

Impact of Aromatherapy on Depression Among Senior Citizens Residing in Selected Old Age Homes

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ABSTRACT

Background:

Depression is a major public health concern among older adults and is associated with reduced quality of life, functional decline, increased morbidity, and higher mortality. Elderly individuals residing in old age homes are at heightened risk due to social isolation, separation from family, loss of autonomy, and the burden of chronic illnesses. Although pharmacological therapies remain the cornerstone of depression management, their use in geriatric populations is often limited by adverse drug reactions, polypharmacy, and poor compliance. Consequently, there is growing interest in complementary and alternative therapies such as aromatherapy, which are non-invasive, cost-effective, and associated with minimal side effects.

Aim:

To evaluate the effectiveness of aromatherapy using neroli oil on depression among senior citizens residing in selected old age homes.

Objectives:

1. To assess the level of depression among senior citizens before the administration of aromatherapy.
2. To determine the effectiveness of aromatherapy on depression among senior citizens.
3. To compare pre-test and post-test depression scores following aromatherapy intervention.

Materials and Methods:

A quantitative evaluative research approach with a pre-experimental one-group pre-test and post-test design was adopted. Sixty senior citizens aged 60 years and above residing in selected old age homes of Satara district were selected using convenience sampling. Depression levels were assessed using the Beck Depression Inventory-II (BDI-II). Aromatherapy using neroli oil was administered once daily for 15 consecutive days. Data were analyzed using descriptive and inferential statistics, including paired t-test.

Results:

The mean post-test depression score was significantly lower than the mean pre-test score. Paired t-test analysis demonstrated a highly significant reduction in depression levels following aromatherapy ($p < 0.0001$).

Conclusion:

The findings indicate that aromatherapy using neroli oil is an effective complementary intervention for reducing depression among senior citizens residing in old age homes. Incorporating aromatherapy into routine geriatric nursing care may enhance emotional well-being and quality of life among the elderly.

Keywords: Aromatherapy, Depression, Elderly, Old Age Homes, Neroli Oil

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INTRODUCTION

Depression is one of the most prevalent and disabling mental health disorders globally and represents a

significant challenge to public health systems. According to the World Health Organization (WHO), depression affects more than 280 million people worldwide and is a leading cause of years lived with disability [1]. Among older adults, depression is frequently underdiagnosed and undertreated, often being mistakenly perceived as a normal consequence of ageing. However, depression in later life is neither inevitable nor benign; rather, it is associated with impaired physical functioning, cognitive decline, increased healthcare utilization, and elevated risk of suicide [2].

The global population is ageing at an unprecedented rate. Advances in healthcare and improved living conditions have contributed to increased life expectancy, resulting in a growing proportion of elderly individuals. In India, the elderly population is projected to reach nearly 20% of the total population by 2050. This demographic transition has brought geriatric mental health issues, particularly depression, to the forefront of healthcare priorities. Community-based and institutionalized elderly populations face distinct challenges, with studies consistently reporting higher prevalence rates of depression among those residing in old age homes compared to their community-dwelling counterparts [3,4].

Old age homes, while providing shelter and basic care, may inadvertently contribute to emotional distress among residents. Separation from family members, loss of social roles, diminished independence, bereavement, and feelings of abandonment are common psychosocial stressors experienced by institutionalized elderly individuals. In addition, chronic medical conditions such as hypertension, diabetes, arthritis, cardiovascular diseases, and sensory impairments further exacerbate psychological vulnerability. Indian studies have reported prevalence rates of depression among institutionalized elderly ranging from 30% to over 60%, underscoring the magnitude of the problem [3,4].

Conventional management of depression typically involves pharmacological treatments such as antidepressants, often combined with psychotherapy. While these approaches can be effective, their application in older adults is complicated by age-related physiological changes, polypharmacy, drug-drug interactions, and increased susceptibility to adverse effects such as sedation, orthostatic hypotension, gastrointestinal disturbances, and cognitive impairment. Furthermore, access to trained mental health professionals and structured psychotherapy remains limited in many institutional

settings, particularly in low- and middle-income countries. These challenges have stimulated interest in complementary and alternative therapies that can be safely integrated into routine care [5].

Aromatherapy, a form of complementary therapy that utilizes essential oils extracted from plants, has gained increasing attention for its potential benefits in mental health care. Aromatherapy is believed to exert its effects through olfactory stimulation, which influences the limbic system of the brain—an area involved in emotion, mood regulation, memory, and stress responses. Essential oils such as lavender, rose, bergamot, citrus, jasmine, and neroli have been widely studied for their anxiolytic and antidepressant properties [6,7].

Comparative research has demonstrated that aromatherapy may be particularly beneficial for elderly populations. For example, Tse et al. reported a significant reduction in depression scores among older adults receiving aromatherapy compared to baseline measurements [12]. Similarly, Mehrabian et al. found that aromatherapy massage significantly reduced depression and anxiety levels among nursing home residents when compared with routine care alone [13]. Systematic reviews and meta-analyses have also suggested that aromatherapy can serve as an effective adjunctive therapy for depression, especially when combined with massage or relaxation techniques [10].

Among the various essential oils used in aromatherapy, neroli oil—derived from the blossoms of the bitter orange tree (*Citrus aurantium*)—has received growing interest due to its calming, anxiolytic, and mood-enhancing properties. Neroli oil contains bioactive compounds such as linalool, linalyl acetate, and limonene, which are believed to modulate neurotransmitter activity and promote relaxation [9]. Compared with other commonly used oils such as lavender or rose, neroli oil is noted for its gentle sedative effects and pleasant aroma, making it particularly suitable for elderly individuals.

Despite the growing body of evidence supporting the use of aromatherapy in mental health care, limited interventional studies have focused specifically on institutionalized elderly populations in the Indian context. The present study was therefore undertaken to evaluate the effectiveness of aromatherapy using neroli oil on depression among senior citizens residing in selected old age homes.

AROMATHERAPY

Aromatherapy is a holistic healing practice that utilizes essential oils derived from aromatic plants to enhance physical, psychological, and emotional well-being. The

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use of aromatic substances for healing dates back to ancient civilizations, including India, Egypt, and China. In India, aromatherapy has strong roots in Ayurveda, where aromatic herbs and oils were traditionally used for therapeutic and spiritual purposes. ⁽⁷⁾

Essential oils such as lavender, citrus oils, rose, jasmine, and neroli are widely used to relieve stress, anxiety, and depressive symptoms. Aromatherapy is known to stimulate the limbic system of the brain, which plays a crucial role in regulating emotions, mood, and memory. Clinical studies suggest that aromatherapy can reduce stress, promote relaxation, improve sleep, and enhance overall emotional well-being. ⁽⁸⁾

NEROLI OIL

Neroli oil is extracted from the blossoms of the bitter orange tree (*Citrus aurantium*) through steam distillation. It is valued for its pleasant floral aroma and therapeutic properties. Neroli oil contains bioactive compounds such as linalool, linalyl acetate, and limonene, which contribute to its antidepressant, anxiolytic, and sedative effects. ⁽⁹⁾

Previous research has demonstrated that neroli oil can help reduce anxiety, stress, and depressive symptoms by promoting relaxation and emotional stability. Its calming effects make it particularly suitable for use in elderly populations. ⁽¹⁰⁾

MATERIALS AND METHODS

Research Design:

pre-experimental one-group pre-test and post-test design.

Research Approach:

Quantitative evaluative research approach.

Setting:

Selected old age homes of Satara district, Maharashtra.

Sample Size:

60 senior citizens aged 60 years and above.

Sampling Technique:

Convenience sampling.

CRITERIA FOR SAMPLE SELECTION

INCLUSION CRITERIA:

-Senior citizens who are at the age of 60 years and above.

-Senior citizens who speak either Marathi, Hindi or English.

-Senior citizens who have depression.

EXCLUSION CRITERIA:

-Senior citizens with sensory deficits especially Anosmia.

-Senior citizens who have mental illness except depression.

-Senior citizen who are currently receiving treatment of depression.

-Allergy of any essential oil.

DESCRIPTION OF THE TOOL:

Section I: Overview of Demographics:

The demographic profile of elderly people with depression was evaluated using a structured interview schedule. This included questions about age, gender, religion, family structure, education, past employment history, marital status, chronic health issues, leisure activities, duration of stay in old age home, number of children, and support system.

