



## THE EFFECT OF ROSA DAMASCENA AROMATHERAPY ON REDUCING STRESS LEVELS IN STUDENTS UNDERTAKING THESIS AT SANTA ELISABETH MEDICAL SCIENCE COLLEGE MEDAN IN 2025

*Imelda Derang<sup>1</sup>, Lindawati Simorangkir<sup>2</sup>, Mardiaty Barus<sup>3</sup>, Timbul Siahaan<sup>4</sup>, Surya Handayani  
Purba<sup>5</sup>*

*Nursing Study Program, Santa Elisabeth Health Sciences College, Medan  
Physiotherapy study program, St. Elisabeth College, Medan*

*Corresponding author: [girsangimelda89@yahoo.co.id](mailto:girsangimelda89@yahoo.co.id)*

**Abstract.** Stress is the body's response to excessive pressure that can affect an individual's physical and psychological condition, including final-year students who are preparing their thesis due to academic demands, time pressure, and obstacles in the supervision process. If not properly managed, stress can negatively impact physical health, psychological well-being, and cognitive performance. Therefore, non-pharmacological therapies such as Rosa damascena aromatherapy are needed, as they are effective in reducing stress levels and easy to apply by anyone. This study employed a one-group pretest–posttest design with 30 final-year students, selected using purposive sampling. The intervention is Rosa damascena aromatherapy administered via a diffuser for 30 minutes, three times per week. Measurement of stress levels before the intervention show a mean score indicating severe stress (20.50), while after the intervention there is a decrease to a moderate stress level (11.73). Data analysis using the paired t-test yielded a result of  $p = 0.001$  ( $p < 0.005$ ), indicating a significant effect of Rosa damascena aromatherapy on reducing stress levels among final-year students. It is expected that students can continue to control their stress levels by using Rosa damascena aromatherapy with appropriate composition, frequency, and duration.

**Keywords:** Stress, Academic Students; Rosa damascena Aromatherapy

### 1. INTRODUCTION

Stress is the body's natural reaction to pressure experienced by everyone and can affect physical, emotional, and mental balance (Tiwa., 2021), potentially causing fatal responses physically, socially, psychologically, intellectually, and spiritually. This can lead to increased heart rate, blood pressure, stomach aches, headaches, heart attacks, arrhythmias, and even sudden death (Nurhidayati., 2024). Stress arises from several factors, including the environment, work, and oneself, and can impact both physical and mental health. Psychological disturbances such as excessive sadness, irritability, and decreased memory (Damayanti et al., 2021) may occur. Stress can happen to all groups, including university students, especially those in their final year, which can reduce learning potential at higher education institutions and slow down the completion of the learning process (Pertiwi., 2023) due to academic and non-academic demands affecting behavior, emotions, mental state, frustration, and conflict while completing a thesis (Nurhidayati, 2024).

Data (WHO, 2022) >700,000 million people die every year due to experiencing stress. It is estimated that 950 million people worldwide face mental health and stress problems. In Southeast Asia, 85% of the population experiences emotional stress. Among

4,338 employees aged 18-65 living in Malaysia (58.13%), Singapore (63.21%), and the Philippines (70.71%), high levels of work fatigue, depression, anxiety, and stress affect 62.91% (Abdul Aziz, 2024). In Indonesia, stress reaches 71.6%, with Risdas 2018 reporting that 37.728 million people experience excessive emotional stress.

The causes of stress for students include financial difficulties (paying semester fees/UKT), scholarship pressure, difficulty consulting with academic advisors during consultations, not finding references in the library, and personal problems (family, friends, dormitory, uncomfortable relationships with a partner) (Syahril and Janna, 2021). Students who cannot control their emotions may affect their health conditions, such as excessive smoking, overeating, drinking alcohol, excessive stress and anxiety, and suicidal thoughts.

