

**BIBLIOGRAPHY**

- Abrams S. A. (2007). In utero physiology: role in nutrient delivery and fetal development for calcium, phosphorus, and vitamin D. *The American journal of clinical nutrition*, 85(2), 604S–607S. <https://doi.org/10.1093/ajcn/85.2.604S>
- Agarwal, K. S., Mughal, M. Z., Upadhyay, P., Berry, J. L., Mawer, E. B., & Puliyel, J. M. (2002). The impact of atmospheric pollution on vitamin D status of infants and toddlers in Delhi, India. *Archives of disease in childhood*, 87(2), 111–113. <https://doi.org/10.1136/adc.87.2.111>
- Agarwal, S., Kovilam, O., & Agrawal, D. K. (2018). Vitamin D and its impact on maternal-fetal outcomes in pregnancy: A critical review. *Critical reviews in food science and nutrition*, 58(5), 755-769.
- Aggarwal, V., Seth, A., Marwaha, R. K., Sharma, B., Sonkar, P., Singh, S., & Aneja, S. (2013). Management of nutritional rickets in Indian children: a randomized controlled trial. *Journal of tropical pediatrics*, 59(2), 127–133. <https://doi.org/10.1093/tropej/fms058>
- Aghajafari, F., Nagulesapillai, T., Ronksley, P. E., Tough, S. C., O’Beirne, M., & Rabi, D. M. (2013). Association between maternal serum 25-hydroxyvitamin D level and pregnancy and neonatal outcomes: systematic review and meta-analysis of observational studies. *Bmj*, 346.
- Agrawal, N. K., & Sharma, B. (2013). Prevalence of osteoporosis in otherwise healthy Indian males aged 50 years and above. *Archives of osteoporosis*, 8, 116. <https://doi.org/10.1007/s11657-012-0116-x>
- Ajmani, S. N., Paul, M., Chauhan, P., Ajmani, A. K., & Yadav, N. (2016). Prevalence of vitamin D deficiency in burka-clad pregnant women in a 450-bedded maternity hospital of Delhi. *The Journal of Obstetrics and Gynecology of India*, 66(1), 67-71. <https://doi.org/10.1007/s13224-015-0764-z>

- Amrein, K., Scherkl, M., Hoffmann, M., Neuwersch-Sommeregger, S., Köstenberger, M., Tmava Berisha, A., Martucci, G., Pilz, S., & Malle, O. (2020). Vitamin D deficiency 2.0: an update on the current status worldwide. *European journal of clinical nutrition*, 74(11), 1498–1513. <https://doi.org/10.1038/s41430-020-0558-y>
- Ananth, C. V., & Basso, O. (2010). Impact of pregnancy-induced hypertension on stillbirth and neonatal mortality. *Epidemiology (Cambridge, Mass.)*, 21(1), 118–123. <https://doi.org/10.1097/EDE.0b013e3181c297af>
- Angurana, S. K., Angurana, R. S., Mahajan, G., Kumar, N., & Mahajan, V. (2014). Prevalence of vitamin D deficiency in apparently healthy children in north India. *Journal of pediatric endocrinology & metabolism : JPEM*, 27(11-12), 1151–1156. <https://doi.org/10.1515/jpem-2013-0387>
- Aparna, P., Muthathal, S., Nongkynrih, B., & Gupta, S. K. (2018). Vitamin D deficiency in India. *Journal of family medicine and primary care*, 7(2), 324–330. [https://doi.org/10.4103/jfmpc.jfmpc\\_78\\_18](https://doi.org/10.4103/jfmpc.jfmpc_78_18)
- Arlappa, N., Balakrishna, N., Kokku, S. B., Harikumar, R., Rao, K. M., Ravindranath, M., Kumar, S., Ramakrishna, K. S., Laxmaiah, A., Brahmam, G. N. V. (2016) Diet and Nutritional Status of the Older Adults in Rural India. *Journal Of Aging Research And Healthcare - 1(1):44-57*. <https://doi.org/10.14302/issn.2474-7785.jarh-16-1157>
- Arora, S., Goel, P., Chawla, D., Huria, A., & Arya, A. (2018). Vitamin D status in mothers and their newborns and its association with pregnancy outcomes: experience from a tertiary care center in Northern India. *The Journal of Obstetrics and Gynecology of India*, 68(5), 389-393. <https://doi.org/10.1007/s13224-017-1067-3>
- Arya, V., Bambri, R., Godbole, M. M., & Mithal, A. (2004). Vitamin D status and its relationship with bone mineral density in healthy Asian Indians. *Osteoporosis international : a journal established as result of cooperation between the European Foundation for Osteoporosis and the National Osteoporosis Foundation of the USA*, 15(1), 56–61. <https://doi.org/10.1007/s00198-003-1491-3>

- Asemi, Z., Samimi, M., Tabassi, Z., Shakeri, H., & Esmaillzadeh, A. (2013). Vitamin D supplementation affects serum high-sensitivity C-reactive protein, insulin resistance, and biomarkers of oxidative stress in pregnant women. *The Journal of nutrition*, 143(9), 1432–1438. <https://doi.org/10.3945/jn.113.177550>
- Ashley, B., Simner, C., Manousopoulou, A., Jenkinson, C., Hey, F., Frost, J. M., Rezwan, F. I., White, C. H., Lofthouse, E. M., Hyde, E., Cooke, L., Barton, S., Mahon, P., Curtis, E. M., Moon, R. J., Crozier, S. R., Inskip, H. M., Godfrey, K. M., Holloway, J. W., Cooper, C., ... Cleal, J. K. (2022). Placental uptake and metabolism of 25(OH)vitamin D determine its activity within the fetoplacental unit. *eLife*, 11, e71094. <https://doi.org/10.7554/eLife.71094>
- Ashraf, S., & Mughal, M. Z. (2002). The prevalence of rickets among non-Caucasian children. *Archives of disease in childhood*, 87(3), 263–264. <https://doi.org/10.1136/adc.87.3.263-a>
- Ataseven, F., Aygün, C., Okuyucu, A., Bedir, A., Küçük, Y., & Küçüködük, S. (2013). Is vitamin d deficiency a risk factor for respiratory distress syndrome?. *International journal for vitamin and nutrition research. Internationale Zeitschrift fur Vitamin- und Ernahrungsorschung. Journal international de vitaminologie et de nutrition*, 83(4), 232–237. <https://doi.org/10.1024/0300-9831/a000165>
- Augustin, H., Mulcahy, S., Schoenmakers, I., Bullarbo, M., Glantz, A., Winkvist, A., & Bärebring, L. (2020). Late pregnancy vitamin D deficiency is associated with doubled odds of birth asphyxia and emergency caesarean section: A prospective cohort study. *Maternal and Child Health Journal*, 24(11), 1412-1418.
- Babu, U. S., & Calvo, M. S. (2010). Modern India and the vitamin D dilemma: evidence for the need of a national food fortification program. *Molecular nutrition & food research*, 54(8), 1134–1147. <https://doi.org/10.1002/mnfr.200900480>
- Bachhel, R., Singh, N. R., & Sidhu, J. S. (2015). Prevalence of vitamin D deficiency in north-west Punjab population: A cross-sectional study. *International journal of*

- applied & basic medical research, 5(1), 7–11. <https://doi.org/10.4103/2229-516X.149220>
- Bachrach, S., Fisher, J., & Parks, J. S. (1979). An outbreak of vitamin D deficiency rickets in a susceptible population. *Pediatrics*, 64(6), 871–877.
- Bagchi, K., & Bose, A. K. (1962). Effect of low nutrient intake during pregnancy on obstetrical performance and offspring. *The American journal of clinical nutrition*, 11, 586–592. <https://doi.org/10.1093/ajcn/11.6.586>
- Baidya, A., Chowdhury, S., Mukhopadhyay, S., & Ghosh, S. (2012). Profile of vitamin D in a cohort of physicians and diabetologists in Kolkata. *Indian journal of endocrinology and metabolism*, 16(Suppl 2), S416–S417.  
<https://doi.org/10.4103/2230-8210.104113>
- Baker, A. M., Haeri, S., Camargo Jr, C. A., Espinola, J. A., & Stuebe, A. M. (2010). A nested case-control study of midgestation vitamin D deficiency and risk of severe preeclampsia. *The Journal of Clinical Endocrinology & Metabolism*, 95(11), 5105–5109.
- Balasubramanian, K., Rajeswari, J., Gulab, Govil, Y. C., Agarwal, A. K., Kumar, A., & Bhatia, V. (2003). Varying role of vitamin D deficiency in the etiology of rickets in young children vs. adolescents in northern India. *Journal of tropical pediatrics*, 49(4), 201–206. <https://doi.org/10.1093/tropej/49.4.201>
- Balasubramanian, S., & Ganesh, R. (2008). Vitamin D deficiency in exclusively breast-fed infants. *The Indian journal of medical research*, 127(3), 250–255.
- Basu, S., Gupta, R., Mitra, M., & Ghosh, A. (2015). Prevalence of vitamin d deficiency in a pediatric hospital of eastern India. *Indian journal of clinical biochemistry : IJCB*, 30(2), 167–173. <https://doi.org/10.1007/s12291-014-0428-2>
- Bawaskar, P. H., Bawaskar, H. S., Bawaskar, P. H., & Pakhare, A. P. (2017). Profile of Vitamin D in patients attending at general hospital Mahad India. *Indian journal of*

- endocrinology and metabolism, 21(1), 125–130. <https://doi.org/10.4103/2230-8210.196004>
- Beck-Nielsen, S. S., Jensen, T. K., Gram, J., Brixen, K., & Brock-Jacobsen, B. (2009). Nutritional rickets in Denmark: a retrospective review of children's medical records from 1985 to 2005. *European journal of pediatrics*, 168(8), 941–949. <https://doi.org/10.1007/s00431-008-0864-1>
- Belderbos, M. E., Houben, M. L., Wilbrink, B., Lentjes, E., Bloemen, E. M., Kimpen, J. L., Rovers, M., & Bont, L. (2011). Cord blood vitamin D deficiency is associated with respiratory syncytial virus bronchiolitis. *Pediatrics*, 127(6), e1513–e1520. <https://doi.org/10.1542/peds.2010-3054>
- Belizán, J. M., & Villar, J. (1980). The relationship between calcium intake and edema-, proteinuria-, and hypertension-getosis: an hypothesis. *The American journal of clinical nutrition*, 33(10), 2202–2210. <https://doi.org/10.1093/ajcn/33.10.2202>
- Belyartseva, M., Mithal, A., Kaur, P., Kalra, S., Baruah, M. P., Mukhopadhyay, S., Bantwal, G., & Bandgar, T. R. (2012). Widespread vitamin D deficiency among Indian health care professionals. *Archives of osteoporosis*, 7, 187–192. <https://doi.org/10.1007/s11657-012-0096-x>
- Belton N. R. (1986). Rickets--not only the "English disease". *Acta paediatrica Scandinavica. Supplement*, 323, 68–75.
- Bener, A., Al-Hamaq, A. O., & Saleh, N. M. (2013). Association between vitamin D insufficiency and adverse pregnancy outcome: global comparisons. *International journal of women's health*, 5, 523–531. <https://doi.org/10.2147/IJWH.S51403>
- Benichou, J. J., Sallière, D., & Labrune, B. (1985). Rachitisme parentiel chez une adolescente [Deficiency rickets in an adolescent girl]. *Archives francaises de pediatrie*, 42(6), 443–445.