Section II: Scale for Geriatric Depression:

Senior citizen depression was measured using the Geriatric Depression Scale. The Beck depression inventory (BDI) is a 21 item, self-related scale that evaluate key symptoms of depression including mood, pessimism, sense of failure, guilt, punishment, self-dislike, self-accusation, suicidal ideas, crying, irritability, social withdrawal, body image change. In that 0-9: indicates minimal depression. 10-18: indicates mild depression. 19-29: indicates moderate depression. 30-63: indicates severe depression. The responses to each question on the geriatric depression scale were either "yes" or "no."

The total 40 score was interpreted as follows:

Total Score _____ Levels of Depression

1-10 _____ These ups and downs are considered normal

11-16 _____ Mild mood disturbance

17-20 _____ Borderline clinical depression

21-30 _____ Moderate depression

31-40 _____ Severe depression

Over40 _____ Extreme depression

TOOLS FOR DATA COLLECTION:

- The purpose of study is to analyze the effect of Aromatherapy on depression among senior citizens with depression at old age home. It is considered necessary to reduce depression among senior citizens.

- Instrument:

The level of depression was measured using the Geriatric depression Scale.

METHOD OF DATA COLLECTION:

- The data collection procedure was carried out after obtaining permission from the

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concern authority. A first good rapport was be established with the sample and purpose of the study was be explained to them so as to get the cooperation from them.

- **For the procedure of data collection, the instrument consists in parts:**
- **Part A:** Demographic variable.
- **Part B:** Geriatric depression scale: The beck depression inventory (BDI) is a 21 item, self-related scale that evaluate key symptoms of depression including mood, pessimism, sense of failure, guilt, punishment, self-dislike, self-accusation, suicidal ideas, crying, irritability, social withdrawal, body image change. In that 0-9: indicates minimal depression. 10-18: indicates mild depression. 19-29: indicates moderate depression. 30-63: indicates severe depression.

The Permission require for study are as follow:

-Ethical consideration: permission was be taken from the ethical committee of KIMSUDU.

-The research conduct permission taken from principal of college of KINS, Karad.

-Informed consent: written informed consent was be taken from all participants before data collection. After considering inclusion and exclusion criteria.

-The permission from old age homes.

DATA COLLECTION PROCEDURE:

- During the data collection period, the investigator first introduced herself to the senior citizens and developed good rapport with them. Obtained oral consent from each subject. Senior citizens were assessed for level of Depression by Geriatric depression scale. In which 60 subjects were found to have depression and who were fulfilled the inclusion criteria. They were explained that data collected was be confidential. During the first week, assessment of level of depression among Senior citizens was be done. The application of 5 drops of aroma neroli oil with 10 ml of coconut oil at the fore head of senior citizens for 15 days. After completion of aroma therapy, the level of depression among Senior citizens were assessed by Geriatric Depression Scale.
- Step 1: The data collection procedure will be carried out after obtaining permission from concerned authority. A first good rapport will be developed with the sample and purpose of

the study was be explained to them so as to get the cooperation from them.

- Step 2: Written informed consent was obtained
- Step 3: Socio demographic data was be collected from participant
- Step 4: General characteristics, depression level was measured with beck depression inventory scale on senior citizen at old age home as pre-test. And I gave time to spend the test depression level of old age was 15-20 minutes.
- Step 5: After the experimental group was be exposed to aromatherapy the intervention was be given for 15-20 minutes in once a day for 2 week and the post- test was be completed by measuring depression level, in the same manner as that of the pretest.
- Step 6: The post-test was be done after 2 weeks.

STATISTICAL ANALYSIS

Descriptive statistics, including the mean and standard deviation, were employed to summarize the depression scores of the participants before and after the intervention. To assess the effectiveness of aromatherapy using neroli oil, inferential analysis was carried out using a paired t-test, which allowed for comparison of pre-test and post-test depression scores within the same group of participants. A p-value of less than 0.05 was considered indicative of statistical significance.

RESULTS:

Table 1: Effectiveness of Aromatherapy on Depression among Senior Citizens (N = 60)

Dependent variable				Mean difference	Paired t-test	P-value	Result
Level of depression	Pre-test	Mean	27.18	4.85	15.704	<0.0001	Highly significant
		Standard Deviation	5.58				
	Post-test	Mean	22.33				
		Standard Deviation	5.001				

Table 1: Effectiveness of Aromatherapy on Depression among Senior Citizens (N = 60)

The mean pre-test depression score was 27.18 (SD = 5.58), reflecting a moderate level of depression among the participants prior to the intervention. Following 15 days of aromatherapy, the mean post-test depression score decreased to 22.33 (SD = 5.001), indicating a substantial reduction in depressive symptoms.

