

A Mixed-Methods Investigation into Health Professionals' Approaches to Managing Breakthrough Cancer Pain

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INTRODUCTION

Breakthrough cancer pain (BtCP) is prevalent among cancer patients [1, 2], making diagnosis and treatment challenging [2, 3]. It significantly affects mobility, quality of life, and daily activities, contributing to higher morbidity rates [1, 4, 5]. The European Society for Medical Oncology defines BtCP as sudden, intense pain episodes in patients already on opioids for persistent pain management [6].

While research has addressed BtCP prevalence (40%-81% [7]), treatment [8], and guidelines [9], significant gaps remain in understanding its definition, diagnosis, and treatment, as well as in health practitioners' education [10]. Our systematic review [11] confirmed that studies focusing on health professionals' perspectives on BtCP exist [12-14].

Our study aimed to understand how health professionals define, identify, treat, and manage BtCP, to pinpoint factors influencing treatment, and to evaluate current training, education, and mentorship opportunities, highlighting areas for further development.

METHODS AND MATERIALS

Study Design: A mixed-methods approach with two phases: an online survey capturing clinician perspectives on BtCP, followed by semi-structured interviews for those who completed the survey and expressed interest.

Recruitment: Clinicians involved in BtCP diagnosis and treatment in Australia, including oncologists, palliative care physicians, GPs, and nurses, were invited via purposeful and convenience sampling. Invitations were distributed through professional organizations and direct contact, offering gift vouchers for participation.

Data Collection: A pilot-tested survey with nominal and Likert scale questions covered BtCP identification, management, and influencing factors. Semi-structured interviews via Zoom explored deeper insights. Participants provided consent and received compensation for their time.

Data Analysis: Descriptive statistics and thematic analysis were applied to survey responses and interview transcripts. The study adhered to the Declaration of Helsinki and received ethical approval from the Adelaide University Human Research Ethics Committee (ID:H-2023-012)

RESULTS

Participants: 54 completed the survey, and 11 participated in interviews, primarily Palliative Medicine Specialists in public practice treating BtCP. Most participants were Palliative Medicine Specialists (57.4% in the survey, 72.7% in interviews), with others including medical oncologists, general practitioners, and registered nurses.

Identification, Management, and Treatment of BtCP: Clinicians identified BtCP through patient questioning, history taking, and physical observation. Key features included increased agitation, pain beyond baseline, and use of breakthrough medications. Oral hydromorphone, morphine, and oxycodone were commonly prescribed and rated as effective treatments.

Barriers to Treatment: Significant barriers included patient health issues inhibiting communication, cultural and linguistic challenges, poor communication with patients/families, and patient concerns about medication use (see bar graph below). A bar graph can display the mean scores of these barriers.

Professional Development and Training: Most participants received training through on-the-job work and informal conversations. However, formal BtCP-specific training was limited. Participants expressed a need for refresher courses, case presentations, and practical, accessible training, preferably online or through workshops.