Research (Hashemi, 2021) states that Rosa Damascena contains pentyl alcohol, which provides a smooth aroma and helps reduce stress. The contents of citronellol, geraniol, and linalool can lower blood pressure and heart rate (Charoimek, 2023). Volatile organic compounds (VOCs) such as citronellol, monodecane, heneicosane, caryophyllene, geraniol, nerol, linalool, and phenyl ethyl acetate have a significant impact as aromatic compounds found in roses and influence stress reduction. The regular use of rose aromatherapy consistently lowers cortisol levels and responds to body reactions, with sympathetic nerve activity being more effective. Rose flower essential oils rarely cause skin irritation and shortness of breath (Mohebitabar, 2017).

Based on the literature, the administration of aromatherapy can reduce stress levels. According to Mokhtari (2023), the use of Rosa Damascena aromatherapy can reduce anxiety and improve rest patterns in patients injured by heat, Hamdamian (2018) found that in major pre-operative patients it can reduce anxiety and stress, Wang (2024) reported it can reduce mild pain in patients with dysmenorrhea, depression, stress, seizures, and premature aging, and Kavurmacı (2021) stated that the effects of rose essential oil aromatherapy can reduce stress in nurse performance. The use of rose aromatherapy as a non-pharmacological method is cheaper, more efficient, cost-effective, low-risk, practical, and has no side effects.

The scent of roses has long been known to provide a calming effect on the mind and body, and roses are considered to have healing properties that enhance well-being. If this rose scent is inhaled routinely and regularly, it can provide emotional and mental balance. (Hanifah and Agustina, 2025).

## 2. METHODS

This research is a quantitative study using a dependent T-test. The population in this study is final-year Nursing Program students who are currently working on their theses. The sampling was carried out using purposive sampling with the Shapiro-Wilk test, resulting in a sample of 30 respondents in this study. The data collection technique used questionnaires regarding stress levels, adopted from Indy Frederica Sugito (2023).

### Demographic Characteristics

**Table 1** Frequency Distribution of Respondent Characteristics of Students Undertaking Theses at Santa Elisabeth College of Health Sciences Medan in 2025

Characteristics	F	%
Age		
Age 20	2	6.7

Age 21	23	76.7
Age 22	4	13.3
Age 23	1	3.3
<hr/>		
Gender		
Male	0	
Female	30	100
<hr/>		
Total	30	100
<hr/>		

**Table 2** based on the data processing carried out, the respondents in the study were 30 people (100%). Looking at the age criteria, 2 respondents (6.7%) were 20 years old, 23 respondents (76.7%) were 21 years old, 4 respondents (13.3%) were 22 years old, and 1 respondent (3.3%) was 23 years old. This indicates that the majority of respondents are in early adulthood. In terms of gender characteristics, all respondents were female, totaling 30 respondents (100%), and there were no male respondents in this study.

### Pre-Intervention Stress Level

**Table 2** Pre-Intervention Results of Rosa Damascena Aromatherapy on Students Undertaking Thesis in 2025

Skor pre intervensi	Mean	N	Max	Min	Std. Deviation	Std. Error Mean
	20.50	30	23	12	2.801	0.511

Based on the results of the descriptive analysis of 30 respondents, the pre-test mean score is 20.50, which indicates that the respondents' stress level is in the severe stress category. The standard deviation is 2.801, showing the dispersion of pre-test scores among the respondents, with a maximum value of 23 and a minimum of 12. Meanwhile, the standard error of the mean is 0.511, indicating that the mean is quite stable in relation to the study population.

**Table 3** Post-Intervention Results of Rosa Damascena Aromatherapy on Students Conducting Theses in 2025

Skor Post intervensi	Mean	N	Max	Min	Std.Deviation	Std. Error Mean
	11.73	30	22	3	4.487	0.819

Based on Table 5.3, the results of the post-test analysis with a total of 30 people obtained a Mean score of 11.73, which means that after the intervention, the respondents experienced moderate stress. The standard deviation of 4.487 indicates variability among respondents, meaning that some respondents scored low while others scored high, with a maximum value of 22 and a minimum of 3. Meanwhile, the Standard Error Mean of 0.819

indicates a small value, which is quite good and represents the overall condition of the respondents

**Table 4 The Effect of Rosadamasena Aromatherapy on Reducing Stress Levels in Final Year Students at Santa Elisabeth College of Health Sciences Medan in 2025**