The mean difference in depression scores was 4.85. The paired t-test analysis revealed a t value of 15.704 with a p-value of <0.0001, demonstrating a highly statistically significant difference between pre-test and post-test scores.

Descriptive Findings:

The findings clearly indicate that aromatherapy was effective in reducing depression levels among senior citizens. Participants initially exhibited moderate depressive symptoms; however, after 15 days of aromatherapy intervention, a marked improvement in emotional well-being was observed. The highly significant statistical results confirm the positive impact of aromatherapy as a complementary therapeutic approach for managing depression in the elderly population.

DISCUSSION:

The present study demonstrated that aromatherapy using neroli oil significantly reduced depression levels among senior citizens residing in old age homes. The findings suggest that aromatherapy can positively influence emotional well-being and serve as an effective complementary intervention for managing depression in elderly populations.

These results are consistent with the study conducted by Tse et al., who reported a significant reduction in depression scores among elderly individuals following aromatherapy interventions [12]. Similarly, Mehrabian et al. found that aromatherapy massage significantly decreased depression and anxiety levels among nursing home residents, supporting the therapeutic value of essential oils in institutionalized elderly populations [13].

In comparison with a systematic review and meta-analysis by Zhang et al., aromatherapy was shown to have a moderate but significant effect in reducing depressive symptoms across different populations and settings [10]. The present study aligns with these findings, reinforcing that aromatherapy is beneficial even when used as a standalone intervention without massage or combined therapies.

Furthermore, Choi et al. reported that inhalation of essential oils significantly reduced stress and depression by influencing the limbic system and

autonomic nervous system [9]. The antidepressant effect observed in the current study may be attributed to similar neurophysiological mechanisms, including reduced sympathetic activity and enhanced relaxation responses induced by neroli oil.

Overall, comparative analysis with previous research highlights the consistency of findings and supports the integration of aromatherapy into geriatric mental health care, particularly in old age home settings where non-pharmacological interventions are highly desirable.

LIMITATIONS

Despite the positive findings, the study has certain limitations that should be considered while interpreting the results. The absence of a control group limits the ability to attribute the observed reduction in depression solely to the aromatherapy intervention, as external or confounding factors may have influenced the outcomes. The use of a convenience sampling technique and a relatively small sample size restricts the generalizability of the findings to a broader elderly population.

Additionally, the duration of the intervention was limited to 15 days, which may not be sufficient to assess the long-term effectiveness and sustainability of aromatherapy in managing depression. The study relied on self-reported measures of depression, which may be subject to response bias. Moreover, the research was conducted in selected old age homes within a single district, further limiting external validity.

Future studies employing randomized controlled designs, larger and more diverse samples, extended intervention periods, and follow-up assessments are recommended to strengthen the evidence base and enhance the applicability of the findings.

IMPLICATIONS FOR NURSING PRACTICE

Implications for Nursing Practice

The findings suggest that aromatherapy can be effectively incorporated as a complementary intervention in geriatric nursing care. Nurses can utilize aromatherapy as part of holistic care to promote emotional well-being, reduce depressive symptoms, and enhance quality of life among elderly residents in old age homes. Training nurses in basic aromatherapy techniques may empower them to implement non-pharmacological interventions safely and confidently.

Implications for Nursing Education

Nursing curricula should include content on complementary and alternative therapies, including aromatherapy, to prepare future nurses for holistic and patient-centered care. Educating nursing students about evidence-based non-pharmacological interventions can

broaden their clinical skills and enhance their ability to address mental health concerns in elderly populations.

Implications for Nursing Administration

Nursing administrators and policymakers can consider integrating aromatherapy into institutional care protocols as a cost-effective and low-risk intervention. Developing guidelines and providing necessary resources for aromatherapy implementation may contribute to improved mental health outcomes among residents of old age homes.

Implications for Nursing Research

The study provides a foundation for further research on aromatherapy and mental health in geriatric populations. Future research may explore comparative effectiveness of different essential oils, long-term outcomes, and combined interventions involving aromatherapy and psychosocial support strategies.

CONCLUSION

The present study concludes that aromatherapy using neroli oil is an effective and feasible non-pharmacological intervention for reducing depression among senior citizens residing in old age homes. The significant improvement observed in post-test depression scores highlights the therapeutic potential of aromatherapy in addressing emotional distress and promoting psychological well-being in institutionalized elderly populations.

