

Undertaking Research Using Online Nominal Group Technique: Lessons from an International Study (RESPACC)

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Abstract

Background: Nominal group technique (NGT) is a well-established research method for establishing consensus. Owing to the COVID-19 pandemic, research methods need to be adapted to engage with participants online.

Objective: To determine the feasibility and acceptability of adapting NGT to an online format.

Setting: Palliative care clinicians ($n = 31$) in Greece, Romania, and Spain.

Methods: NGT discussions were used to elicit palliative care clinicians' opinions, and to rank priorities regarding their understanding and needs about clinical research. Preliminary online training of country-based facilitators was followed by content analysis of debriefing reports to capture learning related to the online NGT format.

Results/Implementation: Three NGT sessions used online platforms (Zoom/MS Office/Mentimeter) for the meetings. Analysis of the facilitator reports generated three themes: preparation/facilitation/timing; optimizing technology; and interactions.

Conclusions: Conducting NGT meetings online is viable and may be advantageous when compared with traditional face-to-face meetings, but requires careful preparation for participants to contribute effectively.

Keywords: COVID-19; nominal group technique; online; palliative care; research; terminal care

Introduction

THE COVID-19 PANDEMIC has impacted palliative care research by creating opportunities to investigate the role of palliative care in addressing new and urgent needs.¹ Equally, social restrictions have made it difficult to undertake research involving face-to-face interaction, such as interviews and focus groups. Public health recommendations regarding social distancing and limited social contact have mitigated against the use of such methods. In addition to responding dynamically to fluctuating and often rapidly increasing demands from severely ill patients with COVID-19, palliative care professionals along with other health care providers have been overstretched in undertaking their nor-

mal clinical roles.² Despite this, evidence suggests that palliative care professionals have continued to engage in research that they perceive as relevant and important,² with article subscription remaining buoyant.³ One mechanism to facilitate research engagement is moving interaction online, with advantages and disadvantages already explored within the literature in relation to online research interviews.⁴

Palliative care research increasingly uses consensus-based methods to underpin policy recommendations and to identify stakeholders' priorities.⁵⁻⁷ Nominal group technique (NGT) is a well-established structured cross-sectional mixed methods approach involving eight sequential steps normally conducted in a single face-to-face session.⁸ Researchers typically use NGT to generate ideas and solutions and to rank

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priorities, thus providing the basis for further research or activity. For example, NGT has been used to identify the content of an international palliative care curriculum⁹ and for ranking of complex interventions in palliative care.¹⁰

Objective

To determine the feasibility and acceptability of adapting NGT to an online format.

Methods

Multidisciplinary palliative care practitioners ($n=31$) working in Greece, Romania, and Spain were invited to participate (Table 1). Invited participants were known to be engaged in delivering clinical services and not employed solely in research roles.

NGT methods were used as an initial component of the RESPACC project (Research for all palliative care clinicians—*Ref. No. 2020-1-RO01-KA202-080128* www.studiipaliative.ro/projects/research-respac/). RESPACC engages clinical and academic partners from Greece, Romania, and Spain, and academic partners from Ireland and England, representing the European Association of Palliative Care. RESPACC is a two-year international project that aims to: (1) identify core research competencies needed by palliative care practitioners in clinical practice; and (2) improve research knowledge and skills, with specific outputs including research methodology training, educational resources, and online courses. NGT discussions sought to elicit the perspectives of palliative care clinicians on their understandings of clinical research and the associated education required.

NGT is a structured method to obtain information and ideas on a topic of interest within a single session.⁸ There is no need for all participants to achieve consensus or to remain involved long term. Typically, the method involves eight steps (Fig. 1) that progress from individual generation of ideas, through group discussions, to ranking priorities through votes. Sessions are normally conducted face to face with at least two facilitators supporting group interactions. This method results in both qualitative data (recordings of discussions) and quantitative data (numerical rankings of ideas).

