*Papeles del Psicólogo, 2015. Vol. 36(3), pp. 207-215*
http://www.papelesdelpsicologo.es



# MINDFULNESS BASED STIMULATION FOR ELDERLY PEOPLE WITH ALZHEIMER'S DISEASE OR OTHER TYPES OF DEMENTIA

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*Los tratamientos psicológicos son una práctica habitual en el contexto sociosanitario de atención a personas mayores dependientes. En los últimos años se está introduciendo la práctica de mindfulness para personas mayores. Sin embargo, estas prácticas presentan dificultades para su aplicación en residencias y centros de día por el deterioro cognitivo que presentan los usuarios de estos servicios. En este artículo se muestra cómo se desarrolló un programa de estimulación basado en mindfulness en el entrenamiento de las actividades de vida diaria (AVD). Esta intervención se fundamenta en el entrenamiento del personal auxiliar y/o cuidador de forma simultánea con los usuarios de los servicios para, posteriormente en la rutina del centro, realizar un entrenamiento de la presencia consciente en la acción durante las AVD. El objetivo final de esta intervención es potenciar la coherencia funcional y la integración personal mediante prácticas de mindfulness en acción en actividades básicas, instrumentales o avanzadas.*
***Palabras clave:*** *Mindfulness, Actividades de la vida diaria, Centro sociosanitario, Deterioro cognitivo, Tratamientos no farmacológicos.*

*Psychological treatments are a common practice in healthcare centres for elderly dependent people. Recently, mindfulness practice is being introduced in these settings. However, it is difficult to carry out mindfulness practice in residential or day care centres due to the cognitive impairment of the elderly users. This paper shows how a mindfulness based stimulation program for activities of daily life (ADLs) has been developed. This intervention aims to train care assistants to the elderly together with the elderly people themselves so that afterwards, within the routine at the centre, daily life activities can be carried out with conscious presence. The ultimate purpose of this intervention is to strengthen functional coherence and personal integration through the practice of mindfulness in action with basic, instrumental and advanced activities.*
***Key words:*** *Mindfulness, Activities of daily living, nursing home care, Cognitive impairment, Non-pharmacological treatments.*

The World Health Organization (2002) has defined the healthy elderly person in terms of functionality, not in terms of deficit, and it is in this context of empowering capabilities that we propose an active aging based on mindfulness in action. It is very important to emphasise functionality as a guiding theme in models of intervention for geriatric dependents, especially people with dementia, because this approach is allowing the emergence of a new way of understanding social and healthcare planning, focusing on person-centred care (Vikström et al, 2015; Martínez, 2014). From this approach, precise content can be provided to the concept of dignity which enabled the foundation of geriatrics as a medical specialty in the UK (Warren, 1946).

Geriatrics as a medical discipline created a new paradigm founded on comprehensive geriatric assessment. This approach opened the door to a new care-centred approach, enabling the development of the interdisciplinary teams that exist today. However, one of the major problems in planning long term care is how to organise it, since the classical mechanistic models centred on healing are not a good guide for indefinite intervention in the area of dependence. Comprehensive models covering all aspects of life until its end are necessary, as proposed by Watson (2010). It is in this context that intervention based on mindfulness in action, which places special emphasis on the circumstantial aspects of everyday experiences, is shown as an alternative possibility for intervention based on the daily routines of the elderly care services. The practice of mindfulness enables a person to redirect their attention to the action during the activities of daily living (ADLs), therefore we can say that it is a care model that is focused on functional coherence, the central focus of the intervention for promoting healthy aging.

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This document shows how to implement mindfulness during the action of ADLs. To do this, the following points are addressed: 1) what is mindfulness?, 2) the benefits mindfulness produces in brain structure and function, 3) the role of the paradigm of joint attention in training people with cognitive impairment, and 4) a proposal of intervention for the elderly care environment.

## MINDFULNESS: THE CONCEPT AND IMPLICATIONS IN GERIATRIC AND GERONTOLOGICAL INTERVENTION

The concept of mindfulness has been defined with slight differences depending on the field of clinical application. However, mindfulness is a question of practice as Gunaratana (1996) emphatically asserts. Vallejo (2006; p. 92) defines it as "full attention and awareness, as attentive and thoughtful presence to what is happening in the present moment." This definition is consistent with the intention of establishing a consensus on the concept that led Bishop et al. (2004) to define this metacognitive capacity as the self-regulation of sustained attention on the immediate experience, allowing greater recognition of mental occurrences in the present moment, adopting a specific attitude towards the experience, characterised by curiosity, openness, acceptance and affect.

This definition implies a voluntary, intentional act and raises the basic issue of how to develop these practices in people with cognitive impairment, since it is to be expected that they will simply forget to practice. To avoid this, joint training with the care assistant and the patient is necessary, as proposed by Quintana et al. (2014), based on the paradigm of joint attention (Werner & Kaplan, 1963), which we present below.

The application of mindfulness practice in the geriatric residential context does not require any specific aspect of implementation in relation to its practice compared with any other clinical population. The only difference in the geriatric context is the reduction in the time of each session, to between 30 and 50 minutes, and the continued practice daily as proposed by McBee (2008). The practice of mindfulness has a direct benefit on the action of the present moment, compared to other classic techniques of cognitive stimulation, because it involves enhancing the internal resources and capabilities. In this sense it is a change in the orientation of the intervention of a group of people for whom traditional stimulation practices often remind them of their cognitive loss and impairment.

## THE EFFECTS OF MINDFULNESS ON BRAIN FUNCTION AND COGNITIVE CAPACITY

Different studies using mindfulness based treatments or different forms of meditation orientated towards concentration practice have shown that cerebral irrigation increases in the cortical and subcortical areas during practice (Khalsa, Amen, Hanks, Money & Newberg, 2009; Deepeshwar, Vinchurkar, Visweswaraiah, & Nagendra, 2014), while connectivity also increases between different brain structures and neuronal density (Lazar et al., 2005; Hölzel et al, 2011; Malinowski, 2013). However, one must be careful with this evidence because the neuroscience of mindfulness and its neuroanatomical correlates are at an early stage of study, as indicated in the latest reviews by Tang, Hölzel & Postner (2015) and Fox et al. (2014).

The application of mindfulness in the mild stages of neuro-degenerative diseases suggests a positive effect on cognitive abilities such as attention, memory, verbal fluency, abstraction ability, praxis, calculation, etc. (Newberg, Wintering, Khalsa, Roggenkamp, & Waldman 2010; Wells et al, 2013;. Quintana & Quintana, 2014). Therefore, the practice of mindfulness is proving to be useful for alleviating the symptoms of dementia in general, and this aspect is very important in care centres because of its high prevalence, which is greater than 60% (López, López, Castrodeza, Tamames & León, 2009).

Currently the mindfulness-based program that has the most scientific evidence for application among the geriatric population is the adaptation of the "mindfulness based stress reduction program (MBSR)" (Kabat-Zinn, 2013). Lantz, Buchalter and McBee (1997) applied the MBSR to a residential context with patients with advanced cognitive impairment in order to reduce the behavioural disorders and psychopathological symptoms associated with dementia. The effectiveness of these interventions based on MBSR has been reiterated in various investigations since then (McBee, Westreich & Likourezos, 2004; Wells et al., 2013; Quintana et al, 2014.).

A second group of treatments associated with concentrative meditation techniques, such as the

practice of the "Kirtan-Kriya" exercise or practices derived from Zen (mantras, breathing exercises in seated meditation positions, visualisation, etc.), are also showing their usefulness in improving cognition and decreasing psychopathology in older people with mild Alzeimer's disease (Pagnoni & Cekic, 2007; Hu, Chang, Prakash & Chaudhury, 2011; Moss et al., 2012).