Given the increasing prevalence of depression among older adults and the limitations associated with pharmacological treatments, aromatherapy offers a safe, economical, and holistic alternative that can be easily integrated into routine nursing care. By enhancing emotional comfort and relaxation, aromatherapy may contribute to improved quality of life and overall mental health among senior citizens.

Although the findings are encouraging, further large-scale and controlled studies are recommended to validate and extend these results. Nonetheless, the study adds valuable evidence to the growing body of literature supporting complementary therapies in geriatric mental health care and underscores the importance of holistic nursing interventions in promoting healthy ageing.

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ABSTRACT

Background:

Depression is a major public health concern among older adults and is associated with reduced quality of life, functional decline, increased morbidity, and higher mortality. Elderly individuals residing in old age homes are at heightened risk due to social isolation, separation from family, loss of autonomy, and the burden of chronic illnesses. Although pharmacological therapies remain the cornerstone of depression management, their use in geriatric populations is often limited by adverse drug reactions, polypharmacy, and poor compliance. Consequently, there is growing interest in complementary and alternative therapies such as aromatherapy, which are non-invasive, cost-effective, and associated with minimal side effects.

Aim:

To evaluate the effectiveness of aromatherapy using neroli oil on depression among senior citizens residing in selected old age homes.

Objectives:

4. To assess the level of depression among senior citizens before the administration of aromatherapy.
5. To determine the effectiveness of aromatherapy on depression among senior citizens.
6. To compare pre-test and post-test depression scores following aromatherapy intervention.

Materials and Methods:

A quantitative evaluative research approach with a pre-experimental one-group pre-test and post-test design was adopted. Sixty senior citizens aged 60 years and above residing in selected old age homes of Satara district were selected using convenience sampling. Depression levels were assessed using the Beck Depression Inventory-II (BDI-II). Aromatherapy using neroli oil was administered once daily for 15 consecutive days. Data were analyzed using descriptive and inferential statistics, including paired t-test.

Results:

The mean post-test depression score was significantly lower than the mean pre-test score. Paired t-test analysis demonstrated a highly significant reduction in depression levels following aromatherapy ($p < 0.0001$).

Conclusion:

The findings indicate that aromatherapy using neroli oil is an effective complementary intervention for

reducing depression among senior citizens residing in old age homes. Incorporating aromatherapy into routine geriatric nursing care may enhance emotional well-being and quality of life among the elderly.

Keywords: Aromatherapy, Depression, Elderly, Old Age Homes, Neroli Oil

INTRODUCTION

Depression is one of the most prevalent and disabling mental health disorders globally and represents a significant challenge to public health systems. According to the World Health Organization (WHO), depression affects more than 280 million people worldwide and is a leading cause of years lived with disability ^[1]. Among older adults, depression is frequently underdiagnosed and undertreated, often being mistakenly perceived as a normal consequence of ageing. However, depression in later life is neither inevitable nor benign; rather, it is associated with impaired physical functioning, cognitive decline, increased healthcare utilization, and elevated risk of suicide ^[2].

The global population is ageing at an unprecedented rate. Advances in healthcare and improved living conditions have contributed to increased life expectancy, resulting in a growing proportion of elderly individuals. In India, the elderly population is projected to reach nearly 20% of the total population by 2050. This demographic transition has brought geriatric mental health issues, particularly depression, to the forefront of healthcare priorities. Community-based and institutionalized elderly populations face distinct challenges, with studies consistently reporting higher prevalence rates of depression among those residing in old age homes compared to their community-dwelling counterparts ^[3,4].

Old age homes, while providing shelter and basic care, may inadvertently contribute to emotional distress among residents. Separation from family members, loss of social roles, diminished independence, bereavement, and feelings of abandonment are common psychosocial stressors experienced by institutionalized elderly individuals. In addition, chronic medical conditions such as hypertension, diabetes, arthritis, cardiovascular diseases, and sensory impairments further exacerbate psychological vulnerability. Indian studies have reported prevalence rates of depression among institutionalized elderly ranging from 30% to over 60%, underscoring the magnitude of the problem ^[3,4].

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Aromatherapy, a form of complementary therapy that utilizes essential oils extracted from plants, has gained increasing attention for its potential benefits in mental health care. Aromatherapy is believed to exert its effects through olfactory stimulation, which influences the limbic system of the brain—an area involved in emotion, mood regulation, memory, and stress responses. Essential oils such as lavender, rose, bergamot, citrus, jasmine, and neroli have been widely studied for their anxiolytic and antidepressant properties [6,7].

Comparative research has demonstrated that aromatherapy may be particularly beneficial for elderly populations. For example, Tse et al. reported a significant reduction in depression scores among older adults receiving aromatherapy compared to baseline measurements [12]. Similarly, Mehrabian et al. found that aromatherapy massage significantly reduced depression and anxiety levels among nursing home residents when compared with routine care alone [13]. Systematic reviews and meta-analyses have also suggested that aromatherapy can serve as an effective adjunctive therapy for depression, especially when combined with massage or relaxation techniques [10].

Among the various essential oils used in aromatherapy, neroli oil—derived from the blossoms of the bitter orange tree (*Citrus aurantium*)—has received growing interest due to its calming, anxiolytic, and mood-enhancing properties. Neroli oil contains bioactive compounds such as linalool, linalyl acetate, and limonene, which are believed to modulate neurotransmitter activity and promote relaxation [9]. Compared with other commonly used oils such as lavender or rose, neroli oil is noted for its gentle sedative effects and pleasant aroma, making it particularly suitable for elderly individuals.

Despite the growing body of evidence supporting the use of aromatherapy in mental health care, limited interventional studies have focused specifically on

institutionalized elderly populations in the Indian context. The present study was therefore undertaken to evaluate the effectiveness of aromatherapy using neroli oil on depression among senior citizens residing in selected old age homes.

AROMATHERAPY

Aromatherapy is a holistic healing practice that utilizes essential oils derived from aromatic plants to enhance physical, psychological, and emotional well-being. The use of aromatic substances for healing dates back to ancient civilizations, including India, Egypt, and China. In India, aromatherapy has strong roots in Ayurveda, where aromatic herbs and oils were traditionally used for therapeutic and spiritual purposes. (7)

Essential oils such as lavender, citrus oils, rose, jasmine, and neroli are widely used to relieve stress, anxiety, and depressive symptoms. Aromatherapy is known to stimulate the limbic system of the brain, which plays a crucial role in regulating emotions, mood, and memory. Clinical studies suggest that aromatherapy can reduce stress, promote relaxation, improve sleep, and enhance overall emotional well-being. (8)

NEROLI OIL

Neroli oil is extracted from the blossoms of the bitter orange tree (*Citrus aurantium*) through steam distillation. It is valued for its pleasant floral aroma and therapeutic properties. Neroli oil contains bioactive compounds such as linalool, linalyl acetate, and limonene, which contribute to its antidepressant, anxiolytic, and sedative effects. (9)

Previous research has demonstrated that neroli oil can help reduce anxiety, stress, and depressive symptoms by promoting relaxation and emotional stability. Its calming effects make it particularly suitable for use in elderly populations. (10)

MATERIALS AND METHODS

Research Design:

pre-experimental one-group pre-test and post-test design.

Research Approach:

Quantitative evaluative research approach.

Setting:

Selected old age homes of Satara district, Maharashtra.

Sample Size:

60 senior citizens aged 60 years and above.

Sampling Technique:

Convenience sampling.

CRITERIA FOR SAMPLE SELECTION

INCLUSION CRITERIA:

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-Senior citizens who are at the age of 60 years and above.

-Senior citizens who speak either Marathi, Hindi or English.

-Senior citizens who have depression.

EXCLUSION CRITERIA:

-Senior citizens with sensory deficits especially Anosmia.

-Senior citizens who have mental illness except depression.

-Senior citizen who are currently receiving treatment of depression.

-Allergy of any essential oil.

DESCRIPTION OF THE TOOL:

Section I: Overview of Demographics:

The demographic profile of elderly people with depression was evaluated using a structured interview schedule. This included questions about age, gender, religion, family structure, education, past employment history, marital status, chronic health issues, leisure activities, duration of stay in old age home, number of children, and support system.

Section II: Scale for Geriatric Depression:

Senior citizen depression was measured using the Geriatric Depression Scale. The beck depression inventory (BDI) is a 21 item, self- related scale that evaluate key symptoms of depression including mood, pessimism, sense of failure, guilt, punishment, self-dislike, self-accusation, suicidal ideas, crying, irritability, social withdrawal, body image change. In that 0-9: indicates minimal depression. 10-18: indicates mild depression. 19-29: indicates moderate depression. 30-63: indicates severe depression. The responses to each question on the geriatric depression scale were either "yes" or "no."

