

Evaluation of About Face: A Psychology and Physiotherapy Pain Management Program for Adults with Persistent Facial Pain

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Aims: To evaluate About Face, a pain management program aimed at increasing quality of life in adults living with persistent facial pain through psychology- and physiotherapy-based skill development. **Methods:** A total of 90 patients attended a six-session program with a 1-month follow-up between 2015 and 2019. Patients filled out self-reported outcome measures preprogram, postprogram, and at a 1-month follow-up visit. **Results:** There was a significant reduction in pain catastrophizing and a significant increase in engagement in meaningful activity, as well as a reduction in pain-related interference. **Conclusion:** This evaluation adds to the small amount of existing literature on interventions aimed at increasing quality of life in patients living with persistent facial pain and provides suggestions for future research. *J Oral Facial Pain Headache* 2022;36:21–25. doi: 10.11607/ofph.2924

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Persistent facial pain is defined as pain in the area of the eyes down to the jaw, and its treatment falls to many different specialties, including oral medicine, oral and maxillofacial surgery, otorhinolaryngology, headache neurology, pain medicine, and dentistry. Persistent facial pain is a characteristic feature of a number of clinical conditions, such as temporomandibular disorders (TMDs), burning mouth syndrome, and persistent idiopathic facial pain.^{1,2} The prevalence of persistent facial pain ranges considerably. For example, a recent systematic review estimated the rate of TMDs to be between 5% and 60% in the general population.³ The management of these conditions is dependent on the route of referral (ie, general practitioners, dentists, other specialists) and may include both medical and surgical treatments. As with other persistent pain conditions, medical management for facial pain alone is often insufficient, although there is some evidence that some medications may be helpful in TMDs and burning mouth syndrome.⁴ Pain management programs have been shown to have effectiveness for persistent pain conditions, but the research is largely skewed toward back pain.⁵ Findings from a recent review of 14 studies provided strong evidence for the use of multimodal pain management programs that encompass a broad range of psychology- and physiotherapy-based skills; for example, cognitive behavioral strategies to manage the impact of living with a persistent condition, physical strategies, and education.¹ However, pain management programs vary hugely between services in terms of content and duration, and there are few centers in the United Kingdom that specialize in meeting the needs of patients with persistent facial pain. The purpose of this evaluation is to share the outcomes of the About Face program, delivered within a national specialist service, that could inform local service provision. It is hoped that these service evaluation data will further add to the collective understanding of the types of intervention that could benefit people with persistent facial pain, for which the current research is lacking.

Materials and Methods

Participants

Data were extracted from the service database for patients who had accessed the About Face program between 2015 and 2019 ($N = 187$). All patients were referred to the service by the facial pain medical and dental staff who had phenotyped them and initiated a care pathway. About Face is predominantly for patients with TMDs, persistent idiopathic facial pain, and neuropathic pain, and the pain presentation is largely constant, with periods of increased pain intensity. Additionally, the service runs a separate program for patients with trigeminal neuralgia⁶ and a psychoeducation and medical management information session for patients with burning mouth syndrome. Most patients had trialed, or were trialing, medication for their facial pain condition but had minimal benefit with medication alone. None had used any form of splints, nor had psychologic therapy. Pain duration ranged between 1.5 and 20 years (mean \pm SD = 6.7 ± 5.24). Patients who were in pain remission were not offered the About Face program. Most of the patients who attended About Face were women (78.8%), and the mean age was 50.3 years (SD = 13.78). Other demographics were not recorded. Prior to attending About Face, patients had accessed other parts of the facial pain service; ie, medical consultation, an information session on About Face, and a psychologic assessment to assess their needs and suitability for the program. Patients who had a high degree of suicidality, significant substance misuse, could not commit due to travel/work, or who had circumstances where they would have found a group program unhelpful were supported by alternative means (eg, individual psychology input and signposting to other services or agencies).

Measurements

The outcome measures included pain levels and interference, psychologic elements of the experience of pain, and the impact of pain on everyday functioning. These outcomes are used routinely as part of the department's care pathway and were taken prior to About Face on completion of the six sessions and at the 1-month follow-up.

Brief Pain Inventory.

The Brief Pain Inventory-Short Form (BPI-SF)⁷ is a self-report measure focusing on the severity of pain and its interference on everyday functioning. The items are scored between 0 and 10, with higher scores indicating a greater degree of pain severity and interference.

Pain Catastrophizing Scale.

The Pain Catastrophizing Scale (PCS)⁸ is a 13-item self-report measure that investigates the degree to

which a person has a negative bias about their situation, their future, and their emotional response to pain. Each item is rated on a 4-point scale, from 0 = not at all to 4 = all the time. This measure has a maximum score of 52, and higher scores reflect greater catastrophizing.