These practices seem to produce different health benefits in aging that are potentially beneficial for the management of institutionalised elderly people in social and healthcare services. Xiong and Doraiswamy (2009) listed the following aspects which indicate the use of these techniques in this population: 1) a reduction in cortisol secretion induced by stress, which could have neuroprotective effects by increasing the levels of the brain-derived neurotrophic factor; 2) lipid and oxidative stress reduction, which could reduce the risk of cerebrovascular disease and the neurodegeneration derived from it; and 3) it should strengthen the neural circuits and maintain the cognitive reserve. In the same vein, Larouche, Hudon and Goulet (2015) indicate that the practice of mindfulness could slow down cognitive decline, minimising the effects of the symptoms associated with dementia, promoting stress management, reducing the effects of mood disorder and reducing the inflammatory processes associated with neuronal death. Despite all of this evidence that seems to support the use of these practices, the mechanisms underlying the functioning of mindfulness are still in the research phase (Tang, et al, 2015), and further research into these practices is encouraged.

## JOINT ATTENTION AS A PARADIGM OF MINDFULNESS TRAINING IN ELDERLY CARE CONTEXTS

Mindfulness based training with institutionalised elderly people is based on shared training in the cognitive skills associated with attention practices aimed at ADLs. Joint attention is the situation of primordial interaction upon which communication and cognitive development are built (Werner & Kaplan, 1963). The perceptual experience of an object changes when paying attention to it alone compared to when doing so together with another person. In the latter case, as well as the object, the existence of the other person paying attention together becomes a constitutive element of the experience. Thus, joint attention is not only about seeing the same object that the other person sees, but it also concerns seeing the object as something that the other person is also aware of. This awareness of sharing the attentional focus happens naturally in the act of making reference, when exchanging, seeing, or touching things with the other person and it often involves sharing attitudes towards the object or event. In a classic study on the emergence of joint attention, Werner and Kaplan (1963, p.44) state that triadic joint attention (person-person-object) marks "a change from perceiving objects as purely "things upon which to act" to perceiving them as "objects of contemplation". In this context, the contemplative attitude should not be understood as a passive attitude or a lack of activity, but as an activity whose primary objective is the acquisition of knowledge about the world around us in the present moment. The aforementioned authors define the act of contemplating as the focus on an object in a particular way, in order to be aware of what the object is like, rather than manipulating it or obtaining something from it. In the context of child development, the emergence of this ability to contemplate or attend jointly to an object or event, which Trevarthen (1993) calls "secondary intersubjectivity", represents a new level of inter-subject interaction that provides access to a shared world. This step has also been identified as access to the third-person perspective, expressed as a following of the attention, which would complete the second person perspective, expressed as contact with attention.

There are two main distinctive components within this concept of joint attention: a) the following of the attention, when a subject pays attention to the same object of attention as another subject in response to the attention of the latter, and b) the contact with the attention, when each subject attends mutually to the other's attention. Each component can appear separately or they can be combined into what is called referential communication, in which one person attracts the other's attention to an object. In short, this concept of joint attention not only allows us to understand the elements involved in accessing a shared world within the context of child development, but it also allows us to understand the elements that should be considered in order to help people to stay in a shared world when they have cognitive impairment.

This vision of joint attention offers a conceptual framework from which practical consequences are derived in order to build a training program in mindfulness in action for people with Alzheimer's disease, such as the program developed by Quintana et al. (2014) with the aim of preventing cognitive and functional impairment and psychopathology. The main practical consequence is that the training has to be carried out with both the patient and the care assistant or primary caregiver, so that the practice can be incorporated into the ADLs. Thus, the caregiver indicates what to direct the attention towards, with an attitude of conscious, attentive and empathetic presence and with curiosity and affect for what is being shared. This aspect is the main contribution of this proposal because it emphasises the continuing enhancement of skills in daily activities, opting to develop meaningful activities that the patient can continue to do without introducing tasks that have nothing to do with their life cycle development and personal history.

