

## Speaking with noninvasive positive pressure ventilation: A qualitative analysis

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**PURPOSE:** To describe experiences of speaking with two forms of noninvasive positive pressure ventilation (NPPV): mouthpiece NPPV (M-NPPV) and bilevel positive airway pressure (BPAP) in people with neuromuscular disorders.

**METHODS:** 12 participants (ages 22-68; M34.42; SD13.98; 10 Male) with neuromuscular disorders (9 Duchenne's muscular dystrophy; 1 Becker's MD; 1 post-polio syndrome and 1 spinal-cord injury) took part in semi-structured interviews and the Communicative Participation Item Bank (Baylor et al., 2013). Interviews were audio/video recorded, transcribed and verified. Phenomenological qualitative research methods were used to code (Dedoose.com) and develop themes.

**RESULTS:** Three major themes emerged from interview data: (1) M-NPPV aids speech. Participants described improvements with loudness, utterance duration, intelligibility and speaking endurance. (2) M-NPPV interferes with the flow of speech. Participants described disruption to conversational flow due to the need to pause to take a breath, mouthpiece placement issues and speech-related technology use. (3) BPAP interferes with speech. Participants described abnormal nasal resonance, muffled speech and discomfort owing to the nasal mask. In addition, participants described difficulty with coordinating speech efforts with ventilator delivered inspirations.

**CONCLUSION:** These qualitative data from NPPV users suggest that both M-NPPV and BPAP may interfere with speech, but that speaking is usually easier with M-NPPV.