- Bhalala, U., Desai, M., Parekh, P., Mokal, R., & Chheda, B. (2007). Subclinical hypovitaminosis D among exclusively breastfed young infants. *Indian pediatrics*, 44(12), 897–901.
- BILLEWICZ, W. C., & THOMSON, A. M. (1957). Clinical significance of weight trends during pregnancy. *British medical journal*, 1(5013), 243–247.  
<https://doi.org/10.1136/bmj.1.5013.243>
- Bodnar, L. M., Catov, J. M., Simhan, H. N., Holick, M. F., Powers, R. W., & Roberts, J. M. (2007). Maternal vitamin D deficiency increases the risk of preeclampsia. *The Journal of Clinical Endocrinology & Metabolism*, 92(9), 3517-3522.
- Bonet Alcaina, M., López Segura, N., Besora Anglerill, R., Herrero Pérez, S., Esteban Torné, E., & Seidel Padilla, V. (2002). Raquitismo en inmigrantes asiáticos en período puberal [Rickets in Asian immigrants during puberty]. *Anales españoles de pediatría*, 57(3), 264–267.
- Bowyer, L., Catling-Paull, C., Diamond, T., Homer, C., Davis, G., & Craig, M. E. (2009). Vitamin D, PTH and calcium levels in pregnant women and their neonates. *Clinical endocrinology*, 70(3), 372–377. <https://doi.org/10.1111/j.1365-2265.2008.03316.x>
- Brooke, O. G., Brown, I. R., Bone, C. D., Carter, N. D., Cleeve, H. J., Maxwell, J. D., Robinson, V. P., & Winder, S. M. (1980). Vitamin D supplements in pregnant Asian women: effects on calcium status and fetal growth. *British medical journal*, 280(6216), 751–754. <https://doi.org/10.1136/bmj.280.6216.751>
- Camargo, C. A., Jr, Ingham, T., Wickens, K., Thadhani, R., Silvers, K. M., Epton, M. J., Town, G. I., Pattemore, P. K., Espinola, J. A., Crane, J., & New Zealand Asthma and Allergy Cohort Study Group (2011). Cord-blood 25-hydroxyvitamin D levels and risk of respiratory infection, wheezing, and asthma. *Pediatrics*, 127(1), e180–e187.  
<https://doi.org/10.1542/peds.2010-0442>

- Cashman K. D. (2022). Global differences in vitamin D status and dietary intake: a review of the data. *Endocrine connections*, 11(1), e210282.  
<https://doi.org/10.1530/EC-21-0282>
- Cashman, K. D., Dowling, K. G., Škrabáková, Z., Gonzalez-Gross, M., Valtueña, J., De Henauw, S., Moreno, L., Damsgaard, C. T., Michaelsen, K. F., Mølgaard, C., Jorde, R., Grimnes, G., Moschonis, G., Mavrogianni, C., Manios, Y., Thamm, M., Mensink, G. B., Rabenberg, M., Busch, M. A., Cox, L., ... Kiely, M. (2016). Vitamin D deficiency in Europe: pandemic?. *The American journal of clinical nutrition*, 103(4), 1033–1044. <https://doi.org/10.3945/ajcn.115.120873>
- Chacham, S., Rajput, S., Gurnurkar, S., Mirza, A., Saxena, V., Dakshinamurthy, S., ... & Chegondi, M. (2020). Prevalence of vitamin D deficiency among infants in Northern India: a hospital based prospective study. *Cureus*, 12(11).  
<https://doi.org/10.7759/cureus.11353>
- Chang, S. C., O'Brien, K. O., Nathanson, M. S., Caulfield, L. E., Mancini, J., & Witter, F. R. (2003). Fetal femur length is influenced by maternal dairy intake in pregnant African American adolescents. *The American journal of clinical nutrition*, 77(5), 1248–1254. <https://doi.org/10.1093/ajcn/77.5.1248>
- Chen, Y., Zhu, B., Wu, X., Li, S., & Tao, F. (2017). Association between maternal vitamin D deficiency and small for gestational age: evidence from a meta-analysis of prospective cohort studies. *BMJ open*, 7(8), e016404.
- Chowdhury, R., Taneja, S., Bhandari, N., Sinha, B., Upadhyay, R. P., Bhan, M. K., & Strand, T. A. (2017). Vitamin-D deficiency predicts infections in young north Indian children: A secondary data analysis. *PloS one*, 12(3), e0170509.
- Christian, P., & Stewart, C. P. (2010). Maternal micronutrient deficiency, fetal development, and the risk of chronic disease. *The Journal of nutrition*, 140(3), 437–445. <https://doi.org/10.3945/jn.109.116327>

- Christy, J., Perumal, S., & Sumathy, G. (2021). Serum 25 hydroxycholecalciferol levels throughout pregnancy-A cross-sectional study in South Indian Pregnant Women. International Journal of Research in Pharmaceutical Sciences, 12(4), 2330-2334. <https://doi.org/10.26452/ijrps.v12i4.4864>
- Clifton-Blyth, R. J., McElduff, P., & McElduff, A. (2008). Maternal vitamin D deficiency, ethnicity and gestational diabetes. Diabetic medicine : a journal of the British Diabetic Association, 25(6), 678–684. <https://doi.org/10.1111/j.1464-5491.2008.02422.x>
- Cone T. E., Jr (1980). A rachitic infant painted by Burgkmair 136 years before Dr. Whistler described rickets. Clinical pediatrics, 19(3), 194. <https://doi.org/10.1177/000992288001900305>
- Cooper, C., Harvey, N. C., Bishop, N. J., Kennedy, S., Papageorghiou, A. T., Schoenmakers, I., Fraser, R., Gandhi, S. V., Carr, A., D'Angelo, S., Crozier, S. R., Moon, R. J., Arden, N. K., Dennison, E. M., Godfrey, K. M., Inskip, H. M., Prentice, A., Mughal, M. Z., Eastell, R., Reid, D. M., ... MAVIDOS Study Group (2016). Maternal gestational vitamin D supplementation and offspring bone health (MAVIDOS): a multicentre, double-blind, randomised placebo-controlled trial. The lancet. Diabetes & endocrinology, 4(5), 393–402. [https://doi.org/10.1016/S2213-8587\(16\)00044-9](https://doi.org/10.1016/S2213-8587(16)00044-9)
- Cross, N. A., Hillman, L. S., Allen, S. H., Krause, G. F., & Vieira, N. E. (1995). Calcium homeostasis and bone metabolism during pregnancy, lactation, and postweaning: a longitudinal study. The American journal of clinical nutrition, 61(3), 514–523. <https://doi.org/10.1093/ajcn/61.3.514>
- Dadra, A., Aggarwal, S., Kumar, P., Kumar, V., Dibar, D. P., & Bhadada, S. K. (2019). High prevalence of vitamin D deficiency and osteoporosis in patients with fragility fractures of hip: A pilot study. Journal of clinical orthopaedics and trauma, 10(6), 1097–1100. <https://doi.org/10.1016/j.jcot.2019.03.012>

- Dagnelie, P. C., Vergote, F. J., van Staveren, W. A., van den Berg, H., Dingjan, P. G., & Hautvast, J. G. (1990). High prevalence of rickets in infants on macrobiotic diets. *The American journal of clinical nutrition*, 51(2), 202–208.  
<https://doi.org/10.1093/ajcn/51.2.202>
- DARBY, W. J., McGANITY, W. J., MARTIN, M. P., BRIDGFORT, E., DENSEN, P. M., KASER, M. M., OGLE, P. J., NEWBILL, J. A., STOCKELL, A., FERGUSON, M. E., TOUSTER, O., McCLELLAN, G. S., WILLIAMS, C., & CANNON, R. O. (1953). The Vanderbilt cooperative study of maternal and infant nutrition. IV. Dietary, laboratory and physical findings in 2,129 delivered pregnancies. *The Journal of nutrition*, 51(4), 565–597. <https://doi.org/10.1093/jn/51.4.565>
- Darwish, A. M., Mohamad, S. N., Gamal Al-Din, H. R., Elsayed, Y. A., & Ahmad, S. I. (2009). Prevalence and predictors of deficient dietary calcium intake during the third trimester of pregnancy: the experience of a developing country. *The journal of obstetrics and gynaecology research*, 35(1), 106–112. <https://doi.org/10.1111/j.1447-0756.2008.00879.x>
- Das, D. (2009) Biochemistry. 13th Edition Second print, Academic Publishers, Kolkata, 879.
- Dasgupta, A., Saikia, U., & Sarma, D. (2012). Status of 25(OH)D levels in pregnancy: A study from the North Eastern part of India. *Indian journal of endocrinology and metabolism*, 16(Suppl 2), S405–S407. <https://doi.org/10.4103/2230-8210.104109>
- Dawodu, A., Saadi, H. F., Bekdache, G., Javed, Y., Altaye, M., & Hollis, B. W. (2013). Randomized controlled trial (RCT) of vitamin D supplementation in pregnancy in a population with endemic vitamin D deficiency. *The Journal of clinical endocrinology and metabolism*, 98(6), 2337–2346. <https://doi.org/10.1210/jc.2013-1154>
- Dhillon, P., Narang, G., Arora, S., & Kukreja, S. (2015). A hospital based prospective study of vitamin D deficiency in a selected group of apparently healthy children one to five years of age. *Sri Lanka Journal of Child Health*, 44(3). <https://doi.org/10.4038/sljch.v44i3.8014>

- Dik, D., & Kaur, M. (2020). Prevalence of vitamin D deficiency and associated risk factors among adults in Chandigarh. International Journal of Advanced Medical and Health Research, 7(2), 67-73.
- Do, H. J., Park, J. S., Seo, J. H., Lee, E. S., Park, C. H., Woo, H. O., & Youn, H. S. (2014). Neonatal Late-onset Hypocalcemia: Is There Any Relationship with Maternal Hypovitaminosis D?. *Pediatric gastroenterology, hepatology & nutrition*, 17(1), 47–51. <https://doi.org/10.5223/pghn.2014.17.1.47>
- Ekbote, V. H., Khadilkar, A. V., Chiplonkar, S. A., Hanumante, N. M., Khadilkar, V. V., & Mughal, M. Z. (2011). A pilot randomized controlled trial of oral calcium and vitamin D supplementation using fortified laddoos in underprivileged Indian toddlers. *European journal of clinical nutrition*, 65(4), 440–446. <https://doi.org/10.1038/ejcn.2010.288>
- Ekbote, V. H., Khadilkar, A. V., Khadilkar, V. V., Chiplonkar, S. A., & Mughal, Z. (2017). Dietary patterns with special reference to calcium intake in 2–16-year-old Urban Western Indian children. *Indian Journal of Public Health*, 61(3), 188-193. [https://doi.org/10.4103/ijph.IJPH\\_85\\_16](https://doi.org/10.4103/ijph.IJPH_85_16)
- Ekbote, V. H., Khadilkar, A. V., Mughal, M. Z., Hanumante, N., Sanwalka, N., Khadilkar, V. V., Chiplonkar, S. A., Kant, S., & Ganacharya, R. (2010). Sunlight exposure and development of rickets in Indian toddlers. *Indian journal of pediatrics*, 77(1), 61–65. <https://doi.org/10.1007/s12098-009-0263-2>
- Fang, K., He, Y., Mu, M., & Liu, K. (2021). Maternal vitamin D deficiency during pregnancy and low birth weight: a systematic review and meta-analysis. *The Journal of Maternal-Fetal & Neonatal Medicine*, 34(7), 1167-1173.
- Farrant, H. J., Krishnaveni, G. V., Hill, J. C., Boucher, B. J., Fisher, D. J., Noonan, K., Osmond, C., Veena, S. R., & Fall, C. H. (2009). Vitamin D insufficiency is common in Indian mothers but is not associated with gestational diabetes or variation in newborn size. *European journal of clinical nutrition*, 63(5), 646–652. <https://doi.org/10.1038/ejcn.2008.14>

- Feldman, K. W., Marcuse, E. K., & Springer, D. A. (1990). Nutritional rickets. *American Family Physician*, 42(5), 1311-1318.
- Fischer, P. R., Rahman, A., Cimma, J. P., Kyaw-Myint, T. O., Kabir, A. R., Talukder, K., Hassan, N., Manaster, B. J., Staab, D. B., Duxbury, J. M., Welch, R. M., Meisner, C. A., Haque, S., & Combs, G. F., Jr (1999). Nutritional rickets without vitamin D deficiency in Bangladesh. *Journal of tropical pediatrics*, 45(5), 291–293.  
<https://doi.org/10.1093/tropej/45.5.291>
- Freycon, M. T., Pouyau, G., Abeille, A., Frederich, A., Durr, F., Loras, B., & Freycon, F. (1983). Rachitisme carentiel chez le grand enfant. A propos de 2 observations [Deficiency rickets in older children. Apropos of 2 cases]. *Pediatrie*, 38(7), 485–490.
- G, R., & Gupta, A. (2014). Vitamin D deficiency in India: prevalence, causalities and interventions. *Nutrients*, 6(2), 729–775. <https://doi.org/10.3390/nu6020729>
- Ganguly, A., Tamblyn, J. A., Finn-Sell, S., Chan, S. Y., Westwood, M., Gupta, J., Kilby, M. D., Gross, S. R., & Hewison, M. (2018). Vitamin D, the placenta and early pregnancy: effects on trophoblast function. *The Journal of endocrinology*, 236(2), R93–R103. <https://doi.org/10.1530/JOE-17-0491>
- Ganpule, A., Yajnik, C. S., Fall, C. H., Rao, S., Fisher, D. J., Kanade, A., Cooper, C., Naik, S., Joshi, N., Lubree, H., Deshpande, V., & Joglekar, C. (2006). Bone mass in Indian children--relationships to maternal nutritional status and diet during pregnancy: the Pune Maternal Nutrition Study. *The Journal of clinical endocrinology and metabolism*, 91(8), 2994–3001. <https://doi.org/10.1210/jc.2005-2431>
- Garabedian, M., & Ben-Mekhbi, H. (1989). Le rachitisme carentiel: situation actuelle en France et en Algérie [Deficiency rickets: the current situation in France and Algeria]. *Pediatrie*, 44(4), 259–264.
- Garg S, Dasgupta A, Paul B, Maharana SP. Vitamin D Insufficiency Risk Score for Screening for Vitamin D Insufficiency. *Indian J Endocrinol Metab*. 2019 Sep-

Oct;23(5):552-556. doi: 10.4103/ijem.IJEM\_539\_19. PMID: 31803596; PMCID: PMC6873250.