## THE APPLICATION OF MINDFULNESS IN CARE SERVICES

Although the potential benefits of the practice of mindfulness may be easy to see, it is unclear how to implement it in the social and healthcare context in order for a meaningful practice to occur. Given the key role that the loss of immediate memory plays in the course of cognitive decline it can be expected that patients would simply forget to practice the exercises. To overcome this obstacle, the training program should be built around three basic pillars: a) the caregivers, b) the ADLs (basic, instrumental and/or advanced) and c) the awareness of the present moment on a shared basis, it being the caregiver in the first place who makes the suggestion regarding the element of experience to which they will start paying attention. The basic idea of the intervention is to instruct caregivers in practising conscious and open presence with curiosity towards the present moment together with the patient in the various AVDs. In this context, it is the significance of the shared task that is the central theme for ensuring that activities that are not personally relevant are not carried out. Therefore, it is an intervention that requires a highly individualised approach.

### *Mindfulness training with care professionals*

Organising a service based on mindfulness in action aimed at ADLs must be based primarily on the development of a continuous training program with technical and care staff. The proposed training has a double guideline: Firstly it is proposed as a formal practice in weekly group sessions with various professionals from each service, as well as half an hour of individual practice being prescribed six days a week at home. Secondly, it is promoted as an informal practice in carrying out basic ADLs (eating, bathing, transferring, etc.) and instrumental ones (therapeutic activities in general or outings with family members) when performing work tasks at the centre.

In the formal practice of mindfulness, scheduled periods are established for guided meditation with sessions based on the practices of the stimulation program for Alzheimer's patients based on mindfulness (MBAS "Mindfulness-Based Alzheimer's Stimulation") by Quintana et al., (2014). Daily exercises of Hatha chair yoga are also proposed, as recommended by Armendia (2009). The informal practice includes all ADLs that are carried out daily, such as eating, sleeping, working, playing, etc. They are conducted jointly with the caregiver. Everything can be done with full presence. There are activities that can be practised both formally and informally, such as standing in a certain way. The formal version is a yoga exercise, however this position is easy to do on a daily basis informally, for example in the shower, in line at the supermarket, or in any other situation requiring this position.

The formal and informal practices strengthen the metacognitive capacity. The formal practice provides support and knowledge, while the informal practice provides a way of integrating mindfulness into everyday life and promotes a change in lifestyle. As the practice deepens, these divisions tend to disappear as McBee confirmed (2008). For this reason daily training is recommended in order to consolidate the practice of mindfulness in the basic ADLs, as these are the main tasks in the organisation of elderly care services.

The formal activities carried out in each of the sessions are generally organised as follows:

1) Patients are organised in small groups (with a maximum of 8 patients per group).
2) The patients are trained simultaneously with the

caregivers in formal sessions lasting for 1 hour, once a week.

3) Tasks for practising during basic and instrumental ADLs are prescribed as shown in Table 1.
4) The Kirtan Kriya exercises proposed by Newberg et al. (2010) (Figure 1) and the sensory stimulation exercises that can be observed in Table 2 are prescribed daily.
5) Validation techniques (Feil, 1984) and reality orientation (Spector, Davies, Woods & Orrell, 2000) are practised with the care assistants using mindfulness in action as a way to focus on the present moment in each of the ADLs.

### *Informal sessions on carrying out ADLs: care assistants as facilitators of mindfulness in action*

It must be emphasised that the implementation of effective mindfulness programs must be supervised by specialised personnel that are trained in these techniques. Furthermore, the organisation of elderly care services must be inclusive of carers and family, because in this way it can be carried out in a wide variety of contexts and different environments. This is how the practice of mindfulness is developed implicitly and becomes part of the new daily routine in the functional organisation of everyday activities of the care staff and the elderly people.

The main benefit of this system is that early and intensive intervention is achieved (10 to 20 hours per week) throughout the whole of the person's stay in the care centre. It must be emphasised that a cumulative effect occurs with small practices of 2-3 minutes when carrying out basic ADLs every day. Thus we obtain a minimum daily practice of about 90 minutes. To achieve this purpose it is essential that the families are actively involved; also the staff should be highly specialised and must receive specific ongoing training. The intervention must have an individualised program, continuous assessment of progress, levels of intense support in terms of the time and personnel involved, as well as physically. Finally, the generalisation of learning should be appropriately planned. Tables 1 and 2 present different practices carried out during the various ADLs. It is important to note that the Barthel index (Cid-Ruzafa & Damián-Moreno, 1997) is used to facilitate communication with all professionals, as it is a widely used scale in the geriatric field (Flores, Cruz, González, López & Abizanda, 2014).

