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Exploring Facilitators and Barriers to Behavioural Change Among Patients with Oral Potentially Malignant Disorders: A Qualitative Study of a Nurse-Led Empowerment Program

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Research Article

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Abstract

Background

Oral potentially malignant disorders (OPMDs) are closely linked to modifiable behavioural risk factors such as tobacco and areca nut use, and to poor oral health knowledge. Nurse-led behavioural empowerment programs have been proposed as a strategy to support habit cessation and improve oral health practices, yet little is known about how patients themselves experience the process of behavioural change these programs seek to promote.

Objective

To explore, from the patients' own perspective, the facilitators and barriers to behavioural change among individuals with OPMDs who participated in a structured nurse-led behavioural empowerment program.

Methods

A qualitative descriptive design was used. Fifteen participants with OPMDs (Leukoplakia, Oral Submucous Fibrosis, and Tobacco Pouch Keratosis) were purposively selected to represent different lesion types and levels of engagement with the program, and were interviewed until thematic saturation was reached. In-depth, semi-structured interviews were conducted face-to-face in Tamil, audio-recorded with consent, transcribed verbatim, and translated into English. Data were analysed using Braun and Clarke's six-phase thematic analysis (Braun & Clarke, 2006).

Results

Five themes were identified and organised under facilitators and barriers to behavioural change. Facilitators included nurse-led awareness building and education, and family involvement and social support. Barriers included persistent addiction and habitual use, social and peer pressure, and structural and systemic constraints such as cost, access, and limited follow-up. Participants consistently expressed a desire for repeated, structured counselling rather than a single session delivered at diagnosis.

Conclusion

Patients with OPMDs experience behavioural change as a process shaped jointly by the educational and relational input of nurse-led counselling and by deeply rooted addiction, social context, and health-system constraints. Sustained, family-inclusive, and repeated nurse-led counselling may strengthen the facilitators and reduce the impact of barriers to behavioural change in this population.

INTRODUCTION

Oral potentially malignant disorders (OPMDs) are mucosal alterations that carry an elevated risk of progression to oral squamous cell carcinoma, a cancer that remains among the most prevalent and fatal malignancies in South-Central Asia (Gupta et al., 2016). Early detection and sustained behavioural change, particularly cessation of tobacco and areca nut use and improvement of oral hygiene practice, are central to preventing malignant transformation (Warnakulasuriya et al., 2021). Oral diseases remain a substantial contributor to the global burden of disease, and the World Health Organization has identified reduction of tobacco and areca-nut use as a priority within global strategies for universal oral health coverage (World Health Organization, 2022); current clinical guidance likewise emphasises comprehensive diagnosis, risk stratification, and long-term management of OPMDs (Kerr et al., 2020; Kujan et al., 2022).

Conventional management of OPMDs emphasizes clinical surveillance and treatment of the lesion itself, but often gives limited attention to the behavioural risk factors that drive disease onset and progression. Many patients continue harmful habits even after being informed of their diagnosis, reflecting the well-documented difficulty of habit cessation among this population (Kadashetti et al., 2017; Mello et al., 2019). Even a formal diagnosis of OPMD does not reliably prompt spontaneous cessation of smoking or alcohol use, underscoring the need for structured support rather than diagnosis-based advice alone (Tsyvian et al., 2026). This pattern is echoed in population-level studies reporting persistently high rates of tobacco use and limited awareness of OPMDs and oral cancer risk despite the availability of cessation strategies (Khanna et al., 2024; Jayasinghe et al., 2025), and continued smokeless tobacco use has additionally been linked to periodontal disease and tooth loss (Nasir et al., 2023), while delayed behavioural change may allow surface changes indicative of malignant transformation to progress undetected (Kim & Kho, 2023). A recent systematic review confirmed that nurse-led interventions can support tobacco and areca-nut cessation among patients with OPMDs, though evidence on sustaining such change over time remains limited (Thivya et al., 2026). Behavioural empowerment approaches, grounded in patient-centred education, motivation, goal setting, and coping-skills development, have shown promise in supporting self-management and sustained behaviour change in other chronic-disease populations (Funnell & Anderson, 2004), and similar nurse-led structured programs have increasingly been applied to oral health behaviour change among patients with OPMDs.