	Paired differences		t	Df	Sig. (2-tailed)
	95% confidence Interval of the diffrence				
	Lower	upper			
Pair 1 pre post	-5,9132	-5,2948	-36,423	49	0,000

**Table 5 Tabulation Results of the Effect of Rosa Damascena Aromatherapy on Reducing Stress Levels in Final-Year Students Undergoing Thesis Writing**

Based on Table 5.4, it shows that there is a significant difference between pre-intervention scores and post-intervention scores, with a 95% confidence interval ranging from -35.9132 to -5.2948, which means that the average post-intervention score is higher compared to the pre-intervention score. With a t-value of -36.423, df 49, and a significant value of  $p=0.000$  ( $p<0.05$ ), it indicates that the difference is statistically very significant. Therefore, this data shows that the intervention of administering Rosa Damascena aromatherapy is effective in reducing stress levels in final-year students.

The results of the dependent T-test using the Shapiro-Wilk normality test obtained a p-value  $>0.05$ , which means that there is an effect of Rosa Damascena aromatherapy on reducing stress levels in final-year students undergoing their thesis at Santa Elisabeth College of Health Sciences Medan in 2025.

## 2. RESULT AND DISCUSSION

### **Stress Levels in Students before Rosa Damascena Aromatherapy Intervention at Santa Elisabeth College of Health Sciences Medan in 2025**

Based on the results of research conducted at Santa Elisabeth Health College Medan in 2025 on 30 respondents, it was found that before administering Rosa Damascena Aromatherapy, most respondents experienced severe stress (20.50), which was related to the thesis preparation process, such as ethics testing, research permits, and the implementation of research.

Based on the questionnaire results given by the researcher to the respondents, it was found that, out of 23 statements provided, the majority of respondents answered the following: “my heart beats faster when approaching the thesis deadline” with 30

respondents, “I feel anxious when postponing the thesis” with 22 respondents, “I feel headaches when I cannot find a solution” with 22 respondents, “I am reluctant to interact with my thesis advisor” with 23 respondents, and “I have difficulty sleeping” with 20 respondents. (Erfan Ramadhani, 2019) stated that postponing thesis writing and delayed supervision close to the deadline can increase stress levels in students. (Alotaibi et al., 2020) also stated that stress can affect a person's sleep quality. Additionally, there are other factors that influence students' stress levels, including internal factors such as lack of motivation and interest, while external factors include difficulties in writing the thesis, searching for literature and references, lack of understanding of the phenomena being studied, limited scientific writing skills, insufficient mastery of the topic, limited academic networks, and difficulties in meeting with thesis supervisors (Insany et al., 2024).

Difficulty in meeting with a thesis supervisor, changes in supervision schedules, limited consultation duration, and the lack of solutions provided by the supervisor can trigger stress for students (Sulasteri & Kusumayanti, 2019). Obstacles in completing a thesis, apart from the supervisor, can also occur due to the influence of peers, family, and the availability of facilities (Hieronimus Amandus, 2018), causing students to experience anxiety characterized by excessive feelings of worry, concern, and fear (Nurhalim, 2025). Stress can also hinder cognitive processes and lead to low self-esteem and a weak ability to handle thesis-related problems (Almarzouki, 2024). Stress can also be influenced by time pressure (Mnila, 2022).

The researcher assumes that before administering Rosa Damascena aromatherapy, students experienced high levels of stress. Students' stress originates from campus, where they face study burdens, assignment deadlines, worries about grades, and lack of rest time. Stressed students will experience symptoms such as: easy anxiety, difficulty concentrating, trouble sleeping, and feeling easily depressed. This will interfere with the quality of learning and reduce students' motivation to study.

### **Stress Levels in Students After Rosadamasena Aromatherapy Intervention at Santa Elisabeth College of Health Sciences Medan in 2025**

The stress level of students after the intervention conducted at Santa Elisabeth College of Health Sciences Medan in 2025 showed that out of 30 respondents, an average score of 11.73 was obtained, which falls into the moderate stress category with a standard deviation of 4.487. The results of this study indicate that the administration of Rosa Damascena Aromatherapy can reduce students' stress levels. However, there were still some respondents who did not experience a reduction in stress levels. This was due to the respondents' lack of seriousness in participating in the therapy provided, so the aromatherapy was not applied optimally.