In the context of the pandemic, NGT methods were adapted to an online format using the following three phases:

Phase 1: Preparation of NGT methods for online format. Published resources were identified and an online presentation demonstrating NGT methods for an online format were prepared and recorded.

Phase 2: Training of facilitators.

An online training session (in English) was offered, including a “practice” NGT to the participants facilitating country-based sessions.

Phase 3: Implementation of three NGT sessions and evaluation of experiences.

In January/February 2021, three NGT sessions were conducted using standardized questions to guide discussion, with resource materials translated into Greek, Romanian, and Spanish. All sessions were recorded. Reports on the content and procedures were prepared by the NGT facilitators. Reports were analyzed by RESPACC members external to the NGT sessions, using thematic content analysis¹¹ to identify explanatory constructs to be addressed in designing and conducting online NGT.

Ethical approval for the study was obtained from the RESPACC principle investigator’s (D.M.) host institution.

Results

In January 2021, NGT meetings took place in each country according to guidance and training provided. Details of the participants and meetings are presented in Table 1.

All meetings were conducted using Zoom¹² (virtual meeting platform). The Zoom “Chat” function was utilized to record ideas generated within NGT Step 3, listing of ideas. All groups used Microsoft Word/Excel¹³ to transfer and collate content from the Zoom Chat to enable the group to see/review the data. Two groups used Mentimeter¹⁴ (enabling real-time manipulation of data) to vote/rank the ideas generated, whereas the third group used Excel to assist with voting/ranking.

Analysis of the reports provided by the facilitators identified three themes in the design and delivery of the online NGT meeting.

TABLE 1. NOMINAL GROUP TECHNIQUE PARTICIPANTS AND MEETING DETAILS

| | Social | | | | | Duration of NGT Meeting (Hrs) | Meeting/ data recording platform | Facilitators: roles |
|---------|---------|--------|---------|---------------|------------------|--|--|--|
| | Doctors | Nurses | Workers | Psychologists | Physiotherapists | | | |
| Greece | 2 | 7 | 1 | 1 | 1 | 2:30 (+ 0:30 orientation) | Zoom/Zoom Chat + MS Excel | Three: meeting lead, technical facilitator, data recording |
| Romania | 6 | 2 | — | 2 | — | 2:11 | Zoom/Zoom Chat + Mentimeter + MS Word | Three: facilitator, co-facilitator, data & technical support |
| Spain | 4 | 3 | — | 2 | — | 2:15 | Zoom/Zoom Chat + Mentimeter + MS Excel | Two: meeting lead, technology and data recording |