While the effectiveness of such programs can be measured quantitatively, the lived experience of undergoing behavioural change, what helps patients change, and what continues to hold them back, is not captured by outcome measures alone. Prior qualitative work in related populations has shown that lesion progression and delayed care-seeking are shaped as much by patients' beliefs, fears, addiction, and social circumstances as by clinical severity (Deolia et al., 2020). Understanding these facilitators and barriers directly from patients who have undergone a structured nurse-led empowerment program is essential for refining such interventions and sustaining their impact beyond the immediate counselling encounter.

This qualitative study was conducted as part of a broader quasi-experimental evaluation of a structured nurse-led behavioural empowerment program for patients with OPMDs, and specifically explores participants' own accounts of the facilitators and barriers they encountered while attempting to change their oral health behaviours.

OBJECTIVES

- To explore participants' experiences and perceptions of a nurse-led behavioural empowerment program for patients with OPMDs.
- To identify facilitators that supported behavioural change (tobacco/areca nut cessation and oral hygiene practice) among participants.
- To identify barriers that hindered behavioural change during and after program participation.
- To describe participants' perceptions of the role of nurse-led counselling and family support in sustaining behaviour change.

MATERIALS AND METHODS

Study Design

A qualitative descriptive design employing thematic analysis was used to explore patients' experiences of a structured nurse-led behavioural empowerment program for OPMDs, consistent with the qualitative strand of a larger quasi-experimental evaluation of the same program.

Setting and Participants

The study was conducted among patients with OPMDs attending adopted Primary Health Centres (PHCs) affiliated with Sathyabama Dental and General Hospital, Chennai, Tamil Nadu, who had received the structured nurse-led behavioural empowerment program. A purposively selected subgroup of fifteen (n = 15) participants was recruited to ensure representation across lesion type (Leukoplakia, Oral Submucous Fibrosis, and Tobacco Pouch Keratosis) and level of engagement with the program, and interviews continued until thematic saturation was achieved.

Data Collection

In-depth, semi-structured interviews were conducted to explore participants' perceptions of the program, their attempts at behavioural change, the facilitators that supported change, and the barriers that hindered it, including continued tobacco/areca nut use, challenges accessing care, and the role of family and social context. An interview guide comprising eight open-ended questions with appropriate probing prompts was developed by the study team specifically for this study and is provided as a supplementary

file (Additional File 1: Interview Guide). Interviews were conducted face-to-face in Tamil, lasted approximately 30–45 minutes, and were audio-recorded with participants' written consent. Recordings were transcribed verbatim in Tamil and translated into English; translated transcripts were cross-checked against the original recordings for accuracy prior to analysis.

Data Analysis

Data were analysed using Braun and Clarke's (2006) six-phase thematic analysis approach: familiarisation with transcripts, generation of initial codes, searching for themes, reviewing themes, defining and naming themes, and producing the final thematic report. Themes were subsequently organised under the broader analytic categories of facilitators and barriers to behavioural change to directly address the study objectives.

Trustworthiness

Trustworthiness was addressed using Lincoln and Guba's criteria of credibility, transferability, dependability, and confirmability. Credibility was supported through verbatim transcription, cross-checking of translated transcripts against original recordings, and investigator triangulation during coding and theme development. Dependability and confirmability were supported by maintaining an audit trail of coding decisions, and transferability was supported through thick description of the study context and participant characteristics.

RESULTS

A. Facilitators of Behavioural Change

Theme 1: Nurse-Led Awareness Building and Education

Participants described the counselling sessions as the point at which they first understood the seriousness of their condition and its link to malignant transformation, contrasting this new understanding with their previous minimal awareness of OPMDs.

"I thought it was just a small mouth ulcer that would heal on its own. I never imagined it could become something serious like cancer." (Participant 3)

"The doctor told me it was a potentially dangerous lesion, but before that I had no idea that chewing tobacco could cause such a problem. I only realized the seriousness after the diagnosis and counselling." (Participant 11)

Theme 2: Family Involvement and Social Support

Participants who received consistent encouragement from family members described this support as central to initiating and sustaining behavioural change, including attendance at follow-up visits.

"My family kept reminding and encouraging me to quit chewing tobacco and attend my follow-up visits. Without their support, I don't think I could have made any changes." (Participant 10)

B. Barriers to Behavioural Change

Theme 3: Persistent Addiction and Habitual Use

Despite counselling, several participants described continuing tobacco or areca-nut use, attributing this to long-standing addiction and the difficulty of replacing an entrenched daily habit.

"The doctor advised me to stop chewing tobacco immediately, but I have been using it for more than 20 years. I know it is harmful, but it is very difficult to quit." (Participant 7)

"Even after I was told about the lesion, I continued chewing areca nut because it had become part of my daily routine. Whenever I tried to stop, I felt uncomfortable and started using it again." (Participant 14)

Theme 4: Social and Peer Pressure

Participants described social settings, particularly gatherings with friends who used tobacco or areca nut, as a recurring challenge to maintaining behavioural change.

"Most of my friends chew tobacco, and whenever we meet, they offer it to me. It is difficult to refuse because it has been part of our routine for many years." (Participant 6)

Theme 5: Structural and Systemic Constraints

Barriers beyond the individual were also described, including cost of care, limited access to cessation services, and insufficient follow-up support after the initial counselling encounter, consistent with earlier work identifying structural obstacles to sustained oral health behaviour change (Deolia et al., 2020).

"After the first counselling session, I did not get any more follow-up. If someone had checked on me regularly, I think I could have stayed on track." (Participant 9)

C. Participants' Recommendations: Need for Structured, Repeated Counselling

Across interviews, participants expressed a preference for repeated, structured counselling delivered over time, rather than a single session at diagnosis, and highlighted the protective role of ongoing family involvement in sustaining change.

"One session is not enough. If the nurse could meet with us again after some weeks to check how we are doing, it would help us stay motivated." (Participant 12)

- Thematic analysis of the interview data generated five themes, organised under two analytic categories, facilitators and barriers to behavioural change, along with participants' recommendations for strengthening the program.(Table 1)

Table 1
Summary of themes: facilitators, barriers, and recommendations for behavioural change

Category	Theme	Core Pattern
Facilitator	Nurse-led awareness building and education	Structured counselling improved understanding of lesion severity and malignant potential
Facilitator	Family involvement and social support	Encouragement from family members reinforced adherence to cessation advice and follow-up
Barrier	Persistent addiction and habitual use	Long-standing tobacco/areca nut dependence undermined cessation despite diagnosis
Barrier	Social and peer pressure	Habitual social contexts made refusal of tobacco/areca nut difficult
Barrier	Structural and systemic constraints	Cost, access limitations, and lack of sustained follow-up reduced program engagement
Recommendation	Need for structured, repeated counselling	Participants desired ongoing nurse-led sessions rather than a single encounter

DISCUSSION

This qualitative study found that behavioural change among patients with OPMDs following a nurse-led empowerment program was shaped by a combination of supportive and obstructive forces. Nurse-led education emerged as a key facilitator, consistent with evidence that structured, patient-centred counselling improves knowledge, self-efficacy, and motivation for behaviour change in chronic disease populations (Funnell & Anderson, 2004). Participants' accounts suggest that the counselling encounter functioned not merely as information transfer but as the moment at which the personal significance of the diagnosis was first grasped, echoing earlier findings that oral health education remains inaccessible to large sections of the population and that its provision meaningfully alters patients' understanding of risk (Siddharthan et al., 2021).