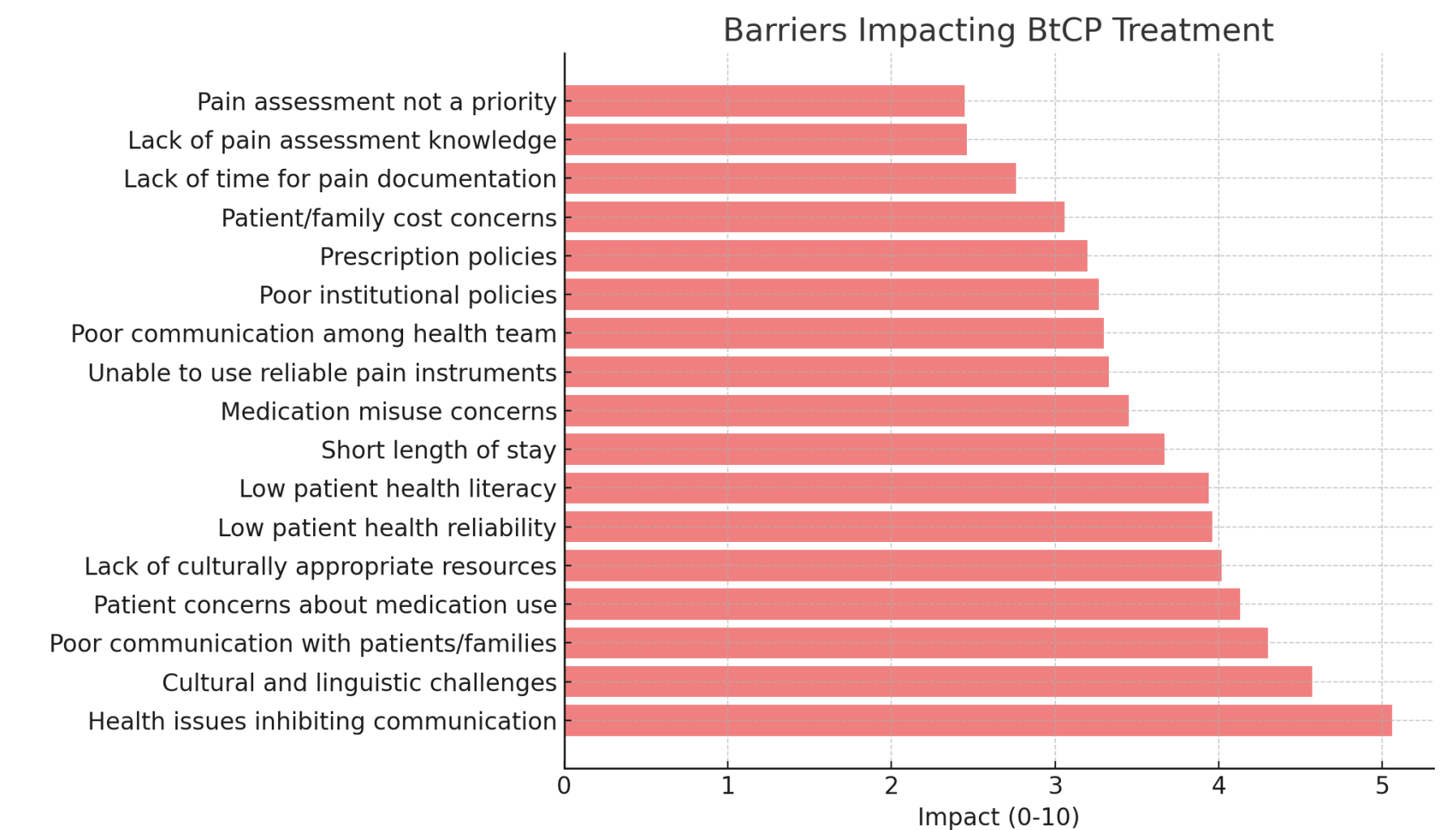
DISCUSSION

This study uniquely engaged a diverse group of health professionals beyond nurses to explore how they identify BtCP, their treatment preferences, barriers to treatment, and professional development needs, filling significant research gaps.

Effective patient communication and education are crucial for managing BtCP, addressing misconceptions about opioids, and overcoming barriers such as poor communication and patient concerns about addiction. Adequate resources, time, and culturally appropriate approaches are essential for supporting clinicians in these efforts.

Interdisciplinary relationships are vital for BtCP management and professional growth. Collaborations, especially with pharmacists, enhance medication access and knowledge transfer. Promoting interdisciplinary collaboration through refresher courses and online case presentations can improve practice.

While this study primarily reflects the perspectives of palliative medicine specialists in public practice in Australia, the findings highlight the need for future research to promote interdisciplinary collaboration and develop targeted, culturally appropriate communication resources for diverse populations.



CONCLUSIONS

This study filled important research gaps by involving a diverse group of health professionals to explore how they identify BtCP, their treatment preferences, barriers to treatment, and professional development needs. The insights gained can guide decision-making, improve patient engagement strategies, and inform the creation of professional training programs to enhance BtCP management practices.

REFERENCES

- Davies, A.N., Cancer-related breakthrough pain. *Br J Hosp Med (Lond)*, 2006. 67(8): p. 414-6.
- Simmonds, M.A., Management of breakthrough pain due to cancer. *Oncology (Williston Park)*, 1999. 13(8): p. 1103-8; discussion 1110, 1113-4.
- Canal-Sotelo, J., et al., Prevalence and characteristics of breakthrough cancer pain in an outpatient clinic in a Catalan teaching hospital: incorporation of the Edmonton Classification System for Cancer pain into the diagnostic algorithm. *BMC Palliative Care*, 2018. 17(1): p. 81.
- Brant, J.M., et al., Breakthrough Cancer Pain: A Systematic Review of Pharmacologic Management. *Clin J Oncol Nurs*, 2017. 21(3 Suppl): p. 71-80.
- Portenoy, R.K., D. Payne, and P. Jacobsen, Breakthrough pain: characteristics and impact in patients with cancer pain. *Pain*, 1999. 81(1-2): p. 129-34.
- Fallon, M., et al., Management of cancer pain in adult patients: ESMO Clinical Practice Guidelines. *Ann Oncol*, 2018. 29(Suppl 4): p. iv166-iv191.
- Deandrea, S., et al., Prevalence of breakthrough cancer pain: a systematic review and a pooled analysis of published literature. *J Pain Symptom Manage*, 2014. 47(1): p. 57-76.
- Zeppetella, G., et al., A Network Meta-Analysis of the Efficacy of Opioid Analgesics for the Management of Breakthrough Cancer Pain Episodes. *Journal of Pain and Symptom Management*, 2014. 47(4): p. 772-785.e5.
- Davies, A.N., et al., Breakthrough cancer pain (BTCP) management: a review of international and national guidelines. *BMJ Supportive & Palliative Care*, 2018. 8(3): p. 241.
- Camps Herrero, C., et al., Breakthrough cancer pain: review and calls to action to improve its management. *Clinical and Translational Oncology*, 2020. 22(8): p. 1216-1226.
- Crawford, G.B., et al., A systematic review of qualitative research exploring patient and health professional perspectives of breakthrough cancer pain. *Support Care Cancer*, 2023. 31(12): p. 619.
- Soden, K., et al., How do nurses assess and manage breakthrough pain in specialist palliative care inpatient units? A multicentre study. *Palliat Med*, 2010. 24(3): p. 294-8.
- Liu, Q., et al., Breakthrough Pain: A Qualitative Study of Patients with Advanced Cancer in Northwest China. *Pain Manag Nurs*, 2018. 19(5): p. 506-515.
- Webber, K., A.N. Davies, and M.R. Cowie, Breakthrough pain: a qualitative study involving patients with advanced cancer. *Support Care Cancer*, 2011. 19(12): p. 2041-6.