



METAANALİZ: PAKET PROGRAM UYGULAMALARI VE MAKALE ÖRNEKLERİ

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Bu Ünite de Neler Öğreneceksiniz?

Bu üniteyi tamamladıktan sonra; meta-analiz tasarlayabilirsiniz.

RevMan web kullanarak metaanaliz yapabilirsiniz.

Hedefler

- Metaanaliz tasarımı ve uygulaması,
- RevMan web ile meta-analiz tasarlama,
- Metaanaliz raporlama ve sunma.

Meta-analiz (MA); önceden belirlenmiş kurallarla sistematik derleme yapılarak elde edilmiş iki ya da daha fazla çalışmadan elde edilen sonuçların harmanlanarak belli bir durum, uygulama, girişim ya da ilaç etkinliği hakkında mevcut verileri tek bir çatı altında değerlendiren istatistik yöntemler bütünüdür. Kısacası 'analizlerin analizi' olarak ifade edilmektedir. Bu nedenle kanıt piramidinin en üst basamağında yer almaktadır. Hızla ilerleyen teknolojiye paralel artan bilimsel çalışmalar kanıta dayalı tıp için oldukça fazla veri sağlamakla birlikte en uygun yaklaşıma ulaşmak için harcanması gereken zamanı artırmaktadır. Bu noktada bir konu üzerindeki çalışmalarını bir arada değerlendiren MA'ler araştırmacılar için hem güvenilir bir kaynak hem de zaman ve enerji tasarrufu sağlamaktadır.

Bireysel veri içeren Birleştirilmiş MA ('pooled meta-analysis')

Meta-analize dahil edilen bütün çalışmalardaki katılımcıların ham verilerini ayrı ayrı istatistiksel olarak ortak bir yöntemle birleştirerek değerlendiren MA'lerdir.

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ABSTRACT**Background**

Non-nutritive sucking (NNS) is used during gavage feeding and in the transition from gavage to breast/bottle feeding in preterm infants to improve the development of sucking behavior and the digestion of enteral feedings.

Objectives

To assess the effects of non-nutritive sucking on physiologic stability and nutrition in preterm infants.

Search methods

We used the standard search strategy of the Cochrane Neonatal Review group to search the Cochrane Central Register of Controlled Trials (CENTRAL; 2016, Issue 1), MEDLINE via PubMed (1966 to 25 February 2016), Embase (1980 to 25 February 2016), and CINAHL (1982 to 25 February 2016). We also searched clinical trials databases, conference proceedings, and the reference lists of retrieved articles for randomised controlled trials.

Selection criteria

Randomised controlled trials and quasi-randomised trials that compared non-nutritive sucking versus no provision of non-nutritive sucking in preterm infants. We excluded cross-over trials.

Data collection and analysis

Two review authors assessed trial eligibility and risk of bias and undertook data extraction independently. We analysed the treatment effects in the individual trials and reported mean differences (MD) for continuous data, with 95% confidence intervals (CIs). We used a fixed-effect model in meta-analyses. We did not perform subgroup analyses because of the small number of studies related to the relevant outcomes. We used the GRADE approach to assess the quality of evidence.

Main results

We identified 12 eligible trials enrolling a total of 746 preterm infants. Meta-analysis, though limited by data quality, demonstrated a significant effect of NNS on transition from gavage to full oral feeding (MD -5.51 days, 95% CI -8.20 to -2.82; N = 87), transition from start of oral feeding to full oral feeding (MD -2.15 days, 95% CI -3.12 to -1.17; N = 100), and the length of hospital stay (MD -4.59 days, 95% CI -8.07 to -1.11; N = 501). Meta-analysis revealed no significant effect of NNS on weight gain. One study found that the NNS group had a significantly

Non-nutritive sucking for increasing physiologic stability and nutrition in preterm infants (Review)

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Şekil 30: Örnek araştırma özeti (Foster et al., 2016)

KAYNAKLAR

1. Clarke MJ, & Stewart LA. (2001). Principles of and procedures for systematic reviews. In: Systematic reviews in health care: meta-analysis in context. In Egger M, Smith G, & Altman D (Eds)(Eds.), *Principles of and procedures for systematic reviews. In: Systematic reviews in health care: meta-analysis in context* (p. 23). BMJ Publishing Group.
2. DerSimonian, R., & Laird, N. (2015). Meta-analysis in clinical trials revisited. *Contemporary Clinical Trials*, 45, 139-145. <https://doi.org/10.1016/j.cct.2015.09.002>
3. Geissbühler, M., Hincapié, C. A., Aghlmandi, S., Zwahlen, M., Jüni, P., & da Costa, B. R. (2021). Most published meta-regression analyses based on aggregate data suffer from methodological pitfalls: a meta-epidemiological study. *BMC Medical Research Methodology*, 21(1), 123. <https://doi.org/10.1186/s12874-021-01310-0>
4. Hattle, M., Burke, D. L., Trikalinos, T., Schmid, C. H., Chen, Y., Jackson, D., & Riley, R. D. (2022). Multivariate meta-analysis of multiple outcomes: characteristics and predictors of borrowing of strength from Cochrane reviews. *Systematic Reviews*, 11(1), 149. <https://doi.org/10.1186/s13643-022-01999-0>
5. Higgins, J. P. T., Altman, D. G., Gotzsche, P. C., Juni, P., Moher, D., Oxman, A. D., Savovic, J., Schulz, K. F., Weeks, L., & Sterne, J. A. C. (2011). The Cochrane Collaboration's tool for assessing risk of bias in randomised trials. *BMJ*, 343(oct18 2), d5928-d5928. <https://doi.org/10.1136/bmj.d5928>
6. Kılıçkap, M. (2018). How to interpret meta-analyses: A recipe for interpretation of the methodology used in the meta-analyses conducted on cardiovascular risk factors in Turkey. *Türk Kardiyoloji Dernegi Arsivi-Archives of the Turkish Society of Cardiology*. <https://doi.org/10.5543/tkda.2018.46062>
7. McHugh, M. L. (2012). Interrater reliability: the kappa statistic. *Biochemia Medica*, 22(3), 276-282.
8. Mills, E. J., Ioannidis, J. P. A., Thorlund, K., Schünemann, H. J., Puhan, M. A., & Guyatt, G. H. (2012). How to Use an Article Reporting a Multiple Treatment Comparison Meta-analysis. *JAMA*, 308(12), 1246. <https://doi.org/10.1001/2012.jama.11228>
9. Moher, D., Cook, D. J., Eastwood, S., Olkin, I., Rennie, D., & Stroup, D. F. (1999). Improving the quality of reports of meta-analyses of randomised controlled trials: the QUOROM statement. *The Lancet*, 354(9193), 1896-1900. [https://doi.org/10.1016/S0140-6736\(99\)04149-5](https://doi.org/10.1016/S0140-6736(99)04149-5)



10. Page, M. J., McKenzie, J. E., Bossuyt, P. M., Boutron, I., Hoffmann, T. C., Mulrow, C. D., Shamseer, L., Tetzlaff, J. M., Akl, E. A., Brennan, S. E., Chou, R., Glanville, J., Grimshaw, J. M., Hróbjartsson, A., Lalu, M. M., Li, T., Loder, E. W., Mayo-Wilson, E., McDonald, S., ... Moher, D. (2021a). The PRISMA 2020 statement: an updated guideline for reporting systematic reviews. *BMJ*, n71. <https://doi.org/10.1136/bmj.n71>
11. Page, M. J., McKenzie, J. E., Bossuyt, P. M., Boutron, I., Hoffmann, T. C., Mulrow, C. D., Shamseer, L., Tetzlaff, J. M., Akl, E. A., Brennan, S. E., Chou, R., Glanville, J., Grimshaw, J. M., Hróbjartsson, A., Lalu, M. M., Li, T., Loder, E. W., Mayo-Wilson, E., McDonald, S., ... Moher, D. (2021b). The PRISMA 2020 statement: an updated guideline for reporting systematic reviews. *BMJ*, n71. <https://doi.org/10.1136/bmj.n71>
12. RevMan. (2022, August 29). <https://revman.cochrane.org/#/myReviews>. Version: 4.14.0. <https://revman.cochrane.org/#/myReviews>
13. Sargeant, J. M., Brennan, M. L., & O'Connor, A. M. (2022). Levels of Evidence, Quality Assessment, and Risk of Bias: Evaluating the Internal Validity of Primary Research. *Frontiers in Veterinary Science*, 9. <https://doi.org/10.3389/fvets.2022.960957>
14. Sterne, J. A. C., Savović, J., Page, M. J., Elbers, R. G., Blencowe, N. S., Boutron, I., Cates, C. J., Cheng, H.-Y., Corbett, M. S., Eldridge, S. M., Emberson, J. R., Hernán, M. A., Hopewell, S., Hróbjartsson, A., Junqueira, D. R., Jüni, P., Kirkham, J. J., Lasserson, T., Li, T., ... Higgins, J. P. T. (2019). RoB 2: a revised tool for assessing risk of bias in randomised trials. *BMJ*, l4898. <https://doi.org/10.1136/bmj.l4898>
15. Sterne, J. A., Hernán, M. A., Reeves, B. C., Savović, J., Berkman, N. D., Viswanathan, M., Henry, D., Altman, D. G., Ansari, M. T., Boutron, I., Carpenter, J. R., Chan, A.-W., Churchill, R., Deeks, J. J., Hróbjartsson, A., Kirkham, J., Jüni, P., Loke, Y. K., Pigott, T. D., ... Higgins, J. P. (2016). ROBINS-I: a tool for assessing risk of bias in non-randomised studies of interventions. *BMJ*, i4919. <https://doi.org/10.1136/bmj.i4919>
16. Stroup, D. F. (2000). Meta-analysis of Observational Studies in Epidemiology<SUBTITLE>A Proposal for Reporting</SUBTITLE> *JAMA*, 283(15), 2008. <https://doi.org/10.1001/jama.283.15.2008>
17. Tan, S. H., Cooper, N. J., Bujkiewicz, S., Welton, N. J., Caldwell, D. M., & Sutton, A. J. (2014). Novel presentational approaches were developed for reporting network meta-analysis. *Journal of Clinical Epidemiology*, 67(6), 672-680. <https://doi.org/10.1016/j.jclinepi.2013.11.006>
18. Terrin, N., Schmid, C. H., & Lau, J. (2005). In an empirical evaluation of the funnel plot, researchers could not visually identify publication bias. *Journal of Clinical Epidemiology*, 58(9), 894-901. <https://doi.org/10.1016/j.jclinepi.2005.01.006>
19. Wang, H., Song, J., Lin, Y., Dai, W., Gao, Y., Qin, L., Chen, Y., Tam, W., Wu, I. X., & Chung, V. C. (2022). Trial-level characteristics associate with treatment effect estimates: a systematic review of meta-epidemiological studies. *BMC Medical Research Methodology*, 22(1), 171. <https://doi.org/10.1186/s12874-022-01650-5>
20. Wilson, D. B. , Ph. D. (n. d.). (2022, August 29). *Practical Meta-Analysis Effect Size Calculator [Online calculator]*. Retrieved 8,29,2022, from <https://campbellcollaboration.org/research-resources/effect-size-calculator.html> . <https://campbellcollaboration.org/research-resources/effect-size-calculator.html>