Garg, M. K., Tandon, N., Marwaha, R. K., Menon, A. S., & Mahalle, N. (2014). The relationship between serum 25-hydroxy vitamin D, parathormone and bone mineral density in Indian population. *Clinical endocrinology*, 80(1), 41–46.  
<https://doi.org/10.1111/cen.12248>

Gernand, A. D., Simhan, H. N., Caritis, S., & Bodnar, L. M. (2014). Maternal vitamin D status and small-for-gestational-age offspring in women at high risk for preeclampsia. *Obstetrics and gynecology*, 123(1), 40.

Ghosh-Jerath, S., Devasenapathy, N., Singh, A., Shankar, A., & Zodpey, S. (2015). Ante natal care (ANC) utilization, dietary practices and nutritional outcomes in pregnant and recently delivered women in urban slums of Delhi, India: an exploratory cross-sectional study. *Reproductive health*, 12(1), 1-11. <https://doi.org/10.1186/s12978-015-0008-9>

Goel A, Thirumani,A., Kalaivani, K. and Ramachandran, P. (2020) Dual Nutrition Burden in Urban Women from Low Middle Income Families. *The Ind. J. Nutr.Diet.*, 57, 10-24. <https://doi.org/10.21048/ijnd.2020.57.1.24119>

Goel A, Thirumani,A., Kalaivani, K. and Ramachandran, P. (2020) Effect of Lactation on Nutritional status in Urban women from Low Middle Income Families. *The Ind. J. Nutr.Diet*, 57, 222-239. <https://doi.org/10.21048/IJND.2020.57.3.25434>

GOI National Food Security Bill, Registered No. DL-(N) 04/0007/2003-13, Published by the Ministry of Law and Justice, September 10, 2013.

Gopalan, C., Rama Sastri, B. V., & Balasubramanian, S. C. (2007). Nutritive value of Indian foods. Revised First Edition reprint, National Institute of Nutrition, ICMR, Hyderabad, 161.

Gopalan, S., & Ramachandran, P. (2008). Nutrition & bone health. *The Indian journal of medical research*, 127(3), 207–210.

- Goswami, R., Gupta, N., Goswami, D., Marwaha, R. K., Tandon, N., & Kochupillai, N. (2000). Prevalence and significance of low 25-hydroxyvitamin D concentrations in healthy subjects in Delhi. *The American journal of clinical nutrition*, 72(2), 472–475. <https://doi.org/10.1093/ajcn/72.2.472>
- Goswami, R., Gupta, N., Ray, D., Singh, N., & Tomar, N. (2008). Pattern of 25-hydroxy vitamin D response at short (2 month) and long (1 year) interval after 8 weeks of oral supplementation with cholecalciferol in Asian Indians with chronic hypovitaminosis D. *The British journal of nutrition*, 100(3), 526–529. <https://doi.org/10.1017/S0007114508921711>
- Goswami, R., Kochupillai, N., Gupta, N., Goswami, D., Singh, N., & Dudha, A. (2008). Presence of 25(OH) D deficiency in a rural North Indian village despite abundant sunshine. *The Journal of the Association of Physicians of India*, 56, 755–757.
- Goswami, R., Mishra, S. K., & Kochupillai, N. (2008). Prevalence & potential significance of vitamin D deficiency in Asian Indians. *The Indian journal of medical research*, 127(3), 229–238.
- Goswami, R., Saha, S., Sreenivas, V., Singh, N., & Lakshmy, R. (2017). Vitamin D-binding protein, vitamin D status and serum bioavailable 25(OH)D of young Asian Indian males working in outdoor and indoor environments. *Journal of bone and mineral metabolism*, 35(2), 177–184. <https://doi.org/10.1007/s00774-016-0739-x>
- Grant, C. C., Stewart, A. W., Scragg, R., Milne, T., Rowden, J., Ekeroma, A., Wall, C., Mitchell, E. A., Crengle, S., Trenholme, A., Crane, J., & Camargo, C. A., Jr (2014). Vitamin D during pregnancy and infancy and infant serum 25-hydroxyvitamin D concentration. *Pediatrics*, 133(1), e143–e153. <https://doi.org/10.1542/peds.2013-2602>
- Gunjaliya, A., Patil, R., Vaza, J., Patel, H., & Maniyar, A. (2015). Prevalence of vitamin D deficiency in higher socioeconomical class of Ahmedabad, Gujarat, India. *International Journal of Medical Science and Public Health*, 4(5), 617-620.

- Gupta, A., Kant, S., Pandav, C. S., Gupta, S. K., Rai, S. K., & Misra, P. (2016). Dietary Calcium Intake, Serum Calcium Level, and their Association with Preeclampsia in Rural North India. *Indian journal of community medicine : official publication of Indian Association of Preventive & Social Medicine*, 41(3), 223–227.  
<https://doi.org/10.4103/0970-0218.183591>
- Gupta, R., Bohat, V., Kapoor, A., Singhal, A., Soni, A., & Masih, G. D. (2021). High Prevalence of Vitamin D Deficiency among North Indian Athletes. *Indian journal of community medicine : official publication of Indian Association of Preventive & Social Medicine*, 46(3), 559–561. [https://doi.org/10.4103/ijcm.IJCM\\_170\\_21](https://doi.org/10.4103/ijcm.IJCM_170_21)
- Hacker, A. N., Fung, E. B., & King, J. C. (2012). Role of calcium during pregnancy: maternal and fetal needs. *Nutrition reviews*, 70(7), 397–409.  
<https://doi.org/10.1111/j.1753-4887.2012.00491.x>
- Hanson, M. A., Bardsley, A., De-Regil, L. M., Moore, S. E., Oken, E., Poston, L., Ma, R. C., McAuliffe, F. M., Maleta, K., Purandare, C. N., Yajnik, C. S., Rushwan, H., & Morris, J. L. (2015). The International Federation of Gynecology and Obstetrics (FIGO) recommendations on adolescent, preconception, and maternal nutrition: "Think Nutrition First". *International journal of gynaecology and obstetrics: the official organ of the International Federation of Gynaecology and Obstetrics*, 131 Suppl 4, S213–S253. [https://doi.org/10.1016/S0020-7292\(15\)30034-5](https://doi.org/10.1016/S0020-7292(15)30034-5)
- Harinarayan C. V. (2004). What's in a name--25(OH)D or 25(OH)D3?. *The National medical journal of India*, 17(2), 114–115.
- Harinarayan, C. V. (2005). Prevalence of vitamin D insufficiency in postmenopausal south Indian women. *Osteoporosis International*, 16(4), 397-402.  
<https://doi.org/10.1007/s00198-004-1703-5>
- Harinarayan, C. V. (2014). The multiple roles of Vitamin D. *NFI Bull*, 35.
- Harinarayan, C. V., & Joshi, S. R. (2009). Vitamin D status in India--its implications and remedial measures. *The Journal of the Association of Physicians of India*, 57, 40–48.

- Harinarayan, C. V., Akhila, H., & Shanthisree, E. (2021). Modern India and Dietary Calcium Deficiency-Half a Century Nutrition Data-Retrospect-Introspect and the Road Ahead. *Frontiers in endocrinology*, 12, 583654.  
<https://doi.org/10.3389/fendo.2021.583654>
- Harinarayan, C. V., Gupta, N., & Kochupillai, N. (1995). Vitamin D status in primary hyperparathyroidism in India. *Clinical endocrinology*, 43(3), 351–358.  
<https://doi.org/10.1111/j.1365-2265.1995.tb02043.x>
- Harinarayan, C. V., Ramalakshmi, T., & Venkataprasad, U. (2004). High prevalence of low dietary calcium and low vitamin D status in healthy south Indians. *Asia Pacific journal of clinical nutrition*, 13(4), 359–364.
- Harinarayan, C. V., Ramalakshmi, T., Prasad, U. V., & Sudhakar, D. (2008). Vitamin D status in Andhra Pradesh : a population based study. *The Indian journal of medical research*, 127(3), 211–218.
- Harinarayan, C. V., Ramalakshmi, T., Prasad, U. V., Sudhakar, D., Srinivasarao, P. V., Sarma, K. V., & Kumar, E. G. T. (2007). High prevalence of low dietary calcium, high phytate consumption, and vitamin D deficiency in healthy south Indians. *The American journal of clinical nutrition*, 85(4), 1062-1067.  
<https://doi.org/10.1093/ajcn/85.4.1062>
- Harinarayan, C. V., Sachan, A., Reddy, P. A., Satish, K. M., Prasad, U. V., & Srivani, P. (2011). Vitamin D status and bone mineral density in women of reproductive and postmenopausal age groups: a cross-sectional study from south India. *The Journal of the Association of Physicians of India*, 59, 698–704.
- Harinarayan, C., & Ramalakshmi, T. (2015). Patterns of dietary calcium intake in south Indian rural, urban and metropolitan city subjects. *J Clin Sci Res*, 4(2), 143-8.  
<http://dx.doi.org/10.15380/2277-5706.JCSR.15.003>
- Hart, P. H., Lucas, R. M., Walsh, J. P., Zosky, G. R., Whitehouse, A. J., Zhu, K., Allen, K. L., Kusel, M. M., Anderson, D., & Mountain, J. A. (2015). Vitamin D in fetal

- development: findings from a birth cohort study. *Pediatrics*, 135(1), e167–e173. <https://doi.org/10.1542/peds.2014-1860>
- Haworth, J. C., & Dilling, L. A. (1986). Vitamin-D-deficient rickets in Manitoba, 1972-84. *CMAJ : Canadian Medical Association journal = journal de l'Association medicale canadienne*, 134(3), 237–241.
- Hayes, A., & Cashman, K. D. (2017). Food-based solutions for vitamin D deficiency: putting policy into practice and the key role for research. *The Proceedings of the Nutrition Society*, 76(1), 54–63. <https://doi.org/10.1017/S0029665116000756>
- Hayward, I., Stein, M. T., & Gibson, M. I. (1987). Nutritional rickets in San Diego. *American journal of diseases of children* (1960), 141(10), 1060–1062. <https://doi.org/10.1001/archpedi.1987.04460100038018>
- Hellebostad, M., Markestad, T., & Seeger Halvorsen, K. (1985). Vitamin D deficiency rickets and vitamin B12 deficiency in vegetarian children. *Acta paediatrica Scandinavica*, 74(2), 191–195. <https://doi.org/10.1111/j.1651-2227.1985.tb10948.x>
- Hemalatha, N. (2021) A prospective study to assess the association of vitamin D deficiency and insufficiency with adverse pregnancy outcomes. *International Journal of Clinical Obstetrics and Gynaecology*, 5(4): 38-44. <https://doi.org/10.33545/gynae.2021.v5.i4a.1087>
- Hilger, J., Friedel, A., Herr, R., Rausch, T., Roos, F., Wahl, D. A., Pierroz, D. D., Weber, P., & Hoffmann, K. (2014). A systematic review of vitamin D status in populations worldwide. *The British journal of nutrition*, 111(1), 23–45. <https://doi.org/10.1017/S0007114513001840>
- Hinduja, A., Chandy, D., Patkar, D., & Wankhedkar, H. (2022). Vitamin-D deficiency in adults of Mumbai city: Change in the last decade. *Journal of family medicine and primary care*, 11(5), 2187–2193. [https://doi.org/10.4103/jfmpc.jfmpc\\_1804\\_21](https://doi.org/10.4103/jfmpc.jfmpc_1804_21)