Pain Self-Efficacy Questionnaire.

The Pain Self-Efficacy Questionnaire (PSEQ)⁹ is a 10-item measure that assesses a person's level of confidence in managing everyday activities despite the presence of pain. Each item is rated on a 7-point scale, from 0 = not at all confident to 6 = completely confident. This measure has a maximum score of 60, and higher scores reflect stronger self-efficacy scores.

Data Analysis

Repeated-measures one-way analysis of variance (ANOVA) was used to analyze the data. Intervention effect sizes for changes in outcome measure scores between preintervention and the 1-month follow-up were calculated using Cohen d statistic.¹⁰

Details of the Intervention

About Face was codelivered by a clinical psychologist and a specialist physiotherapist who were experienced in working in persistent pain services (R.S., M.L., J.P., C.M., S.H.); the sessions were run by the same staff members throughout. The session guide for About Face can be found in Appendix 1. The sessions included the following themes: psychoeducation on understanding pain mechanisms; mindfulness principles and practices; values-based goal setting; activity pacing; understanding the influences of thoughts, feelings, and behaviors in relation to the pain experience; working with distressing thoughts and emotions, developing communication skills with significant others; sleep hygiene advice, facial exercises to increase function of the face; and managing increases in pain. About Face ran weekly for six sessions, with each session lasting 3 hours. This equated to 18 hours of clinical time with two senior members of staff for a group of 8 to 10 patients. Patients were given supplementary written material to support learning and were encouraged to practice skills and to work toward individually set goals between sessions, which were reviewed at every session. This structure has been shown to be effective for the psychosocial management of other persistent pain conditions and is based on cognitive behavioral therapy approaches; eg, acceptance and commitment therapy.¹¹

Ethics

This was a service evaluation of routine care, which does not require ethical approval. All patients signed

Table 1 About Face Treatment Results

Outcome	Pretreatment score, mean (SD)	Posttreatment score, mean (SD)	1-mo follow-up score, mean (SD)	No.	Sig pretreatment to 1-mo posttreatment	Effect size (<i>d</i>) pretreatment to 1-mo post-treatment
Brief Pain Inventory: severity	4.88 (2.20)	4.46 (2.33)	4.09 (2.49)	90	F (2, 140) = 4.34, <i>P</i> < .02	0.33
Brief Pain Inventory: interference	4.32 (2.34)	3.22 (2.05)	2.92 (2.19)	90	F (2, 178) = 26.58, <i>P</i> < .001	0.62
Pain Catastrophizing Scale	24.21 (10.51)	17.07 (9.15)	16.63 (10.31)	90	F (2, 145) = 44.07, <i>P</i> < .001	0.74
Pain Self-Efficacy Questionnaire	34.01 (12.46)	39.67 (10.48)	41.62 (10.62)	90	F (2, 169) = 38.12, <i>P</i> < .001	0.66

a generic consent form for their data to be used for teaching and research purposes when attending their first appointment to the dental hospital and then gave oral consent to taking part in the program.

Results

Of the patients referred to the program, 160 (86%) completed About Face, and 90 (48%) attended the 1-month follow-up. Twenty-seven patients started About Face but dropped out before completion, for a dropout rate of 14% for a variety of reasons (eg, travel, work commitment, not convinced the program suited them).

The mean scores for each outcome measure are presented in Table 1, along with the effect sizes.

There was a significant change on the BPI severity and interference subscales, but severity subscale had a small effect size. There were also significant changes on the PCS and PSEQ at the point of completing About Face, and these changes were maintained at the 1-month follow-up.

Discussion

The present study is an evaluation of a psychology and physiotherapy skills-based program for adults living with persistent facial pain, which the present authors believe is the first of its kind in the UK. This evaluation includes self-reported measures of 90 patients who completed the program between 2015 and 2019. These findings are broadly consistent with other psychology and physiotherapy programs for different persistent pain conditions (eg, back pain).^{12,13} However, there are subtle differences. The mean PCS score when starting the intervention was higher in this cohort of patients than most studies examining the effectiveness of general pain management pro-

grams that collect these measure-specific data.¹⁴ It may be that the pain's location in the face is experienced as more threatening to the person, given the face's vital functions for communicating, eating, and intimacy. There was a statistically significant reduction in pain catastrophizing with a medium to large effect size. This is clinically significant, as high scores on the PCS are related to increased feelings of helplessness and rumination, which are common features of anxiety and depression.^{13,14} Scores on the PSEQ increased with a medium effect size, which suggests that patients increased their overall confidence in everyday functioning in the presence of pain. However, the PSEQ is a broad measure of functioning and does not specify facial function. Levels of pain interference on the BPI measure were also reduced. Levels of pain severity remained largely the same (with a small effect size), which suggests that patients continued to experience pain throughout the program and follow-up but experienced changes in levels of associated distress and functioning. This reflects the nature of the About Face program, which is focused on modifying the patient's relationship with difficult and unwanted sensations, thoughts, and feelings associated with their individual pain experience through experiential skills development, not on pain reduction or symptom elimination. By focusing on core psychological processes and increasing flexibility in response to difficult sensations, thoughts, and feelings, heterogeneity becomes less of an issue, as these skills can be applied universally regardless of the individual's circumstances and facial pain diagnosis.

Although the attendance rate for the About Face program was high (86%), it quickly reduced to 48% at the 1-month follow-up. The issue in gathering these data, as well as the absence of long-term follow-up, are limitations of this evaluation. The authors hope to improve the methods of collecting long-term follow-up data to assess whether the benefits are maintained over a longer period, such as by

using electronic report systems to gather outcomes. Furthermore, it is possible that outcomes could be influenced by patients accessing other services or interventions during and alongside the About Face program or simply by the passage of time. Other limitations are that there was no control group for comparison, and the sample size was underpowered. A way of overcoming these issues could be to perform a larger multisite study with a control comparison. Single-case experimental designs would also better highlight mechanisms for change, as focusing only on pre- and postoutcome group data is not sensitive to what components of the program are most beneficial for which patients.^{15,16} Currently, there are no agreed core outcomes or core measures for facial pain patients, so it is difficult to set up studies and compare results from other centers.

A common issue for these patients is travel to the tertiary center, sometimes from long distances. The authors hope to make this service more accessible by providing additional ways of accessing the interventions via teleclinics and online webinars, which are currently being trialed and evaluated. This could potentially help minimize geographic and financial barriers to accessing the About Face program.

Conclusions

Persistent facial pain can have a profound impact on a patient's quality of life. Based on this evaluation of the About Face program in a national specialist service for persistent facial pain, there is a clear role for psychology- and physiotherapy-led interventions in optimizing a person's quality of life. It is important to share these findings, along with those of other services that specialize in facial pain, to obtain a better understanding of what works for patients and, equally importantly, what does not. The authors will continue to monitor the program long term and to conduct studies to focus on those who experience less benefit and those who do not complete treatment or who drop out.

Highlights

- Persistent facial pain can have a significant impact on a patient's quality of life.
- Data on pain management programs for persistent facial pain are sparse.
- This evaluation highlights the effectiveness of providing a combined psychology and physiotherapy program for a cohort of patients at a national specialist facial pain service. In particular, this approach modified pain

catastrophizing and increased engagement in meaningful activity.

- This evaluation is a step toward further development of interventions combining both psychology and physiotherapy and a springboard to focus on longer-term follow-ups, as well as understanding (and then overcoming) issues for those who do not benefit from attending the program.
- Core outcomes and outcome measures that are specific for facial pain need to be determined.

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All authors contributed to evaluation of the results and the writing and approval of the final manuscript.

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Appendix 1 The About Face Pain Management Program

Session	Content
1	<ul style="list-style-type: none"> ▪ Present moment exercise: notice 5 things ▪ Welcome and introductions ▪ Group agreements ▪ Exercise to get talking; eg, what and who do you care most about in life ▪ Education about why pain persists ▪ Common responses to difficult thoughts, feelings and sensations, and issues with “control” ▪ Exercise: breath practice
2	<ul style="list-style-type: none"> ▪ Present moment exercise: dropping anchor ▪ Home practice review ▪ Values audit ▪ Values-based goal setting ▪ Willingness to experience discomfort in pursuit of valued action
3	<ul style="list-style-type: none"> ▪ Present moment exercise: 10 breaths ▪ Home practice review ▪ Pacing up and down activity ▪ Unhooking from unhelpful thoughts ▪ Exercise: “leaves on a stream” guided meditation
4	<ul style="list-style-type: none"> ▪ Present moment exercise: notice 5 things ▪ Home practice review ▪ Mindfulness practice ▪ Facial movement exercise ▪ Exercise: soles of the feet exercise
5	<ul style="list-style-type: none"> ▪ Present moment exercise: dropping anchor ▪ Home practice review ▪ Planning for when pain intensifies ▪ Turning toward, and being with, difficult emotions: notice, name, allow, and soothe ▪ Exercise: compassionate imagery
6	<ul style="list-style-type: none"> ▪ Present moment exercise: 10 breaths ▪ Home practice review ▪ Committing and recommitting to values-based living ▪ How and where to access further self-management resources ▪ Communicating with significant others and utilizing social support ▪ Sleep hygiene (optional) ▪ Exercise: compassionate mind
1-month follow-up	<ul style="list-style-type: none"> ▪ Present moment exercise ▪ Goals and skills review ▪ Setting new goals