## CONCLUSIONS

Care services in elderly care centres using mindfulness-based programs is a perspective that allows the practical implementation of the person-centred care model. This training offers the possibility to transform the ADLs so that present moment action continues to be the central focus of all personal experiences.

The establishing of ADLs using joint attention promotes increased personal satisfaction for the carers, while it gives therapeutic significance to everyday life. This is a critical aspect in geriatric intervention, as the organisation of care should be aimed at maintaining the functional abilities which take place in the present moment and which are the foundation upon which life is built.

Finally it is emphasised that the proposed intervention in ADLs has been carried out in the Day Care Centre for Dementia Sufferers at the El Pino Healthcare Centre since 2011. During this period a benefit of clinical stabilising has been demonstrated in the people attending this service (Pérez-Wehbe et al., 2014). The scientific backing for organising this proposed intervention of mindfulness in action was based on the first longitudinal randomised clinical trial of non-pharmacological treatments and Alzheimer's disease, which confirmed how the practice of mindfulness showed maintenance of cognitive, functional and psychopathological abilities for at least two years (Quintana et al., 2014). Work must continue in this line of investigation, and new tests will consolidate these results.

**FIGURE 1**
**EXERCISE OF PRESENT MOMENT ATTENTION KIRTAN KRIYA**

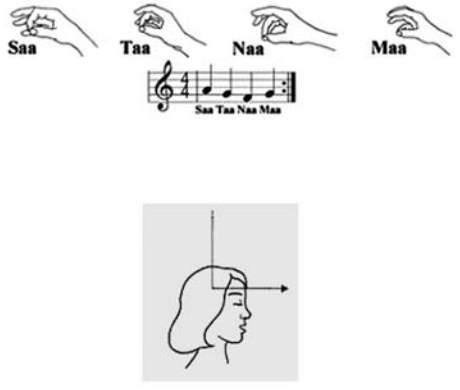

**TABLE 1**
**EXERCISES OF PRESENT MOMENT ATTENTION IN BASIC AND INSTRUMENTAL ADLS**

| Basic ADLS | Exercises of present moment attention through joint attention |
|---|---|
| Transferring | 1. Knock before entering the room, then ask permission to enter and take three breaths while wishing the person being cared for to have a good day.<br>2. Ask the person to open their eyes, we notice how they feel and, smiling, we invite them to breathe for two minutes, counting the breaths if the cognitive impairment is advanced.<br>3. Before they sit up, we ask the person to verbalise that they wish to have a calm day and to wish the same for their roommate and the other people in the centre in general.<br>4. When they are sitting in bed, we ask them to take 10 breaths.<br>5. When they stand up we ask them to take 3 breaths. |
| Eating | 1. Before beginning to observe the food, take three breaths and give thanks for the opportunity to enjoy another meal.<br>2. When tasting the first spoonful, savour the food for a moment, being aware of the textures and flavour.<br>3. Wish the other people to enjoy the food and to be calm.<br>4. Before having dessert, preferably fruit, smell it before taking a bite, perceive the sensation it produces, then bite it and smell it again and feel the sensations once more.<br>5. After the meal, review the different foods eaten, again giving thanks for the food, feel the sensations that arise and say goodbye to the mealtime moment with a smile. |
| Personal hygiene and bathing | 1. In the morning, in front of the mirror, the subject is indicated to notice his image, to smile and to wish to have a harmonious day.<br>2. When rinsing with water, the subject is instructed to pay attention to the water temperature, starting with cold and adjusting it without making critical comments, until the desired temperature is reached.<br>3. When the subject's hands touch the face, a gentle massage should be carried out with wet hands, first with warm water and finally with cold water. A gentle massage should be performed over the entire face, the forehead, ears, eyes, cheeks, mouth, chin and neck.