

Olfactory Training Therapy

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Olfactory function can be modified or altered by frequent exposure to odours [1]. The training of olfactory function is being used as a treatment modality in those with olfactory dysfunction as the olfactory pathway is retrained to recognise scents based on previous memories (neuroplasticity). Due to the COVID-19 pandemic, there has been an increase in the incidence of olfactory dysfunction and various therapeutic options have been considered or advocated in those with lingering olfactory dysfunction.

Olfactory training therapy (OTT), was initiated by Hummel in 2007 as an alternative treatment modality for olfactory dysfunction. In this process, various scents are introduced to the nose repeatedly in order to trigger the brain to recall the smell. Scents that are used for this treatment process are those which are easily recognised by the patient. The scents advocated and commonly used for OTT are floral (rose), resinous (eucalyptus), spicy (cloves) and fruity (lemon) [2]. These scents are inhaled twice daily for 10 to 20 seconds and in the process the patient tries to recollect the smell of the scent. This training has been advocated to last 3 months but it can last longer as the recovery of olfactory function can be slow [2].

A lot of research has been done in OTT in post-viral olfactory dysfunction especially dysfunction secondary to upper respiratory tract infection. Studies have shown improvement or restoration of olfactory function in those that had OTT [1-4]. Viral mediated neuroepithelial damage is suspected to be the cause of olfactory dysfunction [5]. This is why it has been advocated and used as a treatment modality in COVID -19 related olfactory dysfunction. OTT has also been found to be beneficial in those with post traumatic olfactory dysfunction [1] and Parkinson's disease [6].

Few studies have been done to confirm the benefits of OTT in COVID -19 related olfactory dysfunction. This may be due to the fact that a lot of COVID -19 infected patients regain their olfactory function spontaneously. In a multicentre study of 1363 patients with COVID -19, it was noted that most patients recovered their olfactory function within 8 weeks while ninety five percent recovered theirs in 6 months [7]. Some researchers have advocated the use of OTT as a treatment modality in these patients than the use of systemic steroids because OTT is effective in post-viral olfactory dysfunction, has no adverse effects compared to systemic steroid use and is relatively cheap [4]. There is also no strong research evidence that the systemic use of steroids is effective in the treatment of olfactory dysfunction in COVID-19 infected patients [4]. This may be due to the fact that olfactory dysfunction in these patients is not associated with nasal congestion or discharge and that systemic steroids will have no effect unless in those with background nasal allergy or inflammatory conditions. OTT has been noted to give a better result when combined with nasal irrigation containing steroids [3]. The use of nasal irrigation with steroids as a treatment modality has also been advocated due to its supposed less systemic adverse effects but there is dearth of information of the benefits in post infectious olfactory dysfunction.

OTT is safe and hastens recovery of olfactory function [8]. Recovery is noted in the first few months. Some researchers have noted faster recovery in the younger age group. This may be due to reduced number of olfactory nerve cells and slower regeneration in the elderly [9]. Other researchers have noted that recovery of olfactory function with OTT has no relationship with age [8]. Commencing OTT early has been found to be more effective.

For those with delayed recovery, olfactory training should be extended. The scents used for OTT can be purchased online or from aromatherapy stores. Patients can also choose scents that they are more familiar with.

OTT unfortunately is not effective for everyone [3]. This may be due to other pathological causes of olfactory dysfunction like intranasal and brain tumours and severe neurologic disease. Therefore patients should be properly evaluated in order to select those that will benefit from OTT. Patient's compliance is another drawback because recovery of olfactory function can be slow. Monotony and frustration due to the slow recovery process can lead to discontinuity of OTT. Joining groups or keeping diaries can make this treatment modality more tolerable. Intermittent review of these patients is important so that olfactory training can be tracked and scents changed if no response is noted. These patients also need to be encouraged as olfactory dysfunction can affect their quality of life.

OTT is recommended for people with persisting olfactory dysfunction. It is safe and relatively cheap. Other causes of olfactory dysfunction should be excluded before it is commenced. OTT requires patient's commitment and patient's expectations should be addressed before commencement. They should be made aware that full recovery may not be regained. Further studies should be done to confirm its benefits in COVID-19 related olfactory dysfunction.

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