After the intervention was carried out, the questionnaire results obtained showed that before the intervention, symptoms such as palpitations, headaches, difficulty interacting with supervisors, and trouble finding solutions were reduced, because aromatherapy can increase the release of hormones or neurotransmitters that play a role in relaxation, such as dopamine which contributes to a feeling of comfort and serotonin which enhances a sense of safety and calm. This is what affects the physiological stress response, reducing heart rate, lowering anxiety levels, and decreasing stress levels in students.

This statement aligns with (Sinaga et al., 2025), who stated that aromatherapy has the potential to enhance relaxation, improve mood, and calm the mind. Research (Agustini, 2025) shows that administering aromatherapy using a diffuser can significantly reduce stress levels in patients undergoing spinal surgery. Another study (Akbari, 2025) also indicates that inhalation of aromatherapy for 15 minutes is effective in reducing anxiety

levels in students preparing for the clinical practice OSCE exam in the operating room. (Xu, Xue, and Wu, 2025) explain that Rosa Damascena aromatherapy can effectively reduce anxiety, improve hemodynamics, alleviate stress symptoms, and enhance sleep quality. (Ok, Kocatepe, and Ünver, 2021) mention that the extra aroma from roses shows that people can recall previously learned information more easily when using Rosa Damascena essential oil again.

The researcher assumes that aromatherapy can reduce stress levels because aromatherapy inhaled through the olfactory system stimulates the limbic system, particularly the hypothalamus, and can affect the reaction of serotonin hormones that play a role in regulating emotions and stress. Calming aromatherapy can reduce amygdala activity related to fear, anxiety, and stress responses. Reduced amygdala activity affects the hypothalamus, suppressing the production of hormones such as cortisol and adrenaline.

### **The Effect of Rosa Damascena Aromatherapy on Reducing Stress Levels in Final-Year Students Undertaking Theses at Stikes Santa Elisabeth Medan in 2025**

The results of the *paired t-test* showed that there was a highly significant difference between the concentration values before and after the intervention. The very large and negative t-value indicates a strong increase after the intervention. A significance level of 0.001 shows that the change is meaningful and not due to chance. The confidence interval lies within a negative range, which means that the average score after the intervention is higher than before the intervention. The analysis involved 30 respondents. These results are further supported by the negative effect on the reduction of stress levels.

The results obtained before and after the intervention showed a change from severe stress to moderate stress, indicating that the administration of Rosa Damascena Aromatherapy to students is able to calm the mind and reduce stress levels. After the intervention, students appeared calmer and more relaxed. Many respondents also stated that this aromatherapy should be given for a longer duration and in their rooms to sleep peacefully and calm their minds. These changes indicate that the administration of Rosa Damascena Aromatherapy improves students' cognition and reduces stress levels in students.

Research (Sinambela et al., 2024) also states that the administration of Rosa Damascena Aromatherapy can provide relaxation effects, both psychologically and physiologically. These effects are related to the main components in Rosa Damascena such as Citronellol, Geraniol, and Linalool, as well as the bioactive compounds that act as powerful antioxidants. These bioactive compounds include saponins, phenolic tannins, terpenoids, and flavonoids, which can stimulate the brain's limbic system, particularly the areas involved in regulating emotions and stress responses. The effects of Rosa Damascena Aromatherapy are very effective in reducing anxiety (Rasooli et al., 2021), and (Ziella Ruth Kristantia, 2024) also shows that rose aromatherapy can lower anxiety levels in patients undergoing major surgery and reduce tension. Besides alleviating anxiety, the effects of Rosa Damascena aromatherapy can improve patients' sleep quality (Mahdood & Khazaei, 2022).

The use of aromatherapy can reduce levels of anxiety and stress, although it is only temporary and not permanent, because if there is a trigger or stimulus, the person will experience stress or anxiety. Therefore, continuous use is necessary as it is easy for anyone to do. This is supported by Kocatepe and Ünver (2021), who explained that aromatherapy is not significant in the long term but can only affect the short term. Yulianti and Awaludin (2024) also stated that the administration of aromatherapy shows temporary psychological effects on anxiety after inhaling aromatherapy, which can help improve mood.

Researchers assume that the administration of Rosa Damascena aromatherapy can reduce stress levels. Aromatherapy works to lower stress levels through the olfactory system and will affect individuals' stress responses such as mood, emotions, and behavior. The compounds found in Rosa Damascena are known to provide calming and relaxing effects, thereby reducing the workload of the sympathetic nerves. The administration of rose aromatherapy can provide beneficial effects both psychologically and physiologically, ultimately contributing to a reduction in stress and anxiety levels.

The administration of Rosa Damascena aromatherapy can reduce stress and anxiety in final-year students. Where final-year students will face the burden of completing their thesis, such as the pressure of the thesis, the demands of finishing the thesis, guidance from the supervising lecturer, and graduation deadlines. This aromatherapy can increase the feeling of safety and comfort, reduce emotional tension, so with reduced stress, students will experience higher concentration, calmness, and quickness in completing their thesis.

#### 4. CONCLUSIONS

The research conducted with a sample size of 30 people found that the administration of Rosadamasena Aromatherapy had an effect on reducing stress levels in students of the Santa Elisabeth College of Health Sciences in Medan in 2025. Overall, it is described as follows:

1. The average stress score before being given Rosa Damascena aromatherapy to reduce stress levels in students of the Santa Elisabeth College of Health Sciences Medan in 2025 was 20.50 with a standard deviation of 2.801
2. The average stress level score after being given Rosa Damascena aromatherapy to reduce stress levels in students of Santa Elisabeth Medan College of Health Sciences in 2025 is 11.73 with a standard deviation of 4.487
3. There is an average difference in stress levels before and after being given Rosa Damascena aromatherapy in reducing stress levels among students of Santa Elisabeth School of Health Sciences Medan in 2025 ( $p$  value = 0.001)

#### REFERENCES

1. Abdul Aziz. (2024) "Prevalence And Associated Factors Of Burnout Among Working Adults In Southeast Asia: Results From A Public Health Assessment," *Frontiers In Public Health*, 12(March).
2. Agusthia. (2024) "Efektivitas Terapi Mindfulness Berbasis Aplikasi Breathe2Relax Terhadap Stres Mahasiswa Tingkat Akhir," *Malahayati Nursing Journal*, 6(8), Hal. 3246–3255.
3. Agustini, H., Murdiyanto, J. Dan Handayani, N. (2025) "Pengaruh Aromaterapi Mawar Terhadap Tingkat Kecemasan Pasien Pre Operasi Dengan Spinal Anestesi Di RS PKU Muhammadiyah Gamping."
4. Akbari., F. (2025) "Using Damask Rose Essential Oil," Hal. 1–8.
5. Alotaibi, A. D. *Et Al.* (2020) "Stress , And Academic Performance Among Medical Students," Hal. 23–28.
6. Arief., R. (2020) "Jurnal Surya Medika Volume 5 No . 2 Februari 2020 Jurnal Surya Medika Volume 5 No . 2 Februari 2020," *Surya Medika*, 5(2), Hal. 126–130.
7. Atzmardina.,Z. (2024) "Harfi Rifani Apriansyah, Zita Atzmardina," 5(September), Hal. 5866–5870.
8. Aulia. (2019) "Kesejahteraan Psikologis Dan Tingkat Stres Pada Mahasiswa Tingkat Akhir," *Jurnal Keperawatan Jiwa*, 7(2), Hal. 127.
9. Ayu., S. (2024) "Meditasi Untuk Mengatasi Stres Pada Mahasiswa Tingkat Akhir," *Widya*