<br>4. The subject takes three breaths and should take note of the state they are in, without judging it.<br>5. The subject takes the comb or hair brush and arranges their hair paying attention, pacing each stroke in time with the breath for 2 minutes. To do this, an egg timer is required in the bathroom.<br>6. The same action is performed when the subject brushes their teeth.<br>7. It is recommended that the patient uses hair and body gels with different flavours that will be changed on a monthly basis. The subject is recommended to pay attention to the aroma for 3-5 breaths before applying the soap.<br>8. The subject is asked to conduct a body scan with the sponge during the bath, being aware when it passes over the neck, arms, chest, abdomen, he[1] is helped with the back, then the genital area, legs and the feet, where again he is given help.<br>9. Before leaving the bathroom we smile with closed eyes for 3-5 breaths, then we open our eyes and we look at each other for 3-5 breaths without judging each other. |
| Dressing | 1. Depending on the condition of the patient, she may be allowed to choose clothes or alternatives may be proposed for her to choose from. She is prompted to perform the activity slowly, with awareness of the breath during the process. If she gets distracted, we remind her again to be aware of her breathing - gently, and with a smile.<br>2. When the subject is dressed, we tell them to do a body scan from head to toe.<br>3. If the patient is at an advanced stage of deterioration, the moment of dressing is used to perform a body scan by giving a short massage when putting the clothes on him. |
| Using the WC | 1. The patient is prompted to be aware of her breathing while sitting on the toilet, without worrying about bowel movements or urination.<br>2. Relaxing music is played in the background, such as Dan Gibson for example, and aromatherapy is used in cases of constipation. |
| Walking | 1. The subject is told to pay attention to muscle tension in his legs and waist when getting up.<br>2. The patient is told to pay attention to the first five steps, counting from 1 to 5.<br>3. At any time of day, the patient is told to accompany us, walking to the pace of her breathing, one step upon inhalation and another on exhalation, for 2 or 3 minutes.<br>4. Two daily trips are planned, one in the morning and one in the afternoon, walking in time with the rhythm of the breath, counting the number of steps while inhaling and the number of steps while exhaling.<br>5. While climbing the steps, the subject says "peace" when he moves his left leg and "calm" when he moves the right leg.<br>6. The subject goes up the steps to the rhythm of each inspiration and expiration, being aware of the state of the body at the end of the ascent or descent.<br>7. The subject walks at a gentle pace accompanied by relaxing music, for example "Air" by Johann Sebastian Bach or "Tongo" by Georg Friederich Handel, or a faster pace with the "Waltzes" by Johann Strauss.<br>8. The subject walks whilst paying attention to the continuous and changing sounds that occur from moment to moment (cars, voices, barking, music, etc.). |
| Going to bed | 1. The subject is recommended to take 10 breaths whilst seated on the bed.<br>2. It is proposed that the patient reviews the activities of the day, being aware of all of the moments she has been attentive in the morning, afternoon and evening.<br>3. A body scan is performed from head to toe for 3-5 minutes lying in bed.<br>4. The day ends with the subject asking to have a restful night, in peace and harmony. |

[1]*Translator's note*: From here onwards in the text, male and female pronouns will be used alternatively, where necessary, to avoid the use of 'he/she' and 'his/her'.