Family involvement was similarly identified as a facilitator, reinforcing prior work indicating that social and family support strengthens adherence to health advice and follow-up attendance among patients with premalignant oral lesions (Deolia et al., 2020). By contrast, addiction and habitual, socially embedded use of tobacco and areca nut were described as the most persistent barriers, a pattern consistent with previous reports of the difficulty of habit cessation among patients with OPMDs even after diagnosis and counselling (Kadashetti et al., 2017; Mello et al., 2019).

Structural barriers, cost, limited access to cessation services, and inconsistent follow-up, were also prominent in participants' accounts, aligning with documented gaps in oral health service delivery in the Indian context (Siddharthan et al., 2021) and with the broader literature on oral potentially malignant disorders emphasising that clinical management alone is insufficient without concurrent attention to modifiable behavioural and structural risk factors (Warnakulasuriya et al., 2021).

Taken together, these findings suggest that the effectiveness of nurse-led behavioural empowerment programs for OPMDs may depend less on the content of a single counselling encounter than on its structure over time, its integration of family members, and its connection to accessible, sustained follow-up. Participants' explicit call for repeated rather than one-time counselling offers a concrete, actionable direction for strengthening existing nurse-led care pathways for this population.

Limitations

This study was conducted at a single setting with a purposively selected subgroup of fifteen participants, which may limit the transferability of findings to other populations or program formats. Interviews were conducted in Tamil and translated into English, and while transcripts were cross-checked for accuracy, some nuance may not be fully captured in translation. As a qualitative study nested within a broader quasi-experimental evaluation, findings should be interpreted as complementary to, rather than a substitute for, the outcome data from that evaluation.

CONCLUSION

Patients with OPMDs undergoing a structured nurse-led behavioural empowerment program experience behavioural change as a process shaped jointly by facilitators, nurse-led awareness building and family support, and barriers, persistent addiction, social/peer pressure, and structural constraints such as cost, access, and limited follow-up. Participants consistently identified the need for repeated, structured counselling rather than a single encounter at diagnosis. These findings suggest that nurse-led empowerment programs for OPMDs may be strengthened by incorporating sustained, family-inclusive counselling and improved continuity of follow-up support, in order to reinforce facilitators and mitigate barriers to lasting behavioural change.

ABBREVIATIONS

OPMD
Oral Potentially Malignant Disorder
PHC
Primary Health Centre.

DECLARATIONS

Ethics approval and consent to participate

Ethical approval was obtained from the Sathyabama Institute Human Ethics Committee. Written informed consent was obtained from all participants prior to the audio-recorded interviews. The study was conducted in accordance with the ethical principles of the **Declaration of Helsinki (2013 revision)**.

Participants were assured of the confidentiality of their information, anonymity in reporting, and their right to withdraw from the study at any stage without affecting their ongoing care.

Consent for publication

Not applicable. This manuscript does not contain any identifying images, videos, or other personal or clinical details of individual participants that would compromise anonymity. Participant quotations are reported anonymously and identified only by non-identifying participant numbers.

Competing Interests

The authors declare that they have no competing interests.

Authors' contributions

Thivya N. contributed to the conception and design of the study, analysis and interpretation of findings, and drafting of the manuscript. Bamini Devi N. supervised the methodology, ensured methodological rigor, and critically revised the manuscript. Helen Shaji J. C. provided expert guidance on data analysis and interpretation for the study. Lakshmi L. provided expert guidance on interpretation of results and performed overall manuscript review and final editing. Hema V. H. contributed to literature review, data interpretation, and critical revision of the manuscript for intellectual content. Lisy Joseph contributed to study design refinement, validation of findings, and manuscript editing. All authors read and approved the final manuscript.

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Availability of data and materials

The interview transcripts generated and/or analysed during the current study are not publicly available, as participants did not consent to public data sharing and the transcripts contain information that could compromise participant confidentiality, but are available from the corresponding author on reasonable request. The interview guide used for data collection is provided as a supplementary file (Additional File 1).

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