The total 40 score was interpreted as follows:

Total Score _____ Levels of Depression

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21-30 _____ Moderate depression

31-40 _____ Severe depression

Over40 _____ Extreme depression

TOOLS FOR DATA COLLECTION:

- The purpose of study is to analyze the effect of Aromatherapy on depression among senior citizens with depression at old age home. It is

considered necessary to reduce depression among senior citizens.

- Instrument:

The level of depression was measured using the Geriatric depression Scale.

METHOD OF DATA COLLECTION:

- The data collection procedure was be carried out after obtaining permission from the concern authority. A first good rapport was be established with the sample and purpose of the study was be explained to them so as to get the cooperation from them.
- **For the procedure of data collection, the instrument consists in parts:**
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The Permission require for study are as follow:

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-The research conduct permission taken from principal of college of KINS, Karad.

-Informed consent: written informed consent was be taken from all participants before data collection. After considering inclusion and exclusion criteria.

-The permission from old age homes.

DATA COLLECTION PROCEDURE:

- During the data collection period, the investigator first introduced herself to the senior citizens and developed good rapport with them. Obtained oral consent from each subject. Senior citizens were assessed for level of Depression by Geriatric depression scale. In which 60 subjects were found to have depression and who were fulfilled the inclusion criteria. They were explained that data collected was be confidential. During the first week, assessment of level of depression among Senior citizens was be done. The application of 5 drops of aroma neroli oil with 10 ml of coconut oil at the fore head of senior

Impact Of Aromatherapy On Depression Among Senior Citizens Residing In Selected Old Age Homes

citizens for 15 days. After completion of aroma therapy, the level of depression among Senior citizens were assessed by Geriatric Depression Scale.

- Step 1: The data collection procedure will be carried out after obtaining permission from concerned authority. A first good rapport will be developed with the sample and purpose of the study was explained to them so as to get the cooperation from them.
- Step 2: Written informed consent was obtained
- Step 3: Socio demographic data was be collected from participant
- Step 4: General characteristics, depression level was measured with beck depression inventory scale on senior citizen at old age home as pre-test. And I gave time to spend the test depression level of old age was 15-20 minutes.
- Step 5: After the experimental group was be exposed to aromatherapy the intervention was be given for 15-20 minutes in once a day for 2 week and the post- test was be completed by measuring depression level, in the same manner as that of the pretest.
- Step 6: The post-test was be done after 2 weeks.

STATISTICAL ANALYSIS

Descriptive statistics, including the mean and standard deviation, were employed to summarize the depression scores of the participants before and after the intervention. To assess the effectiveness of aromatherapy using neroli oil, inferential analysis was carried out using a paired t-test, which allowed for comparison of pre-test and post-test depression scores within the same group of participants. A p-value of less than 0.05 was considered indicative of statistical significance.

RESULTS:

Table 1: Effectiveness of Aromatherapy on Depression among Senior Citizens (N = 60)

Dependent variable				Mean difference	Paired t-test	P-value	Result
Level of depr	Pre-	mean	27.18	4.85	15.704	<0.0001	Highly signi

ession	test	S.D	5.58				fican
	Post-test	mean	22.33				
	test	S.D	5.001				

Table 1: Effectiveness of Aromatherapy on Depression among Senior Citizens (N = 60)

The mean pre-test depression score was 27.18 (SD = 5.58), reflecting a moderate level of depression among the participants prior to the intervention. Following 15 days of aromatherapy, the mean post-test depression score decreased to 22.33 (SD = 5.001), indicating a substantial reduction in depressive symptoms.

The mean difference in depression scores was 4.85. The paired t-test analysis revealed a t value of 15.704 with a p-value of <0.0001, demonstrating a highly statistically significant difference between pre-test and post-test scores.

Descriptive Findings:

The findings clearly indicate that aromatherapy was effective in reducing depression levels among senior citizens. Participants initially exhibited moderate depressive symptoms; however, after 15 days of aromatherapy intervention, a marked improvement in emotional well-being was observed. The highly significant statistical results confirm the positive impact of aromatherapy as a complementary therapeutic approach for managing depression in the elderly population.

