**Supplement 1.** Summary of all eligible studies.

**Ultra-High-Risk**

1. Amminger, G. P., Schafer, M. R., Papageorgiou, K., Klier, C. M., Cotton, S. M., Harrigan, S. M., . . . Berger, G. E. (2010). Long-chain omega-3 fatty acids for indicated prevention of psychotic disorders: a randomized, placebo-controlled trial. Arch Gen Psychiatry, 67(2), 146-154. (Primary Study)
* Amminger, G. P., Chanen, A. M., Ohmann, S., Klier, C. M., Mossaheb, N., Bechdolf, A., . . . Schafer, M. R. (2013). Omega-3 fatty acid supplementation in adolescents with borderline personality disorder and ultra-high risk criteria for psychosis: a post hoc subgroup analysis of a double-blind, randomized controlled trial. Can J Psychiatry, 58(7), 402-408.
* Amminger, G. P., Mechelli, A., Rice, S., Kim, S. W., Klier, C. M., McNamara, R. K., . . . Schafer, M. R. (2015). Predictors of treatment response in young people at ultra-high risk for psychosis who received long-chain omega-3 fatty acids. Transl Psychiatry, 5, e495.
* Amminger, G. P., Schafer, M. R., Schlogelhofer, M., Klier, C. M., & McGorry, P. D. (2015). Longer-term outcome in the prevention of psychotic disorders by the Vienna omega-3 study. Nat Commun, 6, 7934.
* Berger, M. E., Smesny, S., Kim, S. W., Davey, C. G., Rice, S., Sarnyai, Z., . . . Amminger, G. P. (2017). Omega-6 to omega-3 polyunsaturated fatty acid ratio and subsequent mood disorders in young people with at-risk mental states: a 7-year longitudinal study. Translational Psychiatry, 7(8), e1220.
* Föcking, M., Dicker, P., Lopez, L. M., Cannon, M., Schäfer, M. R., McGorry, P. D., . . . Amminger, G. P. (2016). Differential expression of the inflammation marker IL12p40 in the at-risk mental state for psychosis: a predictor of transition to psychotic disorder? BMC Psychiatry, 16(1), 326.
* Lavoie, S., Schafer, M. R., Whitford, T. J., Benninger, F., Feucht, M., Klier, C. M., . . . Amminger, G. P. (2012). Frontal delta power associated with negative symptoms in ultra-high risk individuals who transitioned to psychosis. Schizophr Res, 138(2-3), 206-211.
* Lavoie, S., Whitford, T. J., Benninger, F., Feucht, M., Kim, S. W., Klier, C. M., . . . Amminger, G. P. (2016). Correlates of electroencephalographic resting states and erythrocyte membrane docosahexaenoic and eicosapentaenoic acid levels in individuals at ultra-high risk of psychosis. Australian and New Zealand Journal of Psychiatry, 50(1), 56-63.
* Mossaheb, N., Papageorgiou, K., Schafer, M. R., Becker, J., Schloegelhofer, M., & Amminger, G. P. (2018). Changes in triglyceride levels in ultra-high risk for psychosis individuals treated with omega-3 fatty acids. Early Interv Psychiatry, 12(1), 30-36.
* Mossaheb, N., Schafer, M. R., Schlogelhofer, M., Klier, C. M., Cotton, S. M., McGorry, P. D., & Amminger, G. P. (2013). Effect of omega-3 fatty acids for indicated prevention of young patients at risk for psychosis: when do they begin to be effective? Schizophr Res, 148(1-3), 163-167.
* Mossaheb, N., Schafer, M. R., Schlogelhofer, M., Klier, C. M., Smesny, S., McGorry, P. D., . . . Amminger, G. P. (2018). Predictors of longer-term outcome in the Vienna omega-3 high-risk study. Schizophr Res, 193, 168-172.
* Smesny, S., Milleit, B., Hipler, U. C., Milleit, C., Schafer, M. R., Klier, C. M., . . . Amminger, G. P. (2014). Omega-3 fatty acid supplementation changes intracellular phospholipase A2 activity and membrane fatty acid profiles in individuals at ultra-high risk for psychosis. Mol Psychiatry, 19(3), 317-324.
* Smesny, S., Milleit, B., Schaefer, M. R., Hesse, J., Schlogelhofer, M., Langbein, K., . . . Amminger, G. P. (2017). Effects of omega-3 PUFA on immune markers in adolescent individuals at ultra-high risk for psychosis - Results of the randomized controlled Vienna omega-3 study. Schizophr Res, 188, 110-117.