- Hodgkin, P., Hine, P. M., Kay, G. H., Lumb, G. A., & Stanbury, S. W. (1973). Vitamin-D deficiency in Asians at home and in Britain. *Lancet (London, England)*, 2(7822), 167–171. [https://doi.org/10.1016/s0140-6736\(73\)93004-3](https://doi.org/10.1016/s0140-6736(73)93004-3)
- Hofmeyr, G. J., Lawrie, T. A., Atallah, Á. N., & Torloni, M. R. (2018). Calcium supplementation during pregnancy for preventing hypertensive disorders and related problems. *The Cochrane database of systematic reviews*, 10(10), CD001059. <https://doi.org/10.1002/14651858.CD001059.pub5>
- Holick M. F. (2009). Vitamin D status: measurement, interpretation, and clinical application. *Annals of epidemiology*, 19(2), 73–78. <https://doi.org/10.1016/j.annepidem.2007.12.001>
- Holick, M. F., Binkley, N. C., Bischoff-Ferrari, H. A., Gordon, C. M., Hanley, D. A., Heaney, R. P., Murad, M. H., Weaver, C. M., & Endocrine Society (2011). Evaluation, treatment, and prevention of vitamin D deficiency: an Endocrine Society clinical practice guideline. *The Journal of clinical endocrinology and metabolism*, 96(7), 1911–1930. <https://doi.org/10.1210/jc.2011-0385>
- Hollis B. W. (2000). Comparison of commercially available (125)I-based RIA methods for the determination of circulating 25-hydroxyvitamin D. *Clinical chemistry*, 46(10), 1657–1661.
- Hollis B. W. (2004). Editorial: The determination of circulating 25-hydroxyvitamin D: no easy task. *The Journal of clinical endocrinology and metabolism*, 89(7), 3149–3151. <https://doi.org/10.1210/jc.2004-0682>
- Hollis B. W. (2005). Circulating 25-hydroxyvitamin D levels indicative of vitamin D sufficiency: implications for establishing a new effective dietary intake recommendation for vitamin D. *The Journal of nutrition*, 135(2), 317–322. <https://doi.org/10.1093/jn/135.2.317>

- Hollis, B. W., & Wagner, C. L. (2013). Vitamin D and pregnancy: skeletal effects, nonskeletal effects, and birth outcomes. *Calcified tissue international*, 92(2), 128–139. <https://doi.org/10.1007/s00223-012-9607-4>
- Hollis, B. W., & Wagner, C. L. (2017). New insights into the vitamin D requirements during pregnancy. *Bone research*, 5, 17030. <https://doi.org/10.1038/boneres.2017.30>
- Hollis, B. W., Johnson, D., Hulsey, T. C., Ebeling, M., & Wagner, C. L. (2011). Vitamin D supplementation during pregnancy: double-blind, randomized clinical trial of safety and effectiveness. *Journal of bone and mineral research : the official journal of the American Society for Bone and Mineral Research*, 26(10), 2341–2357. <https://doi.org/10.1002/jbmr.463>
- Hubeish, M., Al Husari, H., Itani, S., El Tal, R., Tamim, H., & Abou Saleh, S. (2018). Maternal Vitamin D Level and Rate of Primary Cesarean Section. *Journal Of Clinical Gynecology And Obstetrics*, 7(2), 43-51.
- ICMR, Nutrient requirements and Recommended dietary allowances for Indians, A Report of the Expert Group of the Indian Council of Medical Research. (2010). National Institute of Nutrition, Hyderabad, India.
- ICMR-NIN Expert Group on Nutrient Requirement for Indians, Recommended Dietary Allowances (RDA) and Estimated Average Requirement (EAR)-2020. NIN, Hyderabad
- IIPS, District Level Household and Facility Survey DLHS-4 <http://rchiips.org/DLHS-4.html>
- Imdad, A., & Bhutta, Z. A. (2012). Effects of calcium supplementation during pregnancy on maternal, fetal and birth outcomes. *Paediatric and perinatal epidemiology*, 26 Suppl 1, 138–152. <https://doi.org/10.1111/j.1365-3016.2012.01274.x>
- Imdad, A., Jabeen, A., & Bhutta, Z. A. (2011). Role of calcium supplementation during pregnancy in reducing risk of developing gestational hypertensive disorders: a meta-

- analysis of studies from developing countries. BMC public health, 11 Suppl 3(Suppl 3), S18. <https://doi.org/10.1186/1471-2458-11-S3-S18>
- Ingole, J., & Ingole, S. (2014). Pregnancy and Vitamin D. Journal of Mahatma Gandhi Institute of Medical Sciences, 19(2), 89.
- Institute of Medicine (US) Committee to Review Dietary Reference Intakes for Vitamin D and Calcium, Ross, A. C., Taylor, C. L., Yaktine, A. L., & Del Valle, H. B. (Eds.). (2011). Dietary Reference Intakes for Calcium and Vitamin D. National Academies Press (US).
- Institute of Medicine (US) Committee to Review Dietary Reference Intakes for Vitamin D and Calcium; Ross AC, Taylor CL, Yaktine AL, et al., editors. Dietary Reference Intakes for Calcium and Vitamin D. Washington (DC): National Academies Press (US); 2011. Available from: <https://www.ncbi.nlm.nih.gov/books/NBK56070/> doi: 10.17226/13050
- International Institute for Population Sciences - IIPS/India and ICF. 2022. India national family health survey NFHS-5 2019-21. Mumbai, India: IIPS and ICF. Available at <https://www.dhsprogram.com/pubs/pdf/FR375/FR375.pdf>.
- International Institute for Population Sciences -IIPS, National Family Health Survey (NFHS- 4) 2015-16 Fact sheets Available at [http://rchiips.org/nfhs/factsheet\\_NFHS-4.shtml](http://rchiips.org/nfhs/factsheet_NFHS-4.shtml)
- International Institute for Population Sciences -IIPS, National Family Health Survey (NFHS-1) 1992-93. Available at: <http://rchiips.org/nfhs/nfhs1.shtml>
- International Institute for Population Sciences -IIPS, National Family Health Survey (NFHS-2) 1998-99. Available at: <http://rchiips.org/nfhs/nfhs2.shtml>
- International Institute for Population Sciences -IIPS, National Family Health Survey (NFHS-3) 2005-06. Available at: <http://rchiips.org/nfhs/nfhs3.shtml>

International Institute for Population Sciences-IIPS, District Level Household and Facility Survey DLHS-2 <http://rchiips.org/PRCH-2.html>

Jain, V., Gupta, N., Kalaivani, M., Jain, A., Sinha, A., & Agarwal, R. (2011). Vitamin D deficiency in healthy breastfed term infants at 3 months & their mothers in India: seasonal variation & determinants. *The Indian journal of medical research*, 133(3), 267–273.

Janakiraman, V., Ettinger, A., Mercado-Garcia, A., Hu, H., & Hernandez-Avila, M. (2003). Calcium supplements and bone resorption in pregnancy: a randomized crossover trial. *American journal of preventive medicine*, 24(3), 260–264.  
[https://doi.org/10.1016/s0749-3797\(02\)00641-4](https://doi.org/10.1016/s0749-3797(02)00641-4)

Jani, R., Palekar, S., Munipally, T., Ghugre, P., & Udupi, S. (2014). Widespread 25-hydroxyvitamin D deficiency in affluent and nonaffluent pregnant Indian women. *BioMed research international*, 2014, 892162. <https://doi.org/10.1155/2014/892162>

Javaid, M. K., Crozier, S. R., Harvey, N. C., Gale, C. R., Dennison, E. M., Boucher, B. J., Arden, N. K., Godfrey, K. M., Cooper, C., & Princess Anne Hospital Study Group (2006). Maternal vitamin D status during pregnancy and childhood bone mass at age 9 years: a longitudinal study. *Lancet (London, England)*, 367(9504), 36–43.  
[https://doi.org/10.1016/S0140-6736\(06\)67922-1](https://doi.org/10.1016/S0140-6736(06)67922-1)

Joshi, K., & Bhatia, V. (2014). Vitamin D deficiency in a tropical country--treatment and prevention in children. *Indian journal of pediatrics*, 81(1), 84–89.  
<https://doi.org/10.1007/s12098-013-1241-2>

Kajale, N., Khadilkar, A., Chiplonkar, S., Mughal, Z., Khadilkar, V., & Mansukhani, N. (2016). A Cross-Sectional Study of Postpartum Changes in Bone Status in Indian Mothers. *Journal of obstetrics and gynaecology of India*, 66(4), 218–225.  
<https://doi.org/10.1007/s13224-015-0746-1>

Kalra, P., Das, V., Agarwal, A., Kumar, M., Ramesh, V., Bhatia, E., Gupta, S., Singh, S., Saxena, P., & Bhatia, V. (2012). Effect of vitamin D supplementation during

- pregnancy on neonatal mineral homeostasis and anthropometry of the newborn and infant. *The British journal of nutrition*, 108(6), 1052–1058.  
<https://doi.org/10.1017/S0007114511006246>
- Kamalanathan, S., Nambiar, V., Shivane, V., Bandgar, T., Menon, P., & Shah, N. (2014). Bone mineral density and factors influencing it in Asian Indian population with type 2 diabetes mellitus. *Indian journal of endocrinology and metabolism*, 18(6), 831–837.  
<https://doi.org/10.4103/2230-8210.140268>
- Kamboj P, Dwivedi S, Toteja GS. Prevalence of hypovitaminosis D in India & way forward. *Indian J Med Res.* 2018 Nov;148(5):548-556. doi: 10.4103/ijmr.IJMR\_1807\_18. PMID: 30666982; PMCID: PMC6366270.
- Kanagal, D. V., Rajesh, A., Rao, K., Devi, U. H., Shetty, H., Kumari, S., & Shetty, P. K. (2014). Levels of serum calcium and magnesium in pre-eclamptic and normal pregnancy: A study from Coastal India. *Journal of clinical and diagnostic research: JCDR*, 8(7), OC01.
- Kapil, U., Pandey, R. M., Goswami, R., Sharma, B., Sharma, N., Ramakrishnan, L., Singh, G., Sareen, N., Sati, H. C., Gupta, A., & Sofi, N. Y. (2017). Prevalence of Vitamin D deficiency and associated risk factors among children residing at high altitude in Shimla district, Himachal Pradesh, India. *Indian journal of endocrinology and metabolism*, 21(1), 178–183. <https://doi.org/10.4103/2230-8210.196031>
- Karpa M, Thakur S, Singh K, Sharma J, Chaudhary H. (2022). To compare serum Vitamin D status in pre-eclamptic and non-preeclamptic pregnant women in labour: A tertiary care centre study of Northern India. *Clin J Obstet Gyneco.*, 5, 013-018.  
<https://doi.org/10.29328/journal.cjog.1001100>
- Kaur, J., Marya, R. K., Rathee, S., Lal, H., & Singh, G. P. (1991). Effect of pharmacological doses of vitamin D during pregnancy on placental protein status and birth weight. *Nutrition Research*, 11(9), 1077–1081. doi:10.1016/s0271-5317(05)80400-2

- Koo, W. W., Walters, J. C., Esterlitz, J., Levine, R. J., Bush, A. J., & Sibai, B. (1999). Maternal calcium supplementation and fetal bone mineralization. *Obstetrics and gynecology*, 94(4), 577–582. [https://doi.org/10.1016/s0029-7844\(99\)00371-3](https://doi.org/10.1016/s0029-7844(99)00371-3)
- Kovacs, C. S., & Kronenberg, H. M. (1997). Maternal-fetal calcium and bone metabolism during pregnancy, puerperium, and lactation. *Endocrine reviews*, 18(6), 832–872. <https://doi.org/10.1210/edrv.18.6.0319>
- Kramer M. S. (1987). Determinants of low birth weight: methodological assessment and meta-analysis. *Bulletin of the World Health Organization*, 65(5), 663–737.
- Krishnaswamy, K., Vijayaraghavan, K., Gowrinath Sastry, J., Hanumantha Rao, D., Brahmam, G. N. V., Radhaiah, G., Kashinath, K. & Vishnuvardhan Rao, M. (1997). 25 years of National Nutrition Monitoring Bureau. Available from: [https://www.nin.res.in/downloads/Reports-for%20the%2025%20years\(1972-97\).pdf](https://www.nin.res.in/downloads/Reports-for%20the%2025%20years(1972-97).pdf)
- Krishnaveni, G. V., Veena, S. R., Winder, N. R., Hill, J. C., Noonan, K., Boucher, B. J., Karat, S. C., & Fall, C. H. (2011). Maternal vitamin D status during pregnancy and body composition and cardiovascular risk markers in Indian children: the Mysore Parthenon Study. *The American journal of clinical nutrition*, 93(3), 628–635. <https://doi.org/10.3945/ajcn.110.003921>
- Kruger, D. M., Lyne, E. D., & Kleerekoper, M. (1987). Vitamin D deficiency rickets. A report on three cases. *Clinical orthopaedics and related research*, (224), 277–283.
- Kumar, A., Devi, S. G., Batra, S., Singh, C., & Shukla, D. K. (2009). Calcium supplementation for the prevention of pre-eclampsia. *International journal of gynaecology and obstetrics: the official organ of the International Federation of Gynaecology and Obstetrics*, 104(1), 32–36. <https://doi.org/10.1016/j.ijgo.2008.08.027>
- Kumar, A., Devi, S. G., Prasad, S., Kapoor, S., & Sharma, S. (2012). Bone turnover in preeclampsia-complicated pregnancy in North Indian women. *The journal of*

- obstetrics and gynaecology research, 38(1), 172–179. <https://doi.org/10.1111/j.1447-0756.2011.01664.x>
- Kumar, P., Shenoi, A., Kumar, R. K., Girish, S. V., & Subbaiah, S. (2015). Vitamin D Deficiency Among Women in Labor and Cord Blood of Newborns. *Indian pediatrics*, 52(6), 530–531.
- Kumari, A., Mitra, S., Tiwari, H. C., & Srivastav, R. (2017). Hypovitaminosis D in pregnancy and its correlation with preeclampsia and gestational diabetes mellitus. *International Journal of Reproduction, Contraception, Obstetrics and Gynecology*, 6(3), 890-896.
- Kumari, H., Kalaivani, K., & Ramachandran, P. (2022). Food Consumption and Nutritional Status of Urban Low Middle-Income Families. *The Indian Journal of Nutrition and Dietetics*, Volume 59(3), 357-368.  
<https://doi.org/10.21048/IJND.2022.59.3.29504>
- Laboissiere, F. P., Bezerra, F. F., Rodrigues, R. B., King, J. C., & Donangelo, C. M. (2000). Calcium homeostasis in primiparae and multiparae pregnant women with marginal calcium intakes and response to a 7-day calcium supplementation trial. *Nutrition Research*, 20(9), 1229-1239.
- Lee, T. (1940). Historical notes on some vitamin deficiency diseases in China. *Chinese Medical Journal*, 58(03), 314-323.
- Leffelaar, E. R., Vrijkotte, T. G., & van Eijsden, M. (2010). Maternal early pregnancy vitamin D status in relation to fetal and neonatal growth: results of the multi-ethnic Amsterdam Born Children and their Development cohort. *The British journal of nutrition*, 104(1), 108–117. <https://doi.org/10.1017/S000711451000022X>
- López Segura, N., Bonet Alcaina, M., & García Algar, O. (2002). Raquitismo carencial en inmigrantes asiáticos [Rickets in Asian immigrants]. *Anales españoles de pediatría*, 57(3), 227–230.

- Luxwolda, M. F., Kuipers, R. S., Kema, I. P., Dijck-Brouwer, D. A., & Muskiet, F. A. (2012). Traditionally living populations in East Africa have a mean serum 25-hydroxyvitamin D concentration of 115 nmol/l. *The British journal of nutrition*, 108(9), 1557–1561. <https://doi.org/10.1017/S0007114511007161>
- Maghbooli, Z., Hossein-Nezhad, A., Karimi, F., Shafaei, A. R., & Larijani, B. (2008). Correlation between vitamin D<sub>3</sub> deficiency and insulin resistance in pregnancy. *Diabetes/metabolism research and reviews*, 24(1), 27–32. <https://doi.org/10.1002/dmrr.737>
- Mahon, P., Harvey, N., Crozier, S., Inskip, H., Robinson, S., Arden, N., Swaminathan, R., Cooper, C., Godfrey, K., & SWS Study Group (2010). Low maternal vitamin D status and fetal bone development: cohort study. *Journal of bone and mineral research: the official journal of the American Society for Bone and Mineral Research*, 25(1), 14–19. <https://doi.org/10.1359/jbmr.090701>
- Maladkar, M., Sankar, S., & Kamat, K. (2015). Vitamin D efficiency in pregnancy: An updated viewpoint in Indian scenario. *International Journal of Clinical Medicine*, 6(03), 204.
- Mandlik, R. M., Mughal, Z. M., Khadilkar, A. V., Ekbote, V. H., Kajale, N. A., Patwardhan, V. G., Khadilkar, V. V., & Padidela, R. (2020). Paradoxical Response of Parathyroid Hormone to Vitamin D-Calcium Supplementation in Indian Children. *The Journal of pediatrics*, 216, 197–203. <https://doi.org/10.1016/j.jpeds.2019.09.028>
- Mandlik, R., Kajale, N., Ekbote, V., Patwardhan, V., Khadilkar, V., Chiplonkar, S., & Khadilkar, A. (2018). Determinants of Vitamin D Status in Indian School-children. *Indian journal of endocrinology and metabolism*, 22(2), 244–248. [https://doi.org/10.4103/ijem.IJEM\\_622\\_17](https://doi.org/10.4103/ijem.IJEM_622_17)
- Marwaha, R. K., Puri, S., Tandon, N., Dhir, S., Agarwal, N., Bhadra, K., & Saini, N. (2011). Effects of sports training & nutrition on bone mineral density in young Indian healthy females. *The Indian journal of medical research*, 134(3), 307–313.

- Marwaha, R. K., Tandon, N., Agarwal, N., Puri, S., Agarwal, R., Singh, S., & Mani, K. (2010). Impact of two regimens of vitamin D supplementation on calcium - vitamin D - PTH axis of schoolgirls of Delhi. *Indian pediatrics*, 47(9), 761–769.  
<https://doi.org/10.1007/s13312-010-0116-0>
- Marwaha, R. K., Tandon, N., Chopra, S., Agarwal, N., Garg, M. K., Sharma, B., ... & Puri, S. (2011). Vitamin D status in pregnant Indian women across trimesters and different seasons and its correlation with neonatal serum 25-hydroxyvitamin D levels. *British journal of nutrition*, 106(9), 1383-1389.  
<https://doi.org/10.1017/S000711451100170X>
- Marwaha, R. K., Tandon, N., Garg, M. K., Kanwar, R., Narang, A., Sastry, A., Saberwal, A., & Bandra, K. (2011). Vitamin D status in healthy Indians aged 50 years and above. *The Journal of the Association of Physicians of India*, 59, 706–709.
- Marwaha, R. K., Tandon, N., Reddy, D. R., Aggarwal, R., Singh, R., Sawhney, R. C., Saluja, B., Ganie, M. A., & Singh, S. (2005). Vitamin D and bone mineral density status of healthy schoolchildren in northern India. *The American journal of clinical nutrition*, 82(2), 477–482. <https://doi.org/10.1093/ajcn.82.2.477>
- Marya, R. K., Rathee, S., & Manrow, M. (1987). Effect of Calcium and Vitamin D Supplementation on Toxaemia of Pregnancy. *Gynecologic and Obstetric Investigation*, 24(1), 38–42. doi:10.1159/000298772
- Marya, R. K., Rathee, S., Lata, V., & Mudgil, S. (1981). Effects of Vitamin D Supplementation in Pregnancy. *Gynecologic and Obstetric Investigation*, 12(3), 155–161. doi:10.1159/000299597
- Matsuzaki, M., Kuper, H., Kulkarni, B., Radhakrishna, K. V., Viljakainen, H., Taylor, A. E., Sullivan, R., Bowen, L., Tobias, J. H., Ploubidis, G. B., Wells, J. C., Prabhakaran, D., Davey Smith, G., Ebrahim, S., Ben-Shlomo, Y., & Kinra, S. (2014). Life-course determinants of bone mass in young adults from a transitional rural community in India: the Andhra Pradesh Children and Parents Study (APCAPS). *The American*

- journal of clinical nutrition, 99(6), 1450–1459.  
<https://doi.org/10.3945/ajcn.113.068791>
- McCollum, E. V. (1957). A history of nutrition. A history of nutrition.
- McCollum, E. V., Simmonds, N., Becker, J. E., & Shipley, P. G. (1922). Studies on experimental rickets: XXI. An experimental demonstration of the existence of a vitamin which promotes calcium deposition. *Journal of Biological Chemistry*, 53(2), 293-312.
- McCollum, E. V., Simmonds, N., Becker, J. E., & Shipley, P. G. (1925). STUDIES ON EXPERIMENTAL RICKETS: XXVI. A DIET COMPOSED PRINCIPALLY OF PURIFIED FOODSTUFFS FOR USE WITH THE “LINE TEST” FOR VITAMIN D STUDIES. *Journal of Biological Chemistry*, 65(1), 97-100.
- Mehrotra, P., Marwaha, R. K., Aneja, S., Seth, A., Singla, B. M., Ashraf, G., Sharma, B., Sastry, A., & Tandon, N. (2010). Hypovitaminosis d and hypocalcemic seizures in infancy. *Indian pediatrics*, 47(7), 581–586. <https://doi.org/10.1007/s13312-010-0131-1>
- Merewood, A., Mehta, S. D., Chen, T. C., Bauchner, H., & Holick, M. F. (2009). Association between vitamin D deficiency and primary cesarean section. *The Journal of clinical endocrinology and metabolism*, 94(3), 940–945.  
<https://doi.org/10.1210/jc.2008-1217>
- Ministry of Health & Family Welfare. Anemia Mukt Bharat. Intensified National Iron Plus Initiative (I-NIPI): 2018. Available from:  
<https://www.fitterfly.com/site/pdf/anemia-mukt-bharat.pdf>
- Ministry of Women and Child Development, Integrated Child Development Services (ICDS). Available from: [wcd.nic.in](http://wcd.nic.in)
- Mir, S. A., Masoodi, S. R., Shafi, S., Hameed, I., Dar, M. A., Bashir, M. I., ... & Shah, P. A. (2016). Efficacy and safety of Vitamin D supplementation during pregnancy: A randomized trial of two different levels of dosing on maternal and neonatal Vitamin

- D outcome. Indian journal of endocrinology and metabolism, 20(3), 337.  
<https://doi.org/10.4103/2230-8210.179991>
- Mirza, A. A., Rathi, H., Dakshinamurthy, S., Goyal, B., Saha, S., Saxena, V., ... & Naithani, M. (2022). Assessment of Vitamin D Levels and Other Bone Related Biochemical Markers in Healthy Adults in Rural Population of Uttarakhand, India. Indian Journal of Clinical Biochemistry, 1-8.
- Misra, M., Pacaud, D., Petryk, A., Collett-Solberg, P. F., Kappy, M., & Drug and Therapeutics Committee of the Lawson Wilkins Pediatric Endocrine Society (2008). Vitamin D deficiency in children and its management: review of current knowledge and recommendations. Pediatrics, 122(2), 398–417.  
<https://doi.org/10.1542/peds.2007-1894>
- Misra, P., Srivastava, R., Misra, A., Kant, S., Kardam, P., & Vikram, N. K. (2017). Vitamin D status of adult females residing in Ballabgarh health and demographic surveillance system: A community-based study. Indian Journal of Public Health, 61(3), 194.
- Mithal, A., & Kalra, S. (2014). Vitamin D supplementation in pregnancy. Indian journal of endocrinology and metabolism, 18(5), 593–596. <https://doi.org/10.4103/2230-8210.139204>
- MOHFW (2013). Guidelines for Control of Iron Deficiency Anaemia. Available from:  
[http://www.pbnrhm.org/docs/iron\\_plus\\_guidelines.pdf](http://www.pbnrhm.org/docs/iron_plus_guidelines.pdf)
- MOHFW (2014) National Guidelines for calcium supplementation during pregnancy and lactation. Available from:  
[http://www.nrhmhp.gov.in/sites/default/files/files/NG\\_calcium.pdf](http://www.nrhmhp.gov.in/sites/default/files/files/NG_calcium.pdf)
- Mulligan, M. L., Felton, S. K., Riek, A. E., & Bernal-Mizrachi, C. (2010). Implications of vitamin D deficiency in pregnancy and lactation. American journal of obstetrics and gynecology, 202(5), 429.e1–429.e4299.  
<https://doi.org/10.1016/j.ajog.2009.09.002>