**TABLE 2**
**MINDFULNESS BASED SENSORY STIMULATION EXERCISES**

| Sensory stimulation | Exercises accompanied by mindfulness of breath. |
|---|---|
| Visual | 1. Use colourful paint in the rooms of the house.<br>2. Put a smiley face on the bathroom mirror.<br>3. Place an egg timer in the bathroom and pay attention to the breath while brushing teeth.<br>4. Perform sessions with bright lights from light sources.<br>5. Use colourful dishes for different meals.<br>6. Have the elderly person and the caregiver look for objects in a container filled with sand, rice, etc.<br>7. Wear coloured gloves on the hands and move them.<br>8. Have an aquarium with colourful fish and for a few moments tell the subject to look at the blue fish, then change to the orange one, etc.<br>9. Watch a film chosen by the patient in which he is given the instruction to notice how it feels when he identifies with the male or the female protagonist, depending on the scene chosen.<br>10. Watch music videos with images of nature. |
| Hearing | 1. Use musical boxes, bells and Tibetan bowls when performing motion exercises and to start and end the sessions.<br>2. Place the hands of the patient or family member on the mouth, throat, chest and then the nose and babble, chant or issue vowel and consonant sounds.<br>3. Make animal sounds using audio visual applications.<br>4. Use musical instruments, from the softest to the loudest sounds.<br>5. The patient and caregiver wear a bell bracelet on the wrist or ankle and do walking meditation exercises, noting each step when the sound of the bells are not heard.<br>6. Simple games that involve hand actions, such as go/no go.<br>7. Sing simple songs that are accompanied with movement.<br>8. Use materials that make noise, for example, folding or crumpling cellophane, wrapping paper, newspapers, etc.<br>9. Listen to different kinds of music.<br>10. Listen to the sounds of domestic appliances. |
| Touch | 1. Perform a body scan massaging each part of the body.<br>2. Self-massage the hands in time with the breath.<br>3. Self-massage the face to the rhythm of the breath.<br>4. Pay attention to tactile sensations when touching the different elements of the meal, cutlery, glasses, dishes, fruit, etc.<br>5. Pay attention to the tactile sensations when touching cold, hot and lukewarm water when washing or bathing.<br>6. Pay attention to the tactile sensations when brushing the teeth.<br>7. Pay attention to the tactile sensations in the feet while performing chair yoga exercises in bare feet.<br>8. Pay attention to the tactile sensations in the soles of the feet when walking barefoot on different surfaces.<br>9. Pay attention to the tactile sensations when playing touch games with different materials, playdough, clay, sand, pasta, rice, cereals, beans, tissues of different textures, etc.<br>10. Pay attention to the tactile sensations of the whole body while lying in bed, or on sand or grass. |
| Smell | 1. The elderly person and the caregiver are exposed to many different experiences using everyday objects such as perfume, deodorant, talcum powder, toothpaste, etc.<br>2. Experiences are provided through the use of herbs and spices such as cinnamon, mint, chocolate, garlic, oregano, lime flower, coffee, etc.<br>3. Subjects are exposed to the smells of various fruits and vegetables such as lemons, oranges, apples, bananas, peas, onions, cauliflower, potatoes, pickles, etc.<br>4. Experiences are provided involving the scents of different flowers, such as roses, carnations, lilies, etc.<br>5. The opportunity is provided to smell various cleaning products such as hydrochloric acid, ammonia, pine-scented floor cleaner, etc.<br>6. Experiences are provided in the home to identify the smells of the house, the kitchen, the bedroom, the hall, etc.<br>7. It is suggested that different containers with potpourri, air fresheners and incense are used for every room in the house.<br>8. It is suggested that when bathing, scented gels and shampoos are used.<br>9. It is suggested that scented candles are lit at weekends and special events such as birthdays, anniversaries, etc.<br>10. Certain smells should be associated to each season. |
| Taste | 1. Experiences are provided with sweet flavours such as sugar, honey, apple, strawberry, candy, etc.<br>1. Experiences are provided with bitter flavours such as lemon, grapefruit, lime, cream, yogurt, pickles, etc.<br>1. Experiences are provided with acidic flavours such as dark chocolate, tea, coffee, vinegar, cinnamon, mustard, etc.<br>1. Experiences are provided with savoury flavours such as salt, chips, anchovies, olives, etc.<br>1. Experiences are provided with varied tastes such as aniseed, mint, alcohol-free beer, nougat, etc.<br>1. Keep the patient close while cooking, sharing the ingredients as they are used and allowing the patient to assist in the preparation of dishes.<br>1. Buy different flavoured toothpastes<br>1. Experiment with different varieties of bread.<br>1. Experiment with different types of fruit and vegetable juices.<br>1. Introduce flavours of spices such as pepper, curry, etc. Do so gradually depending on the patient's palate. |

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