



## BIBLIOGRAPHY

- Agustina, R., Rianda, D., Lasepa, W., Birahmatika, F.S., Stajic, V., Mufida, R., 2023. Nutrient intakes of pregnant and lactating women in Indonesia and Malaysia: Systematic review and meta-analysis. *Front Nutr* 10, 1030343. <https://doi.org/10.3389/fnut.2023.1030343>
- Andrade, L.P., Rhind, S.M., Rae, M.T., Kyle, C.E., Jowett, J., Lea, R.G., 2013. Maternal undernutrition does not alter Sertoli cell numbers or the expression of key developmental markers in the mid-gestation ovine fetal testis. *J Negat Results Biomed* 12, 2. <https://doi.org/10.1186/1477-5751-12-2>
- Arifin, W.N., Zahiruddin, W.M., 2017. Sample Size Calculation in Animal Studies Using Resource Equation Approach. *Malays J Med Sci* 24, 101–105. <https://doi.org/10.21315/mjms2017.24.5.11>
- Babakhanzadeh, E., Nazari, M., Ghasemifar, S., Khodadadian, A., 2020. Some of the Factors Involved in Male Infertility: A Prospective Review. *Int J Gen Med* 13, 29–41. <https://doi.org/10.2147/IJGM.S241099>
- Barker, D.J.P., 1997. Maternal nutrition, fetal nutrition, and disease in later life. *Nutrition* 13, 807–813. [https://doi.org/10.1016/S0899-9007\(97\)00193-7](https://doi.org/10.1016/S0899-9007(97)00193-7)
- Bernardino, R.L., D’Souza, W.N., Rato, L., Rothstein, J.L., Dias, T.R., Chui, D., Wannberg, S., Alves, M.G., Oliveira, P.F., 2019a. Knockout of MCT1 results in total absence of spermatozoa, sex hormones dysregulation, and morphological alterations in the testicular tissue. *Cell Tissue Res* 378, 333–339. <https://doi.org/10.1007/s00441-019-03028-4>
- Bernardino, R.L., D’Souza, W.N., Rato, L., Rothstein, J.L., Dias, T.R., Chui, D., Wannberg, S., Alves, M.G., Oliveira, P.F., 2019b. Knockout of MCT1 results in total absence of spermatozoa, sex hormones dysregulation, and morphological alterations in the testicular tissue. *Cell Tissue Res* 378, 333–339. <https://doi.org/10.1007/s00441-019-03028-4>
- Bielli, A., Pérez, R., Pedrana, G., Milton, J.T.B., Lopez, Á., Blackberry, M.A., Duncombe, G., Rodriguez-Martinez, H., Martin, G.B., 2002a. Low maternal nutrition during pregnancy reduces the number of Sertoli cells in the newborn lamb. *Reprod Fertil Dev* 14, 333. <https://doi.org/10.1071/RD02046>



- Bielli, A., Pérez, R., Pedrana, G., Milton, J.T.B., Lopez, Á., Blackberry, M.A., Duncombe, G., Rodriguez-Martinez, H., Martin, G.B., 2002b. Low maternal nutrition during pregnancy reduces the number of Sertoli cells in the newborn lamb. *Reprod Fertil Dev* 14, 333. <https://doi.org/10.1071/RD02046>
- Bryda, E.C., 2013. The Mighty Mouse: the impact of rodents on advances in biomedical research. *Mo Med* 110, 207–11.
- Byers, S.L., Wiles, M. V, Dunn, S.L., Taft, R.A., 2012. Mouse estrous cycle identification tool and images. *PLoS One* 7, e35538. <https://doi.org/10.1371/journal.pone.0035538>
- Cavariani, M.M., de Mello Santos, T., Chuffá, L.G. de A., Pinheiro, P.F.F., Scarano, W.R., Domeniconi, R.F., 2022. Maternal Protein Restriction Alters the Expression of Proteins Related to the Structure and Functioning of the Rat Offspring Epididymis in an Age-Dependent Manner. *Front Cell Dev Biol* 10. <https://doi.org/10.3389/fcell.2022.816637>
- Duque-Guimarães, D.E., Ozanne, S.E., 2013. Nutritional programming of insulin resistance: causes and consequences. *Trends Endocrinol Metab* 24, 525–35.  
<https://doi.org/10.1016/j.tem.2013.05.006>
- Gurung, P., Yetiskul, E., Jialal, I., 2022. Physiology, Male Reproductive System. StatPearls.
- Jiménez-Chillarón, J.C., Díaz, R., Martínez, D., Pentinat, T., Ramón-Krauel, M., Ribó, S., Plösch, T., 2012. The role of nutrition on epigenetic modifications and their implications on health. *Biochimie* 94, 2242–63.  
<https://doi.org/10.1016/j.biochi.2012.06.012>
- Kotsampasi, B., Balaskas, C., Papadomichelakis, G., Chadio, S.E., 2009. Reduced Sertoli cell number and altered pituitary responsiveness in male lambs undernourished in utero. *Anim Reprod Sci* 114, 135–147. <https://doi.org/10.1016/j.anireprosci.2008.08.017>
- Kwon, E.J., Kim, Y.J., 2017. What is fetal programming?: a lifetime health is under the control of in utero health. *Obstet Gynecol Sci* 60, 506–519.  
<https://doi.org/10.5468 ogs.2017.60.6.506>
- Langley-Evans, S.C., Daniel, Z.C., Wells, C.A., Ryan, K.J.P., Plant, R., Welham, S.J.M., 2011. Protein restriction in the pregnant mouse modifies fetal growth and pulmonary development: role of fetal exposure to β-hydroxybutyrate. *Exp Physiol* 96, 203–215.  
<https://doi.org/10.1113/expphysiol.2010.054460>



Murphy, C.J., Richburg, J.H., 2014a. Implications of Sertoli cell induced germ cell apoptosis to testicular pathology. *Spermatogenesis* 4, e979110.

<https://doi.org/10.4161/21565562.2014.979110>

Murphy, C.J., Richburg, J.H., 2014b. Implications of Sertoli cell induced germ cell apoptosis to testicular pathology. *Spermatogenesis* 4, e979110.

<https://doi.org/10.4161/21565562.2014.979110>

Ni Nyoman Budiani, I Nyoman Mangku Karmaya, IB Putra Manuaba, Bagus Komang Satriyasa, 2017. The Number of Leydig Cells, Sertoli Cells, and Spermatogonia are Lower towards a Little Rats that Their Parent Given Genistein during Periconception Period. *International Research Journal of Engineering*.

Oliveira, J.S. de, Silva, A.A.D.N., Magalhães, C.P., Souza, S.L. de, Silva Junior, V.A. da, Melo, E.N. de, 2015. <Protein restriction during intrauterine and lactation periods: effects on testicular development in pre-puberty rats. *Acta Sci Biol Sci* 37, 107. <https://doi.org/10.4025/actascibiolsci.v37i1.21929>

Öztürk, H.N.O., Türker, P.F., 2021a. Fetal programming: could intrauterin life affect health status in adulthood? *Obstet Gynecol Sci* 64, 473–483. <https://doi.org/10.5468/ogs.21154>

Öztürk, H.N.O., Türker, P.F., 2021b. Fetