



Family Medicine Journal Club: To Tweet or Not to Tweet?

Lina Al-Imari, MD, CCFP, MScCH; Melissa Nutik, MD, MEd, CCFP; Linda Rozmovits, DPhil;
Ruby Alvi, MD, CCFP, MHSc; Risa Freeman, MD, CCFP, MEd

BACKGROUND AND OBJECTIVES: Online journal clubs have recently become popular, but their effectiveness in promoting meaningful discussion of the evidence is unknown. We aimed to understand the learner experience of a hybrid online-traditional family medicine journal club.

METHODS: We used a qualitative descriptive study to understand the experience of medical students and residents at the University of Toronto with the hybrid online-traditional family medicine journal club, including perceived useful and challenging aspects related to participant engagement and fostering discussion. The program, informed by the literature and needs assessment, comprised five sessions over a 6-month period. Learners led the discussion between the distributed sites via videoconferencing and Twitter. Six of 12 medical students and 33 of 57 residents participated in one of four focus groups. Thematic data analysis was performed using the constant comparison method.

RESULTS: While participants could appreciate the potential of an online component to journal club to connect distributed learners, overall, they preferred the small group, face-to-face format that they felt produced richer and more meaningful discussion, higher levels of engagement, and a better learning opportunity. Videoconferencing and Twitter were seen as diminishing rather than enhancing their learning experience and they challenged the assumption that millennials would favor the use of social media for learning.

CONCLUSIONS: Our study demonstrates that for discussion-based teaching activities such as journal club, learners prefer a small-group, face-to-face format. Our findings have implications for the design of curricular programs for distributed medical learners.

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As family medicine (FM) programs offer more distributed training sites¹⁻³ journal clubs (JCs) are going online, with the benefit of offering distributed learners the opportunity to share their experiences.⁴⁻¹⁸ Little is known about the learning experience of online JCs.^{19,20} eLearning appears to be as effective in increasing knowledge

levels.²¹ Social media also enhances learner engagement and collaboration but may be hampered by technical and privacy issues.²² Based on the studies suggesting that learners prefer e-learning as a complement to face-to-face teaching, we designed a hybrid online-traditional JC²³ and explored the learner experience.

Methods

Participants from five distributed sites at the University of Toronto, including three family medicine residency teaching units (FMTU) and two medical student campuses, were recruited via email and word of mouth. Ontario Telemedicine Network (OTN) videoconferencing and Twitter were employed to connect 12 medical students and 57 residents. During the duration of the program between September 2016 and May 2017, the average age of the class for the year 1 and 2 medical students was 23.6 years, and the average age for the residents from the three sites was 31.5 years (range: 26 to 47 years).

After an introduction, four JCs were held over a 6-month period (Table 1). Using a critical appraisal worksheet, groups of two to three residents from one of the FMTUs facilitated face-to-face discussions within their group and between the other sites using OTN and Twitter.

Focus groups were conducted by an experienced, independent qualitative researcher including one focus group for the residents at each FMTU (n=33) and one focus group for all medical students (n=6). Written consent was obtained from all

From the Department of Family and Community Medicine, University of Toronto, Toronto, ON, Canada (Drs Al-Imari, Nutik, Alvi, and Freeman). Dr Rozmovits is an independent qualitative health researcher based in Montreal, Quebec.

Table 1: Hybrid Online-Traditional Family Medicine Journal Club Program Design

Session	Presenter (From Rotating Sites)	Topic	Format
1	2 faculty	Introductory session: evidence-based medicine, online journal club	<ul style="list-style-type: none"> One faculty presented a lecture on evidence-based medicine, one faculty presented the critical appraisal worksheets, one faculty presented how to use Twitter for online journal club (#familymedjc).
2	2-3 residents	Randomized controlled trial	<ul style="list-style-type: none"> Articles were chosen from Priority Updates from Research Literature (PURL) by two to three moderating residents within one site. The article and critical appraisal worksheet were preannounced on a website (wordpress.com), Twitter, and email. The moderating residents facilitated the discussion within their site face-to-face and between the other sites with the use of videoconferencing and Twitter. After each question, a discussion was held within each teaching site face-to-face (which included a faculty facilitator in three of five sites), while videoconferencing and Twitter were used to communicate a summary of the discussion between the 5 sites. Twitter was also used to conduct polls. A summary was shared via email.
3	2-3 residents	Diagnostic study	
4	2-3 residents	Cohort study	
5	2-3 residents	Systematic review	

participants. Discussions were audio recorded for verbatim transcription. Transcripts were checked for accuracy against sound files and coded for anticipated and emergent themes using the constant comparison method including searches for disconfirming evidence.²⁴⁻²⁶ The University of Toronto REB approved the study (#33325).

Results

Participants valued four aspects of the program: content that is relevant to practice; an effective faculty facilitator; rich discussion; and a small-group, face-to-face environment (Table 2). Participants hoped JCs would enhance their critical appraisal skills, better equipping them to practice evidence-based medicine. Articles that were contemporary and relevant to FM were preferred for their clinical implications. Participants also highlighted the integral role that facilitators play in engaging and keeping the group on track. They especially valued the facilitators' experience in contextualizing the research discussion in terms of patient care.

While technology was intended to enrich discussion by connecting our distributed learners, most participants felt that it had the opposite effect. Videoconferencing was found

to be a cumbersome medium for discussion, often hampered by technical difficulties, and failed to produce dynamic experiences or meaningful connections. Similarly, although some participants felt Twitter had the potential to connect distributed learners, the majority found that it failed to engage learners because the anonymity diminished motivation to prepare for JC and participate in the discussion. Many also felt that the use of their phones and short character limit was not conducive to fostering the social connection that is integral to effective conversations.

