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INTRODUCTION

- Worldwide over 5% (>300,000 million) of adults experience depression.
- Dietary polyphenols may mitigate depression and aid in alleviating symptoms, yet consensus of the evidence is lacking.

OBJECTIVE

To conduct a systematic review of the association between intake of polyphenol-rich foods with depression (incidence, symptoms) in adults.

METHODS

Protocol

- PROSPERO Registration:
- Cochrane handbook for systematic reviews
- Preferred reporting items for systematic reviews and meta-analyses (PRISMA)

Databases

PubMed (1 January 2019 to 3 July 2025)
Web of Science (1 January 2019 to 3 July 2025)
PsychINFO (1 January 2019 to 3 July 2025)

Inclusion Criteria

- Adults (≥18 years)
- Dietary whole food sources of polyphenols
- Depression outcomes
- Observational studies or clinical trials
- Peer-reviewed article
- Published in English

Exclusion Criteria

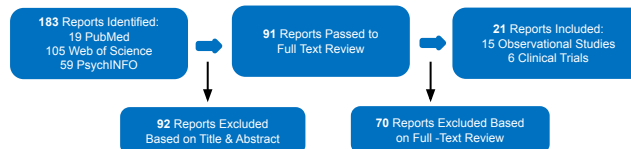
- Infants / Children
- Animal studies
- Extracted/nutraceutical /supplemental forms of polyphenols

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FINDINGS

Flow of the Literature



Summary of Included Randomized Controlled Trials

| Reference | N | Duration | Intervention | Control | Outcomes |
|----------------------------|----------------|----------|--|---|-----------------------|
| Parilli-Moser et al., 2021 | F: 44 M: 19 | 26 wks | 25g/d peanuts (skin, roasted) 32g/d peanut butter | 32g/d Control butter (peanut-free) | ≠ Depressive Symptoms |
| Park et al., 2020 | F: 24 M: 16 | 8 wks | 380mL/d Orange Juice | 380 mL/d Orange flavoured cordial | ↓ Depressive Symptoms |
| Kontogianni et al., 2020 | F: 46 M: 56 | 12 wks | 6 portions of F&V/d High Polyphenol Diet | ≤ 2 portions of F&V/d Low Polyphenol Diet | ↓ Depressive Symptoms |
| Choi et al., 2022 | F: 28 M: 12 | 8 wks | 570 mL/d Orange Juice | 570 mL/d Orange flavoured cordial | ↓ Depressive Symptoms |
| Barfoot et al., 2021 | F: 35 M:0 | 2 wks | Addition of ≥1 flavonoid-rich food (from a predetermined list) | Standard diet | ≠ Depressive Symptoms |
| Velichkov et al., 2024 | F: 41 M: 19 | 6 wks | 250 mL of Blueberry Juice | 250 mL Blueberry-flavoured P. Placebo Drink | ≠ Depressive Symptoms |

CONCLUSIONS

Evidence suggests dietary polyphenols, particularly flavonoids (anthocyanidins, flavanones, and flavones), may play a protective role in mitigating depressive symptoms in adults. Longer follow-up studies are needed that rigorously account for bioavailability, dosage, and baseline nutritional status.

Summary of Included Observational Studies

| Polyphenol Exposure | # Studies | Study Design | N | Outcome |
|----------------------------------|-----------|---------------------|------------------------|------------------------|
| Dietary Flavonoids | 7 | Cross-sectional | F: 21,680 M: 18,686 | ↓ Depressive Symptoms |
| Dietary Flavonoids | 2 | Cross-sectional | F: 8,826 M: 3,960 | ↓ Depressive Incidence |
| Dietary Anthocyanidins | 1 | Cross-sectional | F: 3,047 M: 3,167 | ↓ Depressive Incidence |
| Total Dietary Antioxidants | 1 | Cross-sectional | F: 41 M: 0 | ↓ Depressive Incidence |
| Dietary Polyphenol Intake | 1 | Cross-sectional | F: 912 M: 660 | ↓ Depressive Incidence |
| Dietary Polyphenol Intake | 1 | Longitudinal Cohort | F: 610 M: 464 | ↓ Depressive Symptoms |
| Dietary Anthocyanins | 1 | Longitudinal Cohort | F: 912 M: 660 | ↓ Depressive Symptoms |
| Multiple (21) Polyphenol Classes | 1 | Longitudinal Cohort | F: 601 M: 461 | ↓ Depressive Incidence |

SIGNIFICANCE TO PRACTICE

In dietetic practice, incorporating polyphenol-rich foods into daily dietary patterns may be an effective strategy for mitigating depression and alleviating symptoms in adults.

References

1. Kontogianni et al. *Nutrients* 2020 2. Maron et al. *PsychEXTRA Database* 2012 3. WHO. Depression and other common mental disorders. WHO 2017 4. Pathak et al. *Expert Opin Investig Drugs* 2013 5. Gomez-Pinilla et al. *Nutritional Neuroscience* 2012 6. Barfoot et al. *Nutrients* 2021 7. Choi et al. *Nutrients* 15 2022 8. Parilli-Moser et al. *Clinical Nutrition* 2021 9. Park et al. *Nutrients* 2020 10. Velichkov et al. *Eur J Nutr* 2024 11. Yang et al. *Journal of Affective Disorders* 2024 12. Fong et al. *Journal of Affective Disorders* 2024 13. Dong et al. *General Hospital Psychiatry* 2024 14. Tan et al. *Journal of Psychosomatic Research* 2020 15. Liu et al. *Journal of Affective Disorders* 2024 16. Mestroni et al. *Food Science & Nutrition* 2024 17. Park et al. *Nutrients* 16 2024 18. Gao et al. *Journal of Psychosomatic Research* 2023 19. Hsu et al. *Journal of Affective Disorders* 2025 20. Chen et al. *BMC Psychiatry* 2023 21. Oliveira et al. *Dementia & Neurogeriatrics* 2019 22. Community Rehabilitation and Aging Research Centre, Malaysia. *J. Med. Res.* 2019 23. Bardinet et al. *Clinical Nutrition* 2022 24. Mickel et al. *Journal of Berry Research* 2022 25. Bardinet et al. *Eur J Nutr* 2025