DISCUSSION:

The present study demonstrated that aromatherapy using neroli oil significantly reduced depression levels among senior citizens residing in old age homes. The findings suggest that aromatherapy can positively influence emotional well-being and serve as an effective complementary intervention for managing depression in elderly populations.

These results are consistent with the study conducted by Tse et al., who reported a significant reduction in depression scores among elderly individuals following aromatherapy interventions [12]. Similarly, Mehrabian et al. found that aromatherapy massage significantly decreased depression and anxiety levels among nursing home residents, supporting the therapeutic value of essential oils in institutionalized elderly populations [13].

In comparison with a systematic review and meta-analysis by Zhang et al., aromatherapy was shown to have a moderate but significant effect in reducing

depressive symptoms across different populations and settings [10]. The present study aligns with these findings, reinforcing that aromatherapy is beneficial even when used as a standalone intervention without massage or combined therapies.

Furthermore, Choi et al. reported that inhalation of essential oils significantly reduced stress and depression by influencing the limbic system and autonomic nervous system [9]. The antidepressant effect observed in the current study may be attributed to similar neurophysiological mechanisms, including reduced sympathetic activity and enhanced relaxation responses induced by neroli oil.

Overall, comparative analysis with previous research highlights the consistency of findings and supports the integration of aromatherapy into geriatric mental health care, particularly in old age home settings where non-pharmacological interventions are highly desirable.

LIMITATIONS

Despite the positive findings, the study has certain limitations that should be considered while interpreting the results. The absence of a control group limits the ability to attribute the observed reduction in depression solely to the aromatherapy intervention, as external or confounding factors may have influenced the outcomes. The use of a convenience sampling technique and a relatively small sample size restricts the generalizability of the findings to a broader elderly population.

Additionally, the duration of the intervention was limited to 15 days, which may not be sufficient to assess the long-term effectiveness and sustainability of aromatherapy in managing depression. The study relied on self-reported measures of depression, which may be subject to response bias. Moreover, the research was conducted in selected old age homes within a single district, further limiting external validity.

Future studies employing randomized controlled designs, larger and more diverse samples, extended intervention periods, and follow-up assessments are recommended to strengthen the evidence base and enhance the applicability of the findings.

IMPLICATIONS FOR NURSING PRACTICE

Implications for Nursing Practice

The findings suggest that aromatherapy can be effectively incorporated as a complementary intervention in geriatric nursing care. Nurses can utilize aromatherapy as part of holistic care to promote emotional well-being, reduce depressive symptoms, and enhance quality of life among elderly residents in old age homes. Training nurses in basic aromatherapy

techniques may empower them to implement non-pharmacological interventions safely and confidently.

Implications for Nursing Education

Nursing curricula should include content on complementary and alternative therapies, including aromatherapy, to prepare future nurses for holistic and patient-centered care. Educating nursing students about evidence-based non-pharmacological interventions can broaden their clinical skills and enhance their ability to address mental health concerns in elderly populations.

Implications for Nursing Administration

Nursing administrators and policymakers can consider integrating aromatherapy into institutional care protocols as a cost-effective and low-risk intervention. Developing guidelines and providing necessary resources for aromatherapy implementation may contribute to improved mental health outcomes among residents of old age homes.

Implications for Nursing Research

The study provides a foundation for further research on aromatherapy and mental health in geriatric populations. Future research may explore comparative effectiveness of different essential oils, long-term outcomes, and combined interventions involving aromatherapy and psychosocial support strategies.

CONCLUSION

The present study concludes that aromatherapy using neroli oil is an effective and feasible non-pharmacological intervention for reducing depression among senior citizens residing in old age homes. The significant improvement observed in post-test depression scores highlights the therapeutic potential of aromatherapy in addressing emotional distress and promoting psychological well-being in institutionalized elderly populations.

Given the increasing prevalence of depression among older adults and the limitations associated with pharmacological treatments, aromatherapy offers a safe, economical, and holistic alternative that can be easily integrated into routine nursing care. By enhancing emotional comfort and relaxation, aromatherapy may contribute to improved quality of life and overall mental health among senior citizens.

Although the findings are encouraging, further large-scale and controlled studies are recommended to validate and extend these results. Nonetheless, the study adds valuable evidence to the growing body of literature

supporting complementary therapies in geriatric mental health care and underscores the importance of holistic nursing interventions in promoting healthy ageing.

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