- Multani, S. K., Sarathi, V., Shivane, V., Bandgar, T. R., Menon, P. S., & Shah, N. S. (2010). Study of bone mineral density in resident doctors working at a teaching hospital. *Journal of postgraduate medicine*, 56(2), 65–70.  
<https://doi.org/10.4103/0022-3859.65272>
- Munns, C. F., Simm, P. J., Rodda, C. P., Garnett, S. P., Zacharin, M. R., Ward, L. M., Geddes, J., Cherian, S., Zurynski, Y., Cowell, C. T., & APSU Vitamin D Study Group (2012). Incidence of vitamin D deficiency rickets among Australian children: an Australian Paediatric Surveillance Unit study. *The Medical journal of Australia*, 196(7), 466–468. <https://doi.org/10.5694/mja11.10662>
- Nagaraja, N., Chakrabarty, B. K., Singh, Y., & Jayalakshmi, M. (2021). Vitamin D status and its determinants among young unmarried adult females in Northeast India: A cross-sectional study. *Journal of Marine Medical Society*, 23(2), 139-144.  
[https://doi.org/10.4103/jmms.jmms\\_69\\_20](https://doi.org/10.4103/jmms.jmms_69_20)
- National Food Security Act, (NFS) 2013. Available at: National Food Security Act (NFS) 2013 ([dfpd.gov.in](http://dfpd.gov.in))
- National Nutrition Monitoring Bureau (1980) Results of the Data of Diet and Nutrition – Compiled for the Period 1975–79. Technical Report no. 6. Hyderabad: National Institute of Nutrition, Indian Council of Medical Research.
- National Nutrition Monitoring Bureau (NNMB) All the Technical Reports of the NNMB. Available from: <http://nnmbindia.org/downloads.htm>
- National Nutrition Monitoring Bureau (NNMB) Technical Reports of the NNMB 1979 to 2012. Available from: <http://nnmbindia.org/downloads>.
- Nguyen, P. H., Kachwaha, S., Avula, R., Young, M., Tran, L. M., Ghosh, S., Agrawal, R., Escobar-Alegria, J., Patil, S., & Menon, P. (2019). Maternal nutrition practices in Uttar Pradesh, India: Role of key influential demand and supply factors. *Maternal & child nutrition*, 15(4), e12839. <https://doi.org/10.1111/mcn.12839>

NNMB, Diet and nutritional status of rural population, prevalence of hypertension and diabetes among adults and infant and young child feeding practices. Report of third repeat survey. Technical report No: 26. National Institute of Nutrition, Indian Council of Medical Research; Hyderabad, 2012. Available from:

[http://www.nnmbindia.org/1\\_NNMB\\_Third\\_Repeat\\_Rural\\_Survey\\_Technical\\_Report\\_26.pdf](http://www.nnmbindia.org/1_NNMB_Third_Repeat_Rural_Survey_Technical_Report_26.pdf)

NNMB, Diet and nutritional status of Tribal population and prevalence of Hypertension among adults. Report on second repeat survey. Technical report No: 25. Hyderabad: National Institute of Nutrition, Indian Council of Medical Research; 2009. National Nutrition Monitoring Bureau. Available from:

<https://www.nin.res.in/downloads/NNMBTribalReport.pdf>

NNMB, Diet and Nutritional status of urban population in India and prevalence of obesity, hypertension, diabetes and hyperlipidemia in urban men and women. Technical report No: 27. National Institute of Nutrition, Indian Council of Medical Research; Hyderabad, 2017. Available from:  
<http://ninindia.org/NNMB%20Urban%20Nutrition%20survey%20%20report-Final%2025-09-2017.pdf>.

NSSO: Consumer expenditure surveys. Available from:

[http://mospi.nic.in/sites/default/files/national\\_data\\_bank/ndb-rpts.htm](http://mospi.nic.in/sites/default/files/national_data_bank/ndb-rpts.htm).

Pal CP, Kumar H, Kumar D, Mittal V, Deshwar G, Altaf D, Verma S. Prevalence of vitamin D deficiency in orthopaedic patients - A single centre study. *J Clin Orthop Trauma.* 2016 Oct-Dec;7(Suppl 2):143-146. doi: 10.1016/j.jcot.2016.06.009. Epub 2016 Oct 15. PMID: 28053375; PMCID: PMC5197054.

Pal, B. R., & Shaw, N. J. (2001). Rickets resurgence in the United Kingdom: improving antenatal management in Asians. *The Journal of pediatrics,* 139(2), 337–338.  
<https://doi.org/10.1067/mpd.2001.114877>

- Palacios, C., Kostiuk, L. K., & Peña-Rosas, J. P. (2019). Vitamin D supplementation for women during pregnancy. *The Cochrane database of systematic reviews*, 7(7), CD008873. <https://doi.org/10.1002/14651858.CD008873.pub4>
- Park, K. (2007) Preventive and Social Medicine. 19th Edition, M/s Banarsidas Bhanot Publishers, Jabalpur, 768.
- Park, W., Paust, H., Kaufmann, H. J., & Offermann, G. (1987). Osteomalacia of the mother--rickets of the newborn. *European journal of pediatrics*, 146(3), 292–293. <https://doi.org/10.1007/BF00716477>
- Patel, P. P., Patel, P. A., Zulf, M. M., Yagnik, B., Kajale, N., Mandlik, R., Khadilkar, V., Chiplonkar, S. A., Phanse, S., Patwardhan, V., Joshi, P., Patel, A., & Khadilkar, A. V. (2017). Association of dental and skeletal fluorosis with calcium intake and serum vitamin D concentration in adolescents from a region endemic for fluorosis. *Indian journal of endocrinology and metabolism*, 21(1), 190–195. <https://doi.org/10.4103/2230-8210.196013>
- Patil, S., Joglekar, C., Desai, M., Yadav, A., Sonawane, S., Chavan, R., & Mohite, R. (2018). Nutritional Status and Psychological Impairment in Rural Adolescent Girls: Pilot Data From "KOKAN" Region of Western India. *Frontiers in public health*, 6, 160. <https://doi.org/10.3389/fpubh.2018.00160>
- Paul, T. V., Thomas, N., Seshadri, M. S., Oommen, R., Jose, A., & Mahendri, N. V. (2008). Prevalence of osteoporosis in ambulatory postmenopausal women from a semiurban region in Southern India: relationship to calcium nutrition and vitamin D status. *Endocrine practice : official journal of the American College of Endocrinology and the American Association of Clinical Endocrinologists*, 14(6), 665–671. <https://doi.org/10.4158/EP.14.6.665>
- Pedersen, P., Michaelsen, K. F., & Mølgaard, C. (2003). Children with nutritional rickets referred to hospitals in Copenhagen during a 10-year period. *Acta paediatrica (Oslo, Norway : 1992)*, 92(1), 87–90. <https://doi.org/10.1111/j.1651-2227.2003.tb00475.x>

- Pérez-López, F. R., Pasupuleti, V., Mezones-Holguin, E., Benites-Zapata, V. A., Thota, P., Deshpande, A., & Hernandez, A. V. (2015). Effect of vitamin D supplementation during pregnancy on maternal and neonatal outcomes: a systematic review and meta-analysis of randomized controlled trials. *Fertility and sterility*, 103(5), 1278–88.e4.  
<https://doi.org/10.1016/j.fertnstert.2015.02.019>
- Pettifor J. M. (2004). Nutritional rickets: deficiency of vitamin D, calcium, or both?. *The American journal of clinical nutrition*, 80(6 Suppl), 1725S–9S.  
<https://doi.org/10.1093/ajcn/80.6.1725S>
- Pettifor J. M. (2008). Vitamin D &/or calcium deficiency rickets in infants & children: a global perspective. *The Indian journal of medical research*, 127(3), 245–249.
- Prabhakaran, D., Chaturvedi, V., Shah, P., Manhapra, A., Jeemon, P., Shah, B., & Reddy, K. S. (2007). Differences in the prevalence of metabolic syndrome in urban and rural India: a problem of urbanization. *Chronic illness*, 3(1), 8–19.  
<https://doi.org/10.1177/1742395307079197>
- Pramanik, A., Kalaivani, K. & Ramachandran, P. (2021) Food Security and Dietary Intake in Pregnant Women from Urban Low Income Group. *The Indian Journal of Nutrition and Dietetics*, 58(2), 161-173.  
<https://doi.org/10.21048/IJND.2021.58.2.27088>
- Pramanik, A., Ramachandran, P., & Kalaivani, K. (2022). Maternal Nutrition and Birth Weight in Dual Nutrition Burden Era. *The Indian Journal of Nutrition and Dietetics*, 59(2), 187-196. <https://doi.org/10.21048/IJND.2022.59.2.28992>
- Prentice A. (2003). Micronutrients and the bone mineral content of the mother, fetus and newborn. *The Journal of nutrition*, 133(5 Suppl 2), 1693S–1699S.  
<https://doi.org/10.1093/jn/133.5.1693S>
- Puri, S., Marwaha, R. K., Agarwal, N., Tandon, N., Agarwal, R., Grewal, K., Reddy, D. H., & Singh, S. (2008). Vitamin D status of apparently healthy schoolgirls from two

- different socioeconomic strata in Delhi: relation to nutrition and lifestyle. *The British journal of nutrition*, 99(4), 876–882. <https://doi.org/10.1017/S0007114507831758>
- Raj, J. P., Oommen, A. M., & Paul, T. V. (2015). Dietary calcium intake and physical activity levels among urban South Indian postmenopausal women. *Journal of family medicine and primary care*, 4(3), 461–464. <https://doi.org/10.4103/2249-4863.161355>
- Raj, J. P., Venkatachalam, S., Shekoba, M., Norris, J. J., & Amaravati, R. S. (2018). Dietary calcium intake and physical activity levels among people living in Karnataka, India - An observational hospital-based study. *Journal of family medicine and primary care*, 7(6), 1411–1416. [https://doi.org/10.4103/jfmpc.jfmpc\\_153\\_18](https://doi.org/10.4103/jfmpc.jfmpc_153_18)
- Rajeswari, J., Balasubramanian, K., Bhatia, V., Sharma, V. P., & Agarwal, A. K. (2003). Aetiology and clinical profile of osteomalacia in adolescent girls in northern India. *The National medical journal of India*, 16(3), 139–142.
- Ramachandran P. (2007). Poverty nutrition linkages. *The Indian journal of medical research*, 126(4), 249–261.
- Ramachandran, P. (1989). Nutrition in pregnancy in women and nutrition in India. Editors. C. Gopalan, Surinder Kaur, Special Publication no. 5. Nutrition Foundation of India. New Delhi.
- Ramachandran, P. (2002). Maternal nutrition—effect on fetal growth and outcome of pregnancy. *Nutrition reviews*, 60(suppl\_5), S26-S34.
- Ramachandran, P. The double burden of malnutrition in India, 2006. Available from: <ftp://ftp.fao.org/docrep/fao/009/a0442e/a0442e01.pdf>
- Ramachandran, P., & Kalaivani, K. (2018). Nutrition transition in India: Challenges in achieving global targets. *Proceedings of the Indian National Science Academy*, 84(4), 8 21-33. <https://doi.org/10.16943/ptinsa/2018/49450>

- Ramachandran, P., Pramanik, A., & Kalaivani, K. (2019). Can Iron and Folic Acid-IFA and Ca & Vitamin D Supplementation in Pregnancy be Fitted into Habitual Pattern of Three Meals A Day?. *The Indian Journal of Nutrition and Dietetics*, 56(4), 341-350.
- Ramakrishnan, S., Bhansali, A., Bhadada, S. K., Sharma, R., Walia, R., Ravikiran, M., Shanmugasundar, G., & Ravikumar, P. (2011). Vitamin D status and its seasonal variability in healthy young adults in an Asian Indian urban population. *Endocrine practice : official journal of the American College of Endocrinology and the American Association of Clinical Endocrinologists*, 17(2), 185–191.  
<https://doi.org/10.4158/EP10155.OR>
- Raman, L., Rajalakshmi, K., Krishnamachari, K. A., & Sastry, J. G. (1978). Effect of calcium supplementation to undernourished mothers during pregnancy on the bone density of the bone density of the neonates. *The American journal of clinical nutrition*, 31(3), 466–469. <https://doi.org/10.1093/ajcn/31.3.466>
- Ramji, S. (2016). Prenatal Vitamin D Insufficiency and Neonatal Health. *NFI Bull*, 37.
- Rattan, R., Sahoo, D., & Mahapatra, S. (2016). Prevalence of Vitamin D deficiency in adults in the coastal regions of Odisha, India. *IOSR J Pharm Biol Sci*, 11, 49-52.
- Ravinder, S. S., Padmavathi, R., Maheshkumar, K., Mohankumar, M., Maruthy, K. N., Sankar, S., & Balakrishnan, K. (2022). Prevalence of vitamin D deficiency among South Indian pregnant women. *Journal of Family Medicine and Primary Care*, 11(6), 2884-2889. [https://doi.org/10.4103/jfmpc.jfmpc\\_1819\\_21](https://doi.org/10.4103/jfmpc.jfmpc_1819_21)
- Reinhold, J. (1976). RICKETS IN ASIAN IMMIGRANTS. *The Lancet*, 308(7995), 1132–1133. doi:10.1016/s0140-6736(76)91104-1
- Report of the Joint FAO/WHO Expert Consultation on vitamin and mineral requirement in human nutrition: Bangkok 1998. Second Edition FAO Rome, 2004. Available at <http://whqlibdoc.who.int/publications/2004/9241546123.pdf>.
- Report of The Working Party on Fortification of Food with Vitamin D Committee on Medical Aspects of Food Policy. Report no. 19. RICKETS AND OSTEOMALACIA.