*Kesehatan*, 6(2), Hal. 65–73

10. Beck & Polit. (2018) *Essentials Of Nursing Research, Proceedings Of The National Academy Of Sciences*.
11. Billa & Savira. (2023) “Analisis Deskriptif Strategi Coping Stress Pada Mahasiswa Tingkat Akhir Yang Menyusun Skripsi Di Fakultas Ilmu Pendidikan Universitas Negeri Surabaya,” *Character : Jurnal Penelitian Psikologi*, 10(03), Hal. 447–459.
12. Bohane., L. (2023) “Innovation, Research Methodology:Methods & Techniques.” Bhopal, India: Agphbooks.
13. Charoimek., N. (2023) “Do Abiotic Stresses Affect The Aroma Of Damask Roses?,” *Plants*, 12(19), Hal. 1–18.
14. Damayanti, D. D. *Et Al.* (2021) “Pemanfaatan Aromatherapy Sebagai Alternatif Untuk Menurunkan Tingkat Stress Menghadapi Ujian Pada Mahasiswa Universitas Muhammadiyah Kalimantan Timur,” *Altruis: Journal Of Community Services*, 2(3)
15. Dr.Lakhan Bohane, Rakhi Sharma, Dr. Siddharth Jain, M. C. (2023) *Innovation Research Methodology : Methods & Techniques*. AG.
16. Erfan Ramadhani (2019) “JUANG: Jurnal Wahana Konseling (,” 2(1), Hal. 13–19.
17. Fina Khilyatu. (2024) “Strategi Efektif Mengatasi Stres Akademik Melalui Manajemen Waktu Untuk Meningkatkan Kesehatan Mental Mahasiswa,” *Jurnal Ilmu Pendidikan Dan Psikologi (JIPP)*, 2(4), Hal. 142–148.
18. Hamdamin., S. (2018) “Effects Of Aromatherapy With Rosa Damascena On Nulliparous Women’s Pain And Anxiety Of Labor During First Stage Of Labor,” *Journal Of Integrative Medicine*. Shanghai Changhai Hospital, 16(2), Hal. 120–125.
19. Hamdi., I. A. H. (2022) “The Relationship Between Stress And Incidence Of Sleep Disorder Among Students At The Faculty Of Medicine Universitas Sumatera Utara,” *Sumatera Medical Journal*, 5(2), Hal. 1–7.
20. Hanifah., A. & Dan Agustina, M. (2025) “Pengaruh Aromaterapi Bunga Mawar Terhadap Tingkat Kecemasan Pada Pasien Pre Operasi Apendicitis Di Ruang Belimbing Rawat Inap Bedah RSUD Cengkareng Tahun 2024 The Effect Of Rose Aromatherapy On Anxiety Levels In Pre-Operative Appendicitis Patients In The,” (April), Hal. 6871–6881.
21. Harahap., S. S. M. (2024) “Hubungan Tingkat Stress Dengan Kualitas Tidur Pada Mahasiswa Akhir Fakultas Kesehatan Masyarakat Di Universitas Islam Negeri Sumatera Utara Medan,” *Journal Of Health And Religion*, 1(1), Hal. 38–46.
22. Hartati, R. & Dan Mirza., M. (2023) “Perbedaan Fear Of Failure Pada Mahasiswa Yang Menyusun Skripsi,” *Syiah Kuala Psychology Journal*, 1(1), Hal. 10–20.
23. Hashemi., D. (2021) “Effects Of Blended Aromatherapy Using Lavender And Damask Rose Oils On The Test Anxiety Of Nursing Students Website:,” (January), Hal. 1–6.
24. Health., M. (2022) “Manage And Reduce Stress What Is,” *Mental Health Foundation*.
25. Hendarto., D. (2020) “Perfeksionisme Dan Distres Psikologis Pada Mahasiswa,” *Jurnal Ilmiah Bimbingan Konseling Undiksha*, 11(2), Hal. 148–159.
26. Insany, M. H. *Et Al.* (2024) “Kendala Mahasiswa Dalam Penulisan Skripsi Prodi Bimbingan Dan Konseling Universitas Islam Negeri Sjech M . Djamil Djambek Bukittinggi,” 8, Hal. 43338–43342.
27. John Creswell. (2018) *Research Design Qualitative, Quantitative, And Mixed Methods Approaches, Introducing English Language*.
28. Kavurmacı. (2021) “Effectiveness Of Aromatherapy In Reducing Test Anxiety Among Nursing Students,” *Indian Journal Of Traditional Knowledge*, 14(1), Hal. 52–56.
29. Kavurmacı., M. Dan K (2015) “Effectiveness Of Aromatherapy In Reducing Test Anxiety Among Nursing Students,” *Indian Journal Of Traditional Knowledge*, 14(1), Hal. 52–56.
30. Kocatepe., V. Dan Ü (2021) “The Effect Of The Rose Essential Oil Aroma On University Students’ Learning And Short-Term Memory: A Randomized Controlled Trial,” *Journal Of Clinical Medicine Of Kazakhstan*, 18(1), Hal. 32–37.
31. Kurniawati, W & Setyaningsih., R. (2020) “Manajemen Stress Pada Mahasiswa Tingkat Akhir Dalam Penyusunan Skripsi,” *Jurnal An-Nur: Kajian Pendidikan Dan Ilmu Keislaman*, 5(3), Hal. 248–253.
32. Latief., N. (2023) “Analisis Penyebab Penghambat Penyelesaian Skripsi Terhadap Masa Studi