* Smesny, S., Milleit, B., Schaefer, M. R., Hipler, U. C., Milleit, C., Wiegand, C., . . . et al. (2015). Effects of omega-3 PUFA on the vitamin E and glutathione antioxidant defense system in individuals at ultra-high risk of psychosis. Prostaglandins, leukotrienes, and essential fatty acids, 101, 15‐21.
1. McGorry, P. D., Nelson, B., Markulev, C., Yuen, H. P., Schafer, M. R., Mossaheb, N., . . . Amminger, G. P. (2017). Effect of omega-3 Polyunsaturated Fatty Acids in Young People at Ultrahigh Risk for Psychotic Disorders: The NEURAPRO Randomized Clinical Trial. JAMA Psychiatry, 74(1), 19-27. (Primary study)
* Alqarni, A., Mitchell, T. W., McGorry, P. D., Nelson, B., Markulev, C., Yuen, H. P., . . . Amminger, G. P. (2019). Supplementation with the omega-3 long chain polyunsaturated fatty acids: Changes in the concentrations of omega-3 index, fatty acids and molecular phospholipids of people at ultra high risk of developing psychosis. Schizophrenia Research. In press.
* Amminger, G. P., Nelson, B., Markulev, C., Yuen, H. P., Schafer, M. R., Berger, M., . . . McGorry, P. D. (2020). The NEURAPRO Biomarker Analysis: Long-Chain Omega-3 Fatty Acids Improve 6-Month and 12-Month Outcomes in Youths at Ultra-High Risk for Psychosis. Biol Psychiatry, 87(3), 243-252.
* Berger, M., Lavoie, S., McGorry, P. D., Nelson, B., Markulev, C., Yuen, H. P., . . . Amminger, G. P. (2018). Relationship between allostatic load and clinical outcomes in youth at ultra-high risk for psychosis in the NEURAPRO study. Schizophr Res. In press.
* Berger, M., Nelson, B., Markulev, C., Yuen, H. P., Schafer, M. R., Mossaheb, N., . . . Amminger, G. P. (2019). Relationship Between Polyunsaturated Fatty Acids and Psychopathology in the NEURAPRO Clinical Trial. Front Psychiatry, 10, 393.
* Bolt, L. K., Amminger, G. P., Farhall, J., McGorry, P. D., Nelson, B., Markulev, C., . . . Allott, K. A. (2019). Neurocognition as a predictor of transition to psychotic disorder and functional outcomes in ultra-high risk participants: Findings from the NEURAPRO randomized clinical trial. Schizophr Res, 206, 67-74.
* Hartmann, J. A., Schmidt, S. J., McGorry, P. D., Berger, M., Berger, G. E., Chen, E. Y. H., . . . Nelson, B. (2020). Trajectories of symptom severity and functioning over a three-year period in a psychosis high-risk sample: A secondary analysis of the Neurapro trial. Behav Res Ther, 124, 103527.
* Mallawaarachchi, S. R., Amminger, G. P., Farhall, J., Bolt, L. K., Nelson, B., Yuen, H. P., . . . Allott, K. A. (2020). Cognitive functioning in ultra-high risk for psychosis individuals with and without depression: Secondary analysis of findings from the NEURAPRO randomized clinical trial. Schizophr Res, 218, 48-54.
* Nelson, B., Amminger, G. P., Yuen, H. P., Markulev, C., Lavoie, S., Schafer, M. R., . . . McGorry, P. D. (2018). NEURAPRO: a multi-centre RCT of omega-3 polyunsaturated fatty acids versus placebo in young people at ultra-high risk of psychotic disorders-medium-term follow-up and clinical course. NPJ Schizophr, 4(1), 11.

**First Episode Psychosis**

1. Berger, G. E., Proffitt, T. M., McConchie, M., Yuen, H., Wood, S. J., Amminger, G. P., . . . McGorry, P. D. (2007). Ethyl-eicosapentaenoic acid in first-episode psychosis: a randomized, placebo-controlled trial. J Clin Psychiatry, 68(12), 1867-1875. (Primary study)
* Berger, G. E., Wood, S. J., Wellard, R. M., Proffitt, T. M., McConchie, M., Amminger, G. P., . . . McGorry, P. D. (2008). Ethyl-eicosapentaenoic acid in first-episode psychosis. A 1H-MRS study. Neuropsychopharmacology, 33(10), 2467-2473.
* Wood, S. J., Cocchi, L., Proffitt, T. M., McConchie, M., Jackson, G. D., Takahashi, T., . . . Berger, G. E. (2010). Neuroprotective effects of ethyl-eicosapentaenoic acid in first episode psychosis: a longitudinal T2 relaxometry pilot study. Psychiatry Res, 182(2), 180-182.
1. Emsley, R., Chiliza, B., Asmal, L., du Plessis, S., Phahladira, L., van Niekerk, E., . . . Harvey, B. H. (2014). A randomized, controlled trial of omega-3 fatty acids plus an antioxidant for relapse prevention after antipsychotic discontinuation in first-episode schizophrenia. Schizophr Res, 158(1-3), 230-235.
2. Pawelczyk, T., Grancow-Grabka, M., Kotlicka-Antczak, M., Trafalska, E., & Pawelczyk, A. (2016). A randomized controlled study of the efficacy of six-month supplementation with concentrated fish oil rich in omega-3 polyunsaturated fatty acids in first episode schizophrenia. J Psychiatr Res, 73, 34-44. (Primary study)
* Pawelczyk, T., Grancow-Grabka, M., Trafalska, E., Szemraj, J., & Pawelczyk, A. (2017). Oxidative stress reduction related to the efficacy of n-3 polyunsaturated fatty acids in first episode schizophrenia: Secondary outcome analysis of the OFFER randomized trial. Prostaglandins Leukot Essent Fatty Acids, 121, 7-13.
* Pawelczyk, T., Grancow-Grabka, M., Trafalska, E., Szemraj, J., Zurner, N., & Pawelczyk, A. (2018). Telomerase level increase is related to n-3 polyunsaturated fatty acid efficacy in first episode schizophrenia: Secondary outcome analysis of the OFFER randomized clinical trial. Prog Neuropsychopharmacol Biol Psychiatry, 83, 142-148.
* Pawelczyk, T., Grancow-Grabka, M., Trafalska, E., Szemraj, J., Zurner, N., & Pawelczyk, A. (2019). An increase in plasma brain derived neurotrophic factor levels is related to n-3 polyunsaturated fatty acid efficacy in first episode schizophrenia: secondary outcome analysis of the OFFER randomized clinical trial. Psychopharmacology (Berl), 236(9), 2811-2822.
* Pawelczyk, T., Piatkowska-Janko, E., Bogorodzki, P., Gebski, P., Grancow-Grabka, M., Trafalska, E., . . . Pawelczyk, A. (2018). Omega-3 fatty acid supplementation may prevent loss of gray matter thickness in the left parieto-occipital cortex in first episode schizophrenia: A secondary outcome analysis of the OFFER randomized controlled study. Schizophr Res, 195, 168-175.

**Schizophrenia**

1. Behdani, F., Roudbaraki, S. N., Saberi-Karimian, M., Tayefi, M., Hebrani, P., Akhavanrezayat, A., . . . Ghayour-Mobarhan, M. (2018). Assessment of the efficacy of omega-3 fatty acids on metabolic and inflammatory parameters in patients with schizophrenia taking clozapine and sodium valproate. Psychiatry Res, 261, 243-247.
2. Bentsen, H., Osnes, K., Refsum, H., Solberg, D. K., & Bohmer, T. (2013). A randomized placebo-controlled trial of an omega-3 fatty acid and vitamins E+C in schizophrenia. Transl Psychiatry, 3, e335. (Primary study)
* Bentsen, H., & Landro, N. I. (2018). Neurocognitive effects of an omega-3 fatty acid and vitamins E+C in schizophrenia: A randomised controlled trial. Prostaglandins Leukot Essent Fatty Acids, 136, 57-66.
1. Bošković, M., Vovk, T., Koprivšek, J., Plesničar, B. K., & Grabnar, I. (2016). Vitamin E and essential polyunsaturated fatty acids supplementation in schizophrenia patients treated with haloperidol. Nutr Neurosci, 19(4), 156-161.
2. Emsley, R., Myburgh, C., Oosthuizen, P., & van Rensburg, S. J. (2002). Randomized, placebo-controlled study of ethyl-eicosapentaenoic acid as supplemental treatment in schizophrenia. Am J Psychiatry, 159(9), 1596-1598. (Primary study)
* van Rensburg, S. J., Smuts, C. M., Hon, D., Kidd, M., van der Merwe, S., Myburgh, C., . . . Emsley, R. (2009). Changes in erythrocyte membrane fatty acids during a clinical trial of eicosapentaenoic acid (EPA) supplementation in schizophrenia. Metab Brain Dis, 24(4), 659-672.