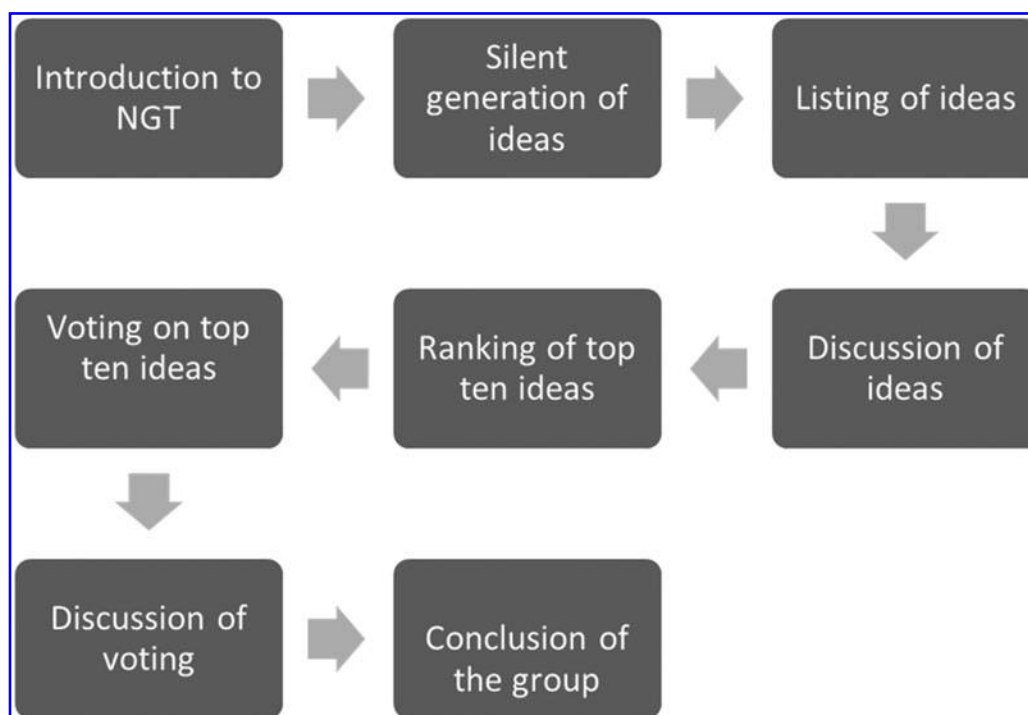


FIG. 1. Structured approach to conducting nominal group technique.

Preparation, facilitation, and timing of the NGT meeting

All host teams invested significant time preparing for the NGT by delineating specific roles and functions, and considering the technological approaches to be engaged. For example, before the meetings, all groups distributed information to participants outlining the role of each facilitator as traditional procedural aspects of the meeting were limited through the screen-based interaction. One group dedicated 30 minutes at the start of the meeting ensuring participants had an opportunity to practice using the technology (e.g., using Zoom Chat and Mentimeter). One group pre-prepared an MS Word document with headings from the National Institute for Health Research Integrated Workforce Framework¹⁵ to aid transfer and organization of Zoom Chat suggestions. Despite preparatory work, challenges in adhering to the time allocated for each step were noted, particularly the transfer and collation of ideas (Step 3).

Optimizing the use of technology

All groups successfully used the Zoom Chat function to list ideas from individual participants. To maintain anonymity, facilitators were careful to ensure participants could only chat to the meeting host (facilitator). There were, however, several challenges in using the technology, including difficulties transferring data from Zoom Chat, and issues within clinical settings where Internet firewalls compromised participants access (Table 2). Equally, as groups generated a large number of ideas in Step 3, the collation and review of this were challenging: taking time to transfer the collated ideas and presenting the ideas in a format that enabled review. In response to the latter issue, online links to the MS Word/Excel files were circulated to participants through a URL posted in the Zoom Chat.

Supporting and managing group interactions

The online platforms worked well in enabling participants to engage in the NGT process, particularly Step 3; in one group, 93 ideas were recorded. Equally, the online aspect (i.e., use of Zoom) helped to provide structure to the NGT process. A key reflection on the success of the management of the NGT process was a result of the clear delineation of roles

TABLE 2. CHALLENGES WITH PLATFORMS AND TECHNOLOGY WITHIN THE NOMINAL GROUP TECHNIQUE MEETING

| | |
|-----------------|---|
| Zoom | Lack of copy/paste function within Zoom Chat required one of the facilitators to retype each idea provided by participants. Some participants did not have access to the Zoom Chat function, either through the device they were using (such as using a mobile phone), or being unaware of how to access the chat function. Where a large number of ideas were recorded in Step 3, presentation of these to the group was problematic |
| Platform access | Some participants had limited access to the meetings due to intermittent Internet connection, or lack of access to free/provided Wi-Fi |
| Devices | Some participants were using a mobile phone to participate in the meeting and found it difficult to view and/or edit shared MS Word/Excel documents: e.g., documents returned to participants for the ranking exercise. A small number of participants had problems with their cameras, and/or microphones, which impacted on participation |

for the facilitating team. Furthermore, there were no noted challenges with participation in the discussions and debates, which form part of the NGT process.

Implementation

Reflections from the facilitating teams included eight key recommendations for implementing online NGT (Table 3).