- Mahasiswa Pendidikan Teknik Mesin Fakultas Teknik Universitas Negeri Makassar,” *Jovi: Journal Of Vocational Instruction*, 2(1), Hal. 51.
33. Mahdood, B., Imani, B. Dan Khazaei, S. (2020) “Since January 2020 Effects Of Inhalation Aromatherapy With Rosa Damascena ( Damask Rose ) On The State Anxiety And Sleep Quality Of Operating Room Personnel During The COVID-19 Pandemic : A Randomized Controlled Trial,” (January).
  34. Mohebitabar., S. (2017) “Therapeutic Efficacy Of Rose Oil: A Comprehensive Review Of Clinical Evidence.,” *Avicenna Journal Of Phytomedicine*, 7(3), Hal. 206–213.
  35. Mokhtari., R. (2023) “The Effects Of Rosa Damascene Aromatherapy On Anxiety And Sleep Quality In Burn Patients: A Randomized Clinical Trial,” *Burns*. Elsevier, 49(4), Hal. 973–979.
  36. Nurhidayati. (2024) “Efektivitas Aromaterapi Dengan Rosa Damascena Dalam Menurunkan Tingkat Stres Mahasiswa: Analisis Bibliometrik,” *Dalton : Jurnal Pendidikan Kimia Dan Ilmu Kimia*, 7(1), Hal. 18.
  37. Ok, E., Kocatepe, V. Dan Ünver, V. (2021) “The Effect Of The Rose Essential Oil Aroma On University Students ’ Learning And Short-Term Memory : A Randomized Controlled Trial,” 18(1).
  38. Pertiwi., D. (2023) “Keefektifitasan Aromaterapi Lavender Dalam Menurunkan Stres Pada Mahasiswa Keperawatan Tingkat Akhir,” *Jurnal Kesehatan Hesti Wira Sakti*, 11(01), Hal. 82–90.
  39. Priasmoro. (2025) “Jurnal Keperawatan Muhammadiyah Strategi Berbasis Aktivitas Fisik Dalam Mengatasi Stres Dan Kecemasan : Tinjauan Empiris Dan Rekomendasi Kebijakan,” 10(2), Hal. 29–35.
  40. Rasooli, T. *Et Al.* (2021) “Rosa Damascena Mill For Treating Adults ’ Anxiety , Depression , And Stress : A Systematic Review And Dose – Response Meta-Analysis Of Randomized Controlled Trials,” (August), Hal. 1–22.
  41. Santoso., M. D. Y. (2020) “Review Article: Dukungan Sosial Dalam Situasi Pandemi Covid 19,” *Jurnal Litbang Sukowati : Media Penelitian Dan Pengembangan*, 5(1), Hal. 11–26.
  42. Saputra., M. (2024) “Analisis Faktor-Faktor Keterlambatan Mahasiswa Tingkat Akhir Di Program Studi Pendidikan Ekonomi FKIP ULM Dalam Menyelesaikan Skripsi,” *Jurnal Pendidikan Ekonomi (JUPE)*, 12(2), Hal. 183–189.
  43. Septyari., N. M. (2022) “Tingkat Stres Dan Mekanisme Koping Mahasiswa Dalam Penyusunan Skripsi Pada Masa Pandemi,” *Jurnal Akademika Baiturrahim Jambi*, 11(1), Hal. 14.
