott.org.tr]

viruses (5.3%), academic discussions (4.5%), uncategorized messages (4.2%), greetings (2.6%), and political

subjects (1.4%). The distribution of message categories is presented in Table 2.

Table 2. Distribution of messages according to message categories.

Message category	Number of messages (n)	Percent (%)
Announcements	5904	37.5
Condolence messages	1849	11.7
Professional issues	1786	11.3
Social sharing	1428	9.1
Case discussions	984	6.3
Acknowledgements	906	5.8
Spam and viruses	841	5.3
Academic discussions	704	4.5
Uncategorized messages	654	4.2
Greetings	417	2.6
Political subjects	226	1.4
Deleted	43	0.3
Total	15742	100

Discussion

The current study tried to understand the activity of the 'Turk-Orthopod' mailing list and the content of discussions over the last 13 years. The results of the study showed that the activity of the mailing list regarding the number of messages sent has increased vastly over the studied period. This growth may be attributed to the increasing number of members over the years and the increase in academic activities held by the orthopedic society. Accordingly, the most common type of message, comprising almost one-third of all messages, was announcements. These messages included national and international congresses, conferences, symposia, meetings, panels, and courses. The repetition of announcements about academic activities further increased the volume of this category. The second most common message type was condolence messages (11.7%) expressing sympathy to a particular member who had been bereaved. Although the 'Turk-Orthopod' mailing list is a professional and academic forum, this finding indicates that it also serves as a social media instrument. To the best of our knowledge, condolence messages are not found in similar mailing lists globally. Socio-cultural features specific to Turkish society produce this difference between our mailing list and other international examples. Another significant finding of our study was that both case discussions and academic discussions (scientific debate) were infrequent (total: 10.8%), despite the fact that these were the intended purpose of the mailing list.

In a survey conducted on the members of the 'Turk-Orthopod' mailing list in 2003, Arazi et al. reported that messages related to case discussions (60.9%) and scientific announcements (27.6%) received the most attention and interest from the respondents.^[13] However, we found that case discussions comprised only 6.3% of the posted messages. The percentage of academic discussions in the 'Turk-Orthopod' mailing list is significantly low in comparison with that of other mailing lists. Rodriguez-Recio et al. analyzed the content of the Spanish-speaking mailing list 'Radiología' and reported that 71% of the messages were comprised of scientific information, academic discussions, and clinical case discussions.^[9] Morken et al. studied the activity of the 'Norwegian Occupational Health' mailing list between 1997 and 2006. In that study, 54% of the messages were directly related with the subject of occupational health.^[14] Case discussions are indeed a good opportunity for sharing experience and knowledge. In the future, we hope more cases will be presented and discussed in the 'Turk-Orthopod' mailing list to thereby support continuing medical education. To increase the number of

case discussions in the 'Turk-Orthopod' mailing list, well-known professors of our community should present their cases and even their own complications. Such contributions would encourage other less-experienced younger members and increase their willingness to participate.

However, some authors have proposed that information disseminated by mailing lists may be inaccurate and, therefore, not of use. Clinical decisions should not be based merely on the content of postings, as the postings are not governed by specific rules to assure basic quality standards, in contrast to peer-reviewed publications. These postings can be accepted as Level V (expert opinion) regarding evidence-based medicine.^[15,16] In a study by Gilas et al., a survey was conducted on Surginet, one of the biggest international e-mail lists in general surgery, on 489 subscribers. This study suggested that medical mailing lists are neither designed to—nor do they—challenge peer-reviewed journals, textbooks, or medical meetings.^[4]

The mean number of messages reached 7.23 messages/day in 2013. This is an overflow of messages, and members may waste a considerable amount of time reading all these messages and clearing their mailboxes. Moderation is a possible solution to overcome this problem. Moderators may serve as a deterrent for inappropriate correspondence and irrelevant messages that cause overflow and 'noise' in the mailing list. However, this solution presents its own disadvantages and problems. A scientific forum should be democratic, and all members should have the same rights to express their ideas freely. In other words, there should be equal opportunity for a message sent by a head of department or by a resident to be read by all members. Secondly, moderation may restrict the active participation of all members in a discussion. In our opinion, the best solution for the overcrowding of messages is to establish rules and guidelines for posting in the mailing list. Members should be regularly reminded of these rules, and any members who do not comply with these rules should be warned and may be subsequently banned. When investigating the messages, we came across several messages posted in the 'Turk-Orthopod' mailing list by non-medical subscribers such as patients and industrial representative. We believe that there must be certain rules for membership eligibility and list participation. These groups should be closed to the public, and only orthopedic surgeons should be list members. This is particularly important to avoid potential medico-legal and ethical problems.

There are strengths and limitations of this study. The categorization of messages was performed by 4 inde-

pendent authors, and there may be some discrepancies between each author. Although we tried to standardize all evaluations, the reliability of the categorization process remains a limitation. All messages were evaluated instead of sampling a small number of messages. Quantitative data was mostly presented, although the quality of the content (excluding the subject of the message) and the usefulness of the discussions require further investigation.

Although the ‘Turk-Orthopod’ mailing list is not an official mailing list of a legal association or society in Turkey, it is the biggest mailing list of Turkish-speaking orthopedic surgeons. During its 13 years of operation, the ‘Turk-Orthopod’ mailing list has mainly served as a social media instrument to inform list members about academic meetings, panels, and congresses; scientific debate comprised a minority of the messages. Both the list members and the moderators should make an effort to minimize redundant messages, thereby allowing the ‘Turk-Orthopod’ mailing list to be used more efficiently as a powerful social media instrument and academic discussion platform.

Conflicts of Interest: No conflicts declared.

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