Most strikingly, participants raised some interesting assertions related to the role of social media in medical curricula (Table 2). Some indicated that they never used Twitter, and those who did reserved it for personal use. Many were ambivalent about overlapping their personal lives with their professional roles and were also concerned about JC discussions taking place in a public, and potentially permanent sphere. While learners valued the opportunity to draw on the experiences of peers at other sites, a small-group, face-to-face JC format was most effective in promoting engagement and fruitful discussion.

Discussion

Our study provides insight into the experience of distributed learners with technology in the context of a JC. While technology connected learners, combining videoconferencing and Twitter with a face-to-face session was not found to be conducive to rich discussion. Many participants felt that technology hampered discussion as it divided participants' attention. Since active engagement in discussion is central to learning in JCs,²⁷⁻³⁰ participants indicated that the face-to-face format provided a superior learning experience. This finding is shared by another hybrid JC employed by geriatric subspecialty trainees¹⁰ and echoes a study by McLeod et al, who noted that participation among general surgery residents was lower in the internet-based group compared to the face-to-face sessions.¹³ As attention is a finite resource, the advantage of face-to-face JCs may be the opportunity to be fully present whereas electronically-mediated human interactions divide our attention.³¹

The large-group nature of the hybrid JC also decreased the motivation of learners to participate. Research shows that although large groups can be more efficient at disseminating information, they are inferior to small groups in stimulating

Table 2: Key Findings

Key Finding	Quotes From Focus Groups
Preference for clinically relevant content	“Journal club for me served... two purposes... One is to gain the critical appraisal skills... in the context of is this going to be useful for my work or not? ... The second part ... is the actual outcome of the study... is this article a solid sounding study... how will that change my practice...” (P1, FG2)
Value of an effective faculty facilitator	“It’s a different experience when you have a staff that knows you guys and looks at you and tells you, “All right [name], what do you think this is” and then you’re just like, ‘All right, I really got to make sure I read these articles’ and they really hold you to it, and sometimes you need that push.” (P3, FG1) “It was super beneficial to have [faculty facilitator] with us... hearing her clinical opinions, and sometimes she would share a story... Research in its own, it’s not my number one interest but when it can be applied to a clinical context like that it makes it more meaningful and exciting for me.” (P4, FG2)
Rich discussion hampered by technology	That anonymity is... making you participate much less and you just feel like it doesn’t really matter whether you read it or not, it doesn’t really matter if you have an opinion or not, somebody else will and they’ll carry you through. (P3, FG1) “When I engage in social media, ... I’m always multitasking, [unlike] the way that I am talking to a person that’s right in front of me where you’re giving them your attention... you’re in the moment.” (P3, FG1)
Preference for small group face-to-face discussion	“I think all of us still appreciate some human contact when it comes to discussions and being able to share opinions.” (P7, FG 1). “If you do it in a smaller group, people are more comfortable with each other, whereas with the video conference, it’s more like you’re on the stage and everyone’s listening to your answer and you’re going to be scrutinized a bit more.” (P11, FG3) “I actually recall there being way more discussion when we were in the smaller group compared to the bigger group. So, I definitely wondered how much being in a bigger group was really impacting the level of discussion that was being had... I felt that my learning is better when it’s in a smaller group.” (FG3, P9) “I’d prefer personally the small group journal clubs, I feel I am more engaged and I am encouraged to read the article and participate.” (P1, FG1)
Role of social media in medical curricula requires careful consideration to learners, teachers, and content.	“I don’t necessarily know what to do now with the Twitter account that’s half professional sort of personal.” (P10, FG3) “Our opinion towards that question should it change in years to come, potentially is out there in social media... I don’t think anyone should be obliged or forced to have such a permanent opinion out there if they don’t wish to.” (P12, FG3). “I think recently social media and tech have become really sexy and medicine has been trying to really get into it, and I think there’s forums to do it. But I just don’t think that this was one of them”. (P11, FG3) “There is a pressure to always be technologically advanced and include social media because it exists. So, we feel like there’s this pressure to include it in our medicine and in our residency... There’s nothing wrong with just having like a regular journal club. I think actually it’s probably more beneficial”. (P7, FG4)

thinking and, as seen in our JCs, in engaging in discussion.^{32,33}

It is noteworthy that the public nature of social media did not foster a safe learning environment. A similar fear of committing opinions to print was noted in online JCs for general surgery trainees.^{11,14} A private online discussion forum may have provided a more comfortable environment for learners to share

differing viewpoints. Currently, there is limited role modelling of professional online physician identities or how to establish boundaries between professional and personal electronic personas. This may have further contributed to learners’ discomfort.

While this was a small-scale study limited by our inability to collect the ages of all participants, our findings suggest that the incorporation of

technology in medical curricula requires careful consideration in relation to the learners, the content, the educational milieu, and the teachers.³⁴⁻³⁶ Future research can assess our hybrid model in other disciplines and with other technologies that may be better suited to discussion-based learning activities amongst distributed learners.

Conclusion

Our findings suggest that learners value face-to-face, small-group sessions for JCs. Learners learn best in a safe environment, and achieving a meaningful connection matters in discussion-based learning activities.

CORRESPONDING AUTHOR: Address correspondence to Lina Al-Imari, 37 Green Ash Cres, Richmond Hill, ON, L4B 3S1 Canada, 416-560-7594. lina.al.imari@mail.utoronto.ca.

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