1. Emsley, R., Niehaus, D. J., Koen, L., Oosthuizen, P. P., Turner, H. J., Carey, P., . . . Murck, H. (2006). The effects of eicosapentaenoic acid in tardive dyskinesia: a randomized, placebo-controlled trial. Schizophr Res, 84(1), 112-120. (Primary study)
* Emsley, R., Niehaus, D. J., Oosthuizen, P. P., Koen, L., Ascott-Evans, B., Chiliza, B., . . . Smit, R. M. (2008). Safety of the omega-3 fatty acid, eicosapentaenoic acid (EPA) in psychiatric patients: results from a randomized, placebo-controlled trial. Psychiatry Res, 161(3), 284-291.
1. Faghihi, T., Jahed, A., Mahmoudi-Gharaei, J., Sharifi, V., Akhondzadeh, S., & Ghaeli, P. (2012). Role of Omega-3 fatty acids in preventing metabolic disturbances in patients on olanzapine plus either sodium valproate or lithium: A randomized double-blind placebo-controlled trial. DARU, Journal of Pharmaceutical Sciences, 20(1).
2. Fenton, W. S., Dickerson, F., Boronow, J., Hibbeln, J. R., & Knable, M. (2001). A placebo-controlled trial of omega-3 fatty acid (ethyl eicosapentaenoic acid) supplementation for residual symptoms and cognitive impairment in schizophrenia. Am J Psychiatry, 158(12), 2071-2074.
3. Jamilian, H., Solhi, H., & Jamilian, M. (2014). Randomized, placebo-controlled clinical trial of omega-3 as supplemental treatment in schizophrenia. Glob J Health Sci, 6(7 Spec No), 103-108.
4. Manteghiy, A., Shakeri, M. T., Koohestani, L., & Salari, E. (2008). Beneficial antipsychotic effects of Omega-3 fatty acids add-on therapy for the pharmacological management of patients with schizophrenia. Iranian Journal of Psychiatry and Behavioral Sciences, 2(2), 35-40.
5. Peet, M., Brind, J., Ramchand, C. N., Shah, S., & Vankar, G. K. (2001). Two double-blind placebo-controlled pilot studies of eicosapentaenoic acid in the treatment of schizophrenia. Schizophr Res, 49(3), 243-251. (Counted as 2 different studies) (Primary study)
* Horrobin, D. F., Jenkins, K., Bennett, C. N., & Christie, W. W. (2002). Eicosapentaenoic acid and arachidonic acid: collaboration and not antagonism is the key to biological understanding. Prostaglandins Leukot Essent Fatty Acids, 66(1), 83-90.
1. Peet, M., & Horrobin, D. F. (2002). A dose-ranging exploratory study of the effects of ethyl-eicosapentaenoate in patients with persistent schizophrenic symptoms. J Psychiatr Res, 36(1), 7-18.
2. Qiao, Y., Mei, Y., Han, H., Liu, F., Yang, X. M., Shao, Y., . . . Long, B. (2018). Effects of Omega-3 in the treatment of violent schizophrenia patients. Schizophrenia Research, 195, 283-285. (Primary study)
* Qiao, Y., Liu, C. P., Han, H. Q., Liu, F. J., Shao, Y., & Xie, B. (2020). No impact of omega-3 fatty acid supplementation on symptoms or hostility among patients with schizophrenia. Frontiers in Psychiatry, 11(312).
1. Robinson, D. G., Gallego, J. A., John, M., Hanna, L. A., Zhang, J. P., Birnbaum, M. L., . . . Szeszko, P. R. (2019). A potential role for adjunctive omega-3 polyunsaturated fatty acids for depression and anxiety symptoms in recent onset psychosis: Results from a 16week randomized placebo-controlled trial for participants concurrently treated with risperidone. Schizophr Res, 204, 295-303.
2. Xu, F., Fan, W., Wang, W., Tang, W., Yang, F., Zhang, Y., . . . Zhang, C. (2019). Effects of omega-3 fatty acids on metabolic syndrome in patients with schizophrenia: a 12-week randomized placebo-controlled trial. Psychopharmacology (Berl), 236(4), 1273-1279. (Primary study)
* Tang, W., Wang, Y., Xu, F., Fan, W., Zhang, Y., Fan, K., . . . Zhang, C. (2020). Omega-3 fatty acids ameliorate cognitive dysfunction in schizophrenia patients with metabolic syndrome. Brain Behav Immun, 88, 529-534.