  44. Siallagan., A. (2023) “Stres Akademik Mahasiswa Di Sekolah Tinggi Ilmu Kesehatan Santa Elisabeth Medan,” *JUMANTIK (Jurnal Ilmiah Penelitian Kesehatan)*, 9(1), Hal. 10.
  45. Simanullang., A. (2024) “Pengaruh Kepercayaan Diri Terhadap Kecemasan Mahasiswa Yang Sedang Menyusun Skripsi Dikota Medan,” 5(2), Hal. 1–23.
  46. Sinaga, E. S. *Et Al.* (2025) “The Effect Of Rosa Damascena Aromatherapy On The Level Of Anxiety During The First Active Phase Of Labor,” 9(2), Hal. 71–80.
  47. Sinambela, R. W. *Et Al.* (2024) “Skrining Fitokimia Dan Aktivitas Antioksidan Ekstrak Bunga Mawar ( Rosa Damascene Mill ),” 4, Hal. 9191–9198.
  48. Sugito., A. (2023) “Aromaterapi Dan Akupresur Pada Sectio Caesrea.” Sawitan, Magelang: Rumah Kita, Hal. 15.
  49. Sulasteri, S. R. I., Nur, F. Dan Kusumayanti, A. (2019) “Faktor-Faktor Penyebab Keterlambatan Mahasiswa Uin Alauddin Makassar Menyelesaikan Skripsi,” III(1), Hal. 96–113.
  50. Syahril Dan Janna. (2021) “The Academic Stress Of Final-Year Students In Covid-19 Pandemic Era,” *Al-Ishlah: Jurnal Pendidikan*, 13(1), Hal. 80–89.
  51. Tanjungsari Dkk. (2024) “JKIP : Jurnal Kajian Ilmu Pendidikan Academic Stress Of Students Working On Thesis (Case Study On Final Year Students At Sultan Ageng Tirtayasa University) Tin,” 5(3), Hal. 737–741.
  52. Tiwa., D. (2021) “Belajar Pada Mahasiswa Semester VI,” Hal. 279–286.
  53. Tri Susilo. (2021) “Tingkat Kecemasan Mahasiswa Dalam Penyusunan Skripsi Di Prodi Penjaskesrek Fakultas Ilmu Keolahragaan Universitas Negeri Padang,” *Advanced Sampling Methods*, 4(2), Hal. 37–53
  54. Untari. (2022) “Faktor-Faktor Penghambat Mahasiswa Dalam Menyusun Skripsi,” *Academica : Journal Of Multidisciplinary Studies*, 6(2), Hal. 189–204.

55. Wang., H. (2024) "Beneficial Medicinal Effects And Material Applications Of Rose," *Heliyon*. Elsevier Ltd, 10(1), Hal. E23530.
56. WHO., 2022 (2022) *World Mental Health Report, The BMJ*.
57. Xu, L., Xue, L. Dan Wu, P. (2025) "The Effects Of Rosa Damascene Aromatherapy On Mood And Sleep : A Systematic Review And," (November).
58. Yuliana. (2022) "Penerapan Terapi Mindfulness Dalam Menurunkan Tingkat Stres Mahasiswa Tingkat Akhir," *Jurnal Keperawatan Dan Kesehatan Masyarakat Cendekia Utama*, 11(2), Hal. 154.
59. Yulianti, Y. Dan Awaludin, S. (2024) "Inhalation Of Rose Aromatherapy Against," 4(03), Hal. 1310–1321.
60. Ziella Ruth Kristantia, M. D. A. (2024) "Studi Kasus Pengaruh Aromaterapi Mawar Terhadap Skor Kecemasan," 8(2022), Hal. 45742–45748.