Exploring the scope of communication content of mechanically ventilated patients

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ABSTRACT

Purpose: Ineffective communication during mechanical ventilation (MV) and critical illness is distressing to many patients. This study aimed to describe the scope of communication content of ventilated critically ill patients.
Materials and methods: We performed a prospective qualitative interview study in a multidisciplinary intensive care unit. Ten alert, orientated adult patients who previously underwent MV for at least 24 h and were able to speak at the time of interview were recruited. Semi-structured interviews with stimulated recall technique were conducted. A descriptive thematic analysis was performed of the patient-generated content using a free coding technique, where recurrent themes and subthemes were noted, coded and analyzed.
Results: Patients' communication content included medical discussions with clinicians; communication with family to provide advice or comfort, make requests and plans, express feelings and convey personal perspectives on medical care; and expression of their own psychoemotional needs.
Conclusions: The scope of communication content of ventilated ICU patients was broad, extending far beyond task-focused subject matter. Content ranged from conveying symptom-related messages to active participation in medical discussions, to conversing with family about a range of complex multi-dimensional issues, to sharing their own psychoemotional experiences. These patient-centered needs should be recognized and addressed in communication strategies.

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1. Introduction

Whilst life-saving, the use of tracheal intubation and mechanical ventilation (MV) prevents patients from speaking. Critical illness and circumstances necessitating MV are usually times of crisis, increasing the urgency for patients to communicate, and their frustration in not being heard. With the trend to target light sedation or daily interruption in sedation, patients are likely to encounter significant periods of time during MV when they are awake but unable to speak [1,2]. It has been reported that 40–80% of invasively ventilated intensive care unit (ICU) patients find communication moderately to extremely difficult [3] and 60% of patients reported a high level of frustration related to not having their communication needs met [4,5].

Current evidence suggests that conventional patient-clinician and patient-family communication during MV and critical illness is important yet unsatisfactory for all parties involved [6-14]. Communication may be inadvertently skewed toward topics that clinicians perceive as important, and are therefore mainly focused on symptoms or care-related tasks [5,12]. Patients thus experience unmet needs, misunderstandings, and need to simplify their messages as a result of the communication barrier [15]. The inability to effectively communicate is a major source of distress that potentially leads to anxiety, fear, anger, sense of loss of control or imprisonment, depersonalization, social isolation and long-term sequelae such as post-intensive care anxiety or depression [3-5,11,16-18].

A high proportion of ICU patients on MV meet the criteria for needing communication interventions [19]. A range of communication strategies or tools have been developed to address the issue of how to communicate, however what to communicate is less clearly defined [12,20-22]. Previous studies have provided some examples of what patients wanted to say, however these studies either did not specifically focus on patient's communication content [17] or relied on clinician's interpretation of patient's intended messages rather than exploring patient's perspective [10]. Therefore, we conducted a prospective qualitative study using semi-structured interviews and stimulated recall

technique with the objective to explore the scope of communication content experienced by mechanically ventilated, critically ill patients. We hypothesized that these patients have a broad scope of communication content that extends beyond simple task-related messages.

2. Materials and methods

A multi-disciplinary team of clinician, communication and linguistics researchers collaborated to design a study that would enable an exploration of the scope of patient-centered communication content. We conducted a prospective qualitative interview study in the multidisciplinary intensive care of a tertiary university hospital. Written informed consent was obtained from all participants. The study was carried out with the approval of The Joint Chinese University of Hong Kong – New Territories East Cluster Clinical Research Ethics Committee, and in accordance with the Declaration of Helsinki laid down in the 1964 and its later amendments.

The patient inclusion criteria were: alert, orientated adult ICU patients who were intubated, mechanically ventilated for at least 24 h, and able to speak at the time of the interview. Convenience sampling over the two-month study period was employed. Exclusion criteria included: liberation from MV and able to speak for more than 5 days; intubation for elective operation only; suffering from delirium according to the Confusion Assessment Method for the ICU (CAM-ICU) [23]; significant visual, auditory or mental impairment; less than 18 years of age; mentally incapacitated; pregnant; or in a clinically unstable condition.