- First publication, London 1980. Available from:  
[https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/743811/Rickets\\_and\\_Osteomalacia\\_1980\\_.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/743811/Rickets_and_Osteomalacia_1980_.pdf)
- RGI, Annual Health Survey: CAB component  
<http://www.censusindia.gov.in/2011census/hh-series/cab.html>
- RICKETS IN INDIA. (1922). JAMA: The Journal of the American Medical Association, 78(25), 1966. doi:10.1001/jama.1922.02640780028011
- Ritchie, L. D., Fung, E. B., Halloran, B. P., Turnlund, J. R., Van Loan, M. D., Cann, C. E., & King, J. C. (1998). A longitudinal study of calcium homeostasis during human pregnancy and lactation and after resumption of menses. *The American journal of clinical nutrition*, 67(4), 693–701. <https://doi.org/10.1093/ajcn/67.4.693>
- Robinson, C. J., Alanis, M. C., Wagner, C. L., Hollis, B. W., & Johnson, D. D. (2010). Plasma 25-hydroxyvitamin D levels in early-onset severe preeclampsia. *American journal of obstetrics and gynecology*, 203(4), 366.e1–366.e3666.  
<https://doi.org/10.1016/j.ajog.2010.06.036>
- Robinson, C. J., Wagner, C. L., Hollis, B. W., Baatz, J. E., & Johnson, D. D. (2011). Maternal vitamin D and fetal growth in early-onset severe preeclampsia. *American journal of obstetrics and gynecology*, 204(6), 556.e1–556.e5564.  
<https://doi.org/10.1016/j.ajog.2011.03.022>
- Robinson, P. D., Höglér, W., Craig, M. E., Verge, C. F., Walker, J. L., Piper, A. C., Woodhead, H. J., Cowell, C. T., & Ambler, G. R. (2006). The re-emerging burden of rickets: a decade of experience from Sydney. *Archives of disease in childhood*, 91(7), 564–568. <https://doi.org/10.1136/adc.2004.069575>
- Roth, D. E., Morris, S. K., Zlotkin, S., Gernand, A. D., Ahmed, T., Shanta, S. S., Papp, E., Korsiak, J., Shi, J., Islam, M. M., Jahan, I., Keya, F. K., Willan, A. R., Weksberg, R., Mohsin, M., Rahman, Q. S., Shah, P. S., Murphy, K. E., Stimec, J., Pell, L. G., ... Al Mahmud, A. (2018). Vitamin D Supplementation in Pregnancy and Lactation and

- Infant Growth. *The New England journal of medicine*, 379(6), 535–546.  
<https://doi.org/10.1056/NEJMoa1800927>
- Ryan, S., Congdon, P. J., James, J., Truscott, J., & Horsman, A. (1988). Mineral accretion in the human fetus. *Archives of disease in childhood*, 63(7), 799-808.
- Sachan, A., Gupta, R., Das, V., Agarwal, A., Awasthi, P. K., & Bhatia, V. (2005). High prevalence of vitamin D deficiency among pregnant women and their newborns in northern India. *The American journal of clinical nutrition*, 81(5), 1060–1064.  
<https://doi.org/10.1093/ajcn/81.5.1060>
- Sahu, K. K., Idris, M. Z., Agarwal, M., Singh, S. K., & Manar, M. K. (2015). Dietary intake of pregnant women and its effect on the birth weight of newborns in rural area of Uttar Pradesh, India. *Asian Journal of Medical Sciences*, 6(1), 67-70.  
<https://doi.org/10.3126/ajms.v6i1.9473>
- Sahu, M., Bhatia, V., Aggarwal, A., Rawat, V., Saxena, P., Pandey, A., & Das, V. (2009). Vitamin D deficiency in rural girls and pregnant women despite abundant sunshine in northern India. *Clinical endocrinology*, 70(5), 680-684.  
<http://dx.doi.org/10.1111/j.1365-2265.2008.03360.x>
- Sahu, M., Das, V., Aggarwal, A., Rawat, V., Saxena, P., & Bhatia, V. (2009). Vitamin D replacement in pregnant women in rural north India: a pilot study. *European journal of clinical nutrition*, 63(9), 1157–1159. <https://doi.org/10.1038/ejcn.2009.27>
- Sanwalka, N. J., Khadilkar, A. V., Mughal, M., Sayyad, M. G., Khadilkar, V. V., Shirole, S. C., ... & Bhandari, D. R. (2010). A study of calcium intake and sources of calcium in adolescent boys and girls from two socioeconomic strata, in Pune, India. *Asia Pacific journal of clinical nutrition*, 19(3), 324-329.
- Sarma, D., Saikia, U. K., & Das, D. V. (2018). Fetal skeletal size and growth are relevant biometric markers in vitamin D deficient mothers: A North East India prospective cohort study. *Indian Journal of Endocrinology and Metabolism*, 22(2), 212.

- Sathish, P., Raveendran, S., Padma, R., Balakrishnan, D., & Muthusami, M. (2016). Correlation between maternal and neonatal blood vitamin D levels and its effect on the newborn anthropometry. *Int J Reprod Contracept Obstet Gynecol*, 5(9), 2983-2988. <http://dx.doi.org/10.18203/2320-1770.ijrcog20162821>
- Shaki, O., Rai, S. K., Kashid, M., & Chakrabarty, B. K. (2018). Prevalence of Osteoporosis in Peri- and Post-menopausal Women in Slum Area of Mumbai, India. *Journal of mid-life health*, 9(3), 117–122. [https://doi.org/10.4103/jmh.JMH\\_84\\_17](https://doi.org/10.4103/jmh.JMH_84_17)
- Shany, S., Hirsh, J., & Berlyne, G. M. (1976). 25-Hydroxycholecalciferol levels in bedouins in the Negev. *The American Journal of Clinical Nutrition*, 29(10), 1104–1107. doi:10.1093/ajcn/29.10.1104
- Sharawat, I. K., & Dawman, L. (2019). Bone mineral density and its correlation with vitamin D status in healthy school-going children of Western India. *Archives of osteoporosis*, 14(1), 13. <https://doi.org/10.1007/s11657-019-0568-3>
- Sharma, A., Patnaik, R., Garg, S., & Prema Ramachandran (2008). Detection & management of anaemia in pregnancy in an urban primary health care institution. *The Indian journal of medical research*, 128(1), 45–51.
- Sharma, A., Patnaik, R., Garg, S., & Ramachandran, P. (2008). Detection & management of anaemia in pregnancy in an urban primary health care institution. *Indian Journal of Medical Research*, 128(1).
- Sharma, D., Saxena, R., Saxena, R., Sharma, M., & Lal, A. M. (2014). Systemic inflammation and alteration in vitamin D levels in pregnancy induced hypertension. *Asian Journal of Medical Sciences*, 5(4), 11-15.
- Sharma, K., Minhas, A., & Sharma, S. (2021). Prevalence of vitamin D deficiency in pregnant women visiting a secondary care centre of North India. *International Journal of Clinical Obstetrics and Gynaecology*, 5(4), 147-149. <https://doi.org/10.33545/gynae.2021.v5.i4c.976>

- Sharma, N., Nath, C., & Mohammad, J. (2019). Vitamin D status in pregnant women visiting a tertiary care center of North Eastern India. *Journal of family medicine and primary care*, 8(2), 356–360. [https://doi.org/10.4103/jfmpc.jfmpc\\_404\\_18](https://doi.org/10.4103/jfmpc.jfmpc_404_18)
- Sharma, S., Akhtar, F., Singh, R. K., & Mehra, S. (2020). Dietary intake across reproductive life stages of women in India: a cross-sectional survey from 4 districts of India. *Journal of nutrition and metabolism*, 2020. <https://doi.org/10.1155/2020/9549214>
- Sharma, S., Kumar, A., Prasad, S., & Sharma, S. (2016). Current scenario of vitamin D status during pregnancy in north Indian population. *The Journal of Obstetrics and Gynecology of India*, 66(2), 93-100. <https://doi.org/10.1007/s13224-014-0658-5>
- Shin, J. S., Choi, M. Y., Longtine, M. S., & Nelson, D. M. (2010). Vitamin D effects on pregnancy and the placenta. *Placenta*, 31(12), 1027–1034. <https://doi.org/10.1016/j.placenta.2010.08.015>
- Shivane, V. K., Sarathi, V., Bandgar, T., Menon, P., & Shah, N. S. (2011). High prevalence of hypovitaminosis D in young healthy adults from the western part of India. *Postgraduate medical journal*, 87(1030), 514–518. <https://doi.org/10.1136/pgmj.2010.113092>
- Shukla, K., Sharma, S., Gupta, A., Raizada, A., & Vinayak, K. (2016). Current Scenario of Prevalence of Vitamin D Deficiency in Ostensibly Healthy Indian Population: A Hospital Based Retrospective Study. *Indian journal of clinical biochemistry: IJCB*, 31(4), 452–457. <https://doi.org/10.1007/s12291-016-0552-2>
- Singh, A., Mishra, S., Aditya, V., & Srivastava, R. (2016). Association of vitamin D deficiency with occurrence of pre eclampsia among inpatients of tertiary care centre, Gorakhpur, Uttar Pradesh, India. *International Journal of Reproduction, Contraception, Obstetrics and Gynecology*, 5(5), 1304-1309.

- Singh, R. R., Mishra, P. C., & Shekhar, S. Prevalence of Vitamin D deficiency in adults of Saharsa district of Bihar: A Hospital Based Study. IOSR Journal of Dental and Medical Sciences, 20(7), 36-40. <https://doi.org/10.9790/0853-2007183640>
- Singla, P., Parkash, A. A., Lal, H., & Nanda, S. (2012). Benefits of vitamin D supplementation in pregnancy for prevention of preeclampsia. Int J Pharm Biol Sci, 2, 144-50.
- Singla, R., Gurung, P., Aggarwal, N., Dutta, U., & Kochhar, R. (2015). Relationship between preeclampsia and vitamin D deficiency: a case control study. Archives of gynecology and obstetrics, 291(6), 1247-1251.
- Sofi, N. Y., Jain, M., Kapil, U., Seenu, V., Ramakrishnan, L., Yadav, C. P., & Pandey, R. M. (2017). Status of Serum Vitamin D and Calcium Levels in Women of Reproductive Age in National Capital Territory of India. Indian journal of endocrinology and metabolism, 21(5), 731–733.  
[https://doi.org/10.4103/ijem.IJEM\\_134\\_17](https://doi.org/10.4103/ijem.IJEM_134_17)
- Sonowal, R., Das, M., Deka, B. P., & Das, P. (2021). Effects of Maternal Vitamin D Deficiency on the Newborn: A Cohort Study. Indian Journal of Neonatal Medicine and Research, 9(4), 27-32. <https://doi.org/10.7860/IJNMR/2021/47986.2318>
- Specker B. (2004). Nutrition influences bone development from infancy through toddler years. The Journal of nutrition, 134(3), 691S–695S.  
<https://doi.org/10.1093/jn/134.3.691S>
- Srilakshmi, B. (2012) Dietetics. 6th Edition reprint, New Age International Publisher, New Delhi, 435.
- Srimani, S., Saha, I., & Chaudhuri, D. (2017). Prevalence and association of metabolic syndrome and vitamin D deficiency among postmenopausal women in a rural block of West Bengal, India. PloS one, 12(11), e0188331.  
<https://doi.org/10.1371/journal.pone.0188331>

- Srinath Reddy, K., & Katan, M. B. (2004). Diet, nutrition and the prevention of hypertension and cardiovascular diseases. *Public health nutrition*, 7(1A), 167–186.  
<https://doi.org/10.1079/phn2003587>
- Steinbock, R. T. (1993). Rickets and osteomalacia. The Cambridge world history of disease. Kenneth F. Kiple, ed, 978-980.
- Sundarakumar, J. S., Shahul Hameed, S. K., SANSCOG Study Team, & Ravindranath, V. (2021). Burden of Vitamin D, Vitamin B12 and Folic Acid Deficiencies in an Aging, Rural Indian Community. *Frontiers in public health*, 9, 707036.  
<https://doi.org/10.3389/fpubh.2021.707036>
- Suryanarayana, P., Arlappa, N., Sai Santhosh, V., Balakrishna, N., Lakshmi Rajkumar, P., Prasad, U., Raju, B. B., Shivakeseva, K., Divya Shoshanni, K., Seshacharyulu, M., Geddam, J. B., Prasanthi, P. S., & Ananthan, R. (2018). Prevalence of vitamin D deficiency and its associated factors among the urban elderly population in Hyderabad metropolitan city, South India. *Annals of human biology*, 45(2), 133–139.  
<https://doi.org/10.1080/03014460.2018.1425479>
- Teotia SPS, Teotia M. (1999). Vitamin D deficient osteomalacia. In: Sainani GS, editor. API Textbook of medicine, 6th ed. Mumbai: The Association of Physicians of India; 1086-97.
- Teotia, M., & Teotia, S. P. (1997). Nutritional and metabolic rickets. *Indian journal of pediatrics*, 64(2), 153–157. <https://doi.org/10.1007/BF02752435>
- Teotia, M., Teotia, S. P. S., & Singh, R. K. (1979). Maternal hypovitaminosis and congenital rickets. *Bull Intern Pediatr Assoc*, 3, 39-46.
- Teotia, M., Teotia, S. P., & Nath, M. (1995). Metabolic studies in congenital vitamin D deficiency rickets. *Indian journal of pediatrics*, 62(1), 55–61.  
<https://doi.org/10.1007/BF02752183>
- Teotia, S. P. S., & Teotia, M. (1972). Nutritional osteomalacia with raised therapeutic requirements of vitamin D. *The Lancet*, 299(7749), 543-544.