Discussion

Conducting NGT meetings online is a viable option where restrictions limit traditional face-to-face engagement for palliative care research. Data from our study identified that as with “traditional” NGT, experience and preparation of the mechanics and dynamics of the meeting are key in achieving successful outcomes.⁸ For example, training was provided to the facilitating teams, who, in turn, engaged in preparatory activities ahead of their NGT meeting: (1) focusing on facilitator role clarity, (2) familiarizing participants with the technology, and (3) management of the meeting.

Further work is required to examine the strengths and weaknesses of online versus face-to-face approaches to enable researchers to select the appropriate medium. For example, where discussions may be emotionally challenging, face-to-face meetings may be preferred to support participants.

Researchers are increasingly successfully using electronic resources in the COVID-19 pandemic.⁴ Online NGT meetings are one approach that may have many practical benefits for palliative care studies. These benefits include enabling widening participation across larger geographical regions, accommodating clinical time constraints, and reducing the costs associated with traditional face-to-face meetings.

TABLE 3. KEY RECOMMENDATIONS FOR RUNNING OF ONLINE NOMINAL GROUP TECHNIQUE MEETINGS

| |
|--|
| Preparation, facilitation, and timing of the NGT meeting |
| 1. Ensure participants pretest the microphone and cameras on their electronic devices, and Wi-Fi/Internet connection where they will participate. |
| 2. Circulate instructions guides/brief videos regarding the use of the online interactive elements (such as chat function, or software packages for data entry and/or data manipulation/ranking) before the meeting to prepare participants. |
| 3. Build time within the meeting to practice using the online interactive elements. |
| Optimizing the use of technology |
| 4. Suggest that participants use a tablet/laptop/personal computer, and avoid using mobile phones if possible. |
| 5. Enable a shared/online documentation method that participants can directly contribute to (such as Google Docs). |
| Supporting and Managing Group Interactions |
| 6. Clarify the roles of the facilitators and communicate this to the participants within the meeting instructions. |
| 7. Where possible/practical, and where reference material exists, identify predetermined headings for the grouping of ideas. |
| 8. Where a large number of items have equal weighting (Step 6), ⁹ additional discussion rounds may be required, so build in extra time. |

Limitations within our study are that findings are based mainly on the reflections of the facilitators, although in Romania there was recorded debriefing of the participants. Future evaluation should poll the views of the NGT participants, and/or engage in collective reflection using focus groups.

Conclusions

This brief report demonstrates that adapting NGT to an online format is feasible and acceptable to participants. It also adds to the literature that uses online/technical innovations to support the continuation of research inquiry during the pandemic, but with implications for the future conduct of research.

NGT meetings are an ideal way to establish foundations for policy, clinical guidelines, and research priorities in palliative care. NGT meetings can successfully be conducted online and may, in turn, increase inclusivity and participation, especially when social restrictions limit in-person interactions due to the COVID-19 pandemic. We believe that these insights gained when transforming our research methods to online format during the COVID-19 pandemic will be useful to other programs and researchers during this pandemic, and in other future public health emergencies.

Authors' Contributions

All authors were engaged in the preparation, modification, and conduct of the NGT session in the RESPACC. S.P., S.M., and J.L. adapted the NGT method, and S.P. and S.M. led the training of facilitators. S.P., S.M., and J.L. led the writing of the article and participated in the analysis. M.A., A.J.T., and O.P. conducted the NGT meetings. D.M. supervised the overall study. All authors read and approved the final article.

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Institutional Review Board Approval and Consent to Participate

Ethical approval to conduct NGT sessions was obtained from Hospice Casa Sperantei, HOSPICE Casa Sperantei Foundation, Romania RESPACC lead on January 14, 2021. Participants and facilitators gave informed consent for data to be recorded and published.

Consent for Publication

Participants provided verbal consent to publish.

Availability of Data and Materials

All data are archived at the University of Navarra, Spain, and at the relevant consortium universities and may be obtained from the corresponding author.

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Author Disclosure Statement

The authors declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

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