The sample size of 10 patients was selected after referring to literature on qualitative studies [24]. Data analysis of the 10 patient's interview data was sequentially analyzed for evidence of saturation, as reflected by repetition of themes without emergence of novel themes [24,25].

2.1. Development of structured interview protocol

A literature review yielded no established investigative framework for the specific purpose of identifying the scope of communication content in mechanically ventilated ICU patients. We determined that a semi-structured interview approach was most suitable for encouraging patients to explore the full scope of their communication content [26]. The questions and their semantics were carefully created and validated with the collaboration of clinician and communication researchers with the aim to maximally stimulate patients' discussion of their communication content while avoiding introduction of biases during the interview process. Initially, a list of 13 open-ended questions or statements were drawn up in a multidisciplinary approach. These questions were refined and validated through consultation with three intensive care doctors and two communication researchers, who were uninvolved in the question creation. The questions were pre-tested by these experts to clarify the semantics and to ensure that individual questions would be appropriately understood. The questions were pilot-tested on one patient, in order to evaluate the flow, clarity, relevance and appropriate length of interview. Finally, the previously described researchers commented on the questions' face validity, clarity and comprehensiveness. After a final revision to eliminate semantic ambiguity and overlapping information, we arrived at 6 questions and statements. The questions and statements were formulated in English, translated to Chinese and back-translated by another bilingual researcher (Table 1).

2.2. Interview

Patients' communication content was evaluated by conducting semi-structured interviews with the stimulated recall technique. Semi-structured interviews were conducted by using the question guide to encourage the patients to explore the full range of communication content. The questions served as a guiding framework for the

Table 1
Questions and statements developed by the multidisciplinary team and used to guide semi-structured interviews.

All of the following questions or statements are related to the period during mechanical ventilation when you could not speak.
1. Please tell me about important communication experiences you had.
2. How was the communication with clinicians and other health professionals in relation to your medical care?
3. How was the communication in relation to other aspects of your life?
4. What do you think was not communicated by/with clinicians and other health professionals but should have been?
5. Please tell me how the communication has been with your family/friends and other health professionals.
6.How would you have liked to communicate in any of the following areas, with your family/friends?
• Medical decisions, medical processes, medical equipment, finances, family, friends
• Are there any other areas you wanted to communicate about, to your family/friends, but could not?

interviewer's reference. The questions were rephrased and clarification or follow-up questions could be added to encourage the interviewees to freely and broadly elaborate on their original experiences. Interviewers applied 'stimulated recall' research technique by using questions to trigger patient's cognitive process to relive their original experience of being unable to speak during MV. The patients were asked to concurrently, unreservedly recount in as much breadth as possible the communication content they wished to convey. This technique had the advantage of providing access to patients' introspective record of their original experience [27,28].

The interviews were conducted in Cantonese as this was the native language of the interviewees.

The interviews were conducted with ten patients. Ten minutes was the suggested time frame for each interview after considering the ability to complete data collection and the potential for patient fatigue. During pilot-testing, it was found that the interview could be completed in 10 min without signs of patient fatigue and that, by this time, no additional novel content was emerging. In the study, interviews ran longer if patients had further comments to add or if any of the questions were not yet covered. However, in most cases, the interviews lasted for approximately 10 min.

One of three interviewers conducted each interview. The interviewers were either a doctor or a nurse. They underwent training in interview technique and mock interviews before the study. Their performances in interviewing the study patients were monitored by a communication researcher who audited the audio recordings and provided feedback with the aim to ensure encouragement of open-ended answers, unbiased interview technique and completeness of data collection.

The interviews were audio recorded, transcribed and translated into English as it was the common language among the multicultural researchers. The accuracy in transcription, translation and semantics were checked by linguistic experts. Audio recording was intended to improve the accuracy of data collection and interpretation of participants' intended meaning. To ensure accuracy and to minimize potential biases from clinicians' pre-conceptions, the transcription, translation, free-coding and analysis of the patients' interview content were performed by non-clinician linguistic and communication researchers, without influence from clinicians.

2.3. Data analysis

Free coding and qualitative thematic analysis of the interview transcripts was carried out in several stages. After reading through the transcripts, the two linguistics analysts drew up an initial coding guide relating to the various aspects of the interviewees' reported experiences and views. All relevant segments of the transcriptions were then coded.