- Teotia, S. P., & Teotia, M. (2008). Nutritional bone disease in Indian population. *The Indian journal of medical research*, 127(3), 219–228.
- Thacher, T. D., Fischer, P. R., Isichei, C. O., Zoakah, A. I., & Pettifor, J. M. (2012). Prevention of nutritional rickets in Nigerian children with dietary calcium supplementation. *Bone*, 50(5), 1074–1080.  
<https://doi.org/10.1016/j.bone.2012.02.010>
- Thacher, T. D., Fischer, P. R., Pettifor, J. M., Lawson, J. O., Isichei, C. O., Reading, J. C., & Chan, G. M. (1999). A comparison of calcium, vitamin D, or both for nutritional rickets in Nigerian children. *The New England journal of medicine*, 341(8), 563–568. <https://doi.org/10.1056/NEJM199908193410803>
- Thacher, T. D., Pludowski, P., Shaw, N. J., Mughal, M. Z., Munns, C. F., & Höglér, W. (2016). Nutritional rickets in immigrant and refugee children. *Public health reviews*, 37, 3. <https://doi.org/10.1186/s40985-016-0018-3>
- Thimayamma, B.V.S. and Rao, P. Dietary assessment as part of nutritional status. In: Textbook of Human Nutrition, editors. M.S. Bamji, N.P. Rao, V. Reddy. Oxford and IBH Publishing Co. Pvt. Ltd. New Delhi, 2016, 121-138
- Thomas, S. D., Fudge, A. N., Whiting, M., & Coates, P. S. (2011). The correlation between third-trimester maternal and newborn-serum 25-hydroxy-vitamin D in a selected South Australian group of newborn samples. *BMJ open*, 1(2), e000236.  
<https://doi.org/10.1136/bmjopen-2011-000236>
- THOMSON, A. M., & HYTTEN, F. E. (1961). Calorie requirements in human pregnancy. *The Proceedings of the Nutrition Society*, 20, 76–83.  
<https://doi.org/10.1079/pns19610018>
- Tiwari, L., & Puliyel, J. M. (2004). Vitamin D level in slum children of Delhi. *Indian pediatrics*, 41(10), 1076–1077.
- Trilok Kumar, G., Chugh, R., & Eggersdorfer, M. (2015). Poor Vitamin D Status in Healthy Populations in India: A Review of Current Evidence. *International journal for*

- vitamin and nutrition research. Internationale Zeitschrift fur Vitamin- und Ernahrungsorschung. Journal international de vitaminologie et de nutrition, 85(3-4), 185–201. <https://doi.org/10.1024/0300-9831/a000228>
- Uday, S., & Höglér, W. (2019). Spot the silent sufferers: A call for clinical diagnostic criteria for solar and nutritional osteomalacia. The Journal of steroid biochemistry and molecular biology, 188, 141–146. <https://doi.org/10.1016/j.jsbmb.2019.01.004>
- Uday, S., Kongjonaj, A., Aguiar, M., Tulchinsky, T., & Höglér, W. (2017). Variations in infant and childhood vitamin D supplementation programmes across Europe and factors influencing adherence. Endocrine connections, 6(8), 667–675. <https://doi.org/10.1530/EC-17-0193>
- Vasudevan, B., Karunakaran, U., Antony, A., & Ramachandran, R. (2021). Vitamin D status and associated factors among peri menopausal women in two selected districts of Kerala. Indian journal of public health, 65(2), 166–171. [https://doi.org/10.4103/ijph.IJPH\\_760\\_20](https://doi.org/10.4103/ijph.IJPH_760_20)
- Vazir, S., Engle, P., Balakrishna, N., Griffiths, P. L., Johnson, S. L., Creed-Kanashiro, H., Fernandez Rao, S., Shroff, M. R., & Bentley, M. E. (2013). Cluster-randomized trial on complementary and responsive feeding education to caregivers found improved dietary intake, growth and development among rural Indian toddlers. Maternal & child nutrition, 9(1), 99–117. <https://doi.org/10.1111/j.1740-8709.2012.00413.x>
- VENKATACHALAM P. S. (1962). Maternal nutritional status and its effect on the newborn. Bulletin of the World Health Organization, 26(2), 193–201.
- Viljakainen, H. T., Korhonen, T., Hytinantti, T., Laitinen, E. K., Andersson, S., Mäkitie, O., & Lamberg-Allardt, C. (2011). Maternal vitamin D status affects bone growth in early childhood--a prospective cohort study. Osteoporosis international : a journal established as result of cooperation between the European Foundation for Osteoporosis and the National Osteoporosis Foundation of the USA, 22(3), 883–891. <https://doi.org/10.1007/s00198-010-1499-4>

- Viljakainen, H. T., Saarnio, E., Hytinantti, T., Miettinen, M., Surcel, H., Mäkitie, O., Andersson, S., Laitinen, K., & Lamberg-Allardt, C. (2010). Maternal vitamin D status determines bone variables in the newborn. *The Journal of clinical endocrinology and metabolism*, 95(4), 1749–1757. <https://doi.org/10.1210/jc.2009-1391>
- Villar, J., Abdel-Aleem, H., Merialdi, M., Mathai, M., Ali, M. M., Zavaleta, N., Purwar, M., Hofmeyr, J., Nguyen, T. N., Campodonico, L., Landoulsi, S., Carroli, G., Lindheimer, M., & World Health Organization Calcium Supplementation for the Prevention of Preeclampsia Trial Group (2006). World Health Organization randomized trial of calcium supplementation among low calcium intake pregnant women. *American journal of obstetrics and gynecology*, 194(3), 639–649. <https://doi.org/10.1016/j.ajog.2006.01.068>
- Villar, J., Belizan, J. M., & Fischer, P. J. (1983). Epidemiologic observations on the relationship between calcium intake and eclampsia. *International journal of gynaecology and obstetrics: the official organ of the International Federation of Gynaecology and Obstetrics*, 21(4), 271–278. [https://doi.org/10.1016/0020-7292\(83\)90016-4](https://doi.org/10.1016/0020-7292(83)90016-4)
- Villar, J., Merialdi, M., Gürmezoglu, A. M., Abalos, E., Carroli, G., Kulier, R., & de Onis, M. (2003). Nutritional interventions during pregnancy for the prevention or treatment of maternal morbidity and preterm delivery: an overview of randomized controlled trials. *The Journal of nutrition*, 133(5 Suppl 2), 1606S–1625S. <https://doi.org/10.1093/jn/133.5.1606S>
- Villar, J., Say, L., Shennan, A., Lindheimer, M., Duley, L., Conde-Agudelo, A., & Merialdi, M. (2004). Methodological and technical issues related to the diagnosis, screening, prevention, and treatment of pre-eclampsia and eclampsia. *International journal of gynaecology and obstetrics: the official organ of the International Federation of Gynaecology and Obstetrics*, 85 Suppl 1, S28–S41. <https://doi.org/10.1016/j.ijgo.2004.03.009>

- Vupputuri, M. R., Goswami, R., Gupta, N., Ray, D., Tandon, N., & Kumar, N. (2006). Prevalence and functional significance of 25-hydroxyvitamin D deficiency and vitamin D receptor gene polymorphisms in Asian Indians. *The American journal of clinical nutrition*, 83(6), 1411–1419. <https://doi.org/10.1093/ajcn/83.6.1411>
- Wang, H., Xiao, Y., Zhang, L., & Gao, Q. (2018). Maternal early pregnancy vitamin D status in relation to low birth weight and small-for-gestational-age offspring. *The Journal of steroid biochemistry and molecular biology*, 175, 146–150. <https://doi.org/10.1016/j.jsbmb.2017.09.010>
- Wei, S. Q., Qi, H. P., Luo, Z. C., & Fraser, W. D. (2013). Maternal vitamin D status and adverse pregnancy outcomes: a systematic review and meta-analysis. *The Journal of Maternal-Fetal & Neonatal Medicine*, 26(9), 889-899.
- Wheeler, B. J., Dickson, N. P., Houghton, L. A., Ward, L. M., & Taylor, B. J. (2015). Incidence and characteristics of vitamin D deficiency rickets in New Zealand children: a New Zealand Paediatric Surveillance Unit study. *Australian and New Zealand journal of public health*, 39(4), 380–383. <https://doi.org/10.1111/1753-6405.12390>
- WHO. The double burden of malnutrition. Policy brief. Geneva: World Health Organization; 2017. WHO REFERENCE NUMBER: WHO/NMH/NHD/17.3. Available from: <https://www.who.int/publications/i/item/WHO-NMH-NHD-17.3>
- World Health Organization. (2013). Guideline: calcium supplementation in pregnant women. World Health Organization. Available from: <https://apps.who.int/iris/handle/10665/85120>
- World Health Organization. (2020). WHO antenatal care recommendations for a positive pregnancy experience: nutritional interventions update: vitamin D supplements during pregnancy. World Health Organization. Available from: [https://www.who.int/reproductivehealth/publications/maternal\\_perinatal\\_health/anc-positive-pregnancy-experience/en/](https://www.who.int/reproductivehealth/publications/maternal_perinatal_health/anc-positive-pregnancy-experience/en/)

- World Health Organization. (2019). Nutritional rickets: a review of disease burden, causes, diagnosis, prevention and treatment. World Health Organization. Available from: <https://apps.who.int/iris/handle/10665/329859>.
- Ye, R. W., Li, H. T., Ma, R., Ren, A. G., & Liu, J. M. (2010). Zhonghua yu fang yi xue za zhi [Chinese journal of preventive medicine], 44(1), 70–74.
- Young, B. E., McNanley, T. J., Cooper, E. M., McIntyre, A. W., Witter, F., Harris, Z. L., & O'Brien, K. O. (2012). Maternal vitamin D status and calcium intake interact to affect fetal skeletal growth in utero in pregnant adolescents. *The American journal of clinical nutrition*, 95(5), 1103–1112. <https://doi.org/10.3945/ajcn.111.023861>
- Zang, R., Zhang, Y., Zhang, H., Zhang, X., Lv, Y., & Li, D. (2022). Association Between Vitamin D Level and Neonatal Respiratory Distress Syndrome: A Systematic Review and Meta-Analysis. *Frontiers in pediatrics*, 9, 803143.  
<https://doi.org/10.3389/fped.2021.803143>
- Zargar AH, Ahmad S, Masoodi SR, Wani AI, Bashir MI, Laway BA, Shah ZA. Vitamin D status in apparently healthy adults in Kashmir Valley of Indian subcontinent. Postgrad Med J. 2007 Nov;83(985):713-6. doi: 10.1136/pgmj.2007.059113. PMID: 17989271; PMCID: PMC2659966.
- Zhang, C., Qiu, C., Hu, F. B., David, R. M., Van Dam, R. M., Bralley, A., & Williams, M. A. (2008). Maternal plasma 25-hydroxyvitamin D concentrations and the risk for gestational diabetes mellitus. *PloS one*, 3(11), e3753.
- Zhang, Y., Gong, Y., Xue, H., Xiong, J., & Cheng, G. (2018). Vitamin D and gestational diabetes mellitus: a systematic review based on data free of Hawthorne effect. *BJOG : an international journal of obstetrics and gynaecology*, 125(7), 784–793.  
<https://doi.org/10.1111/1471-0528.15060>

**WEBLIOGRAPHY**

- <https://www.youtube.com/watch?v=-5EpYmU0erc>
- <https://www.youtube.com/watch?v=Dla4oYnV0Es>
- <https://www.youtube.com/watch?v=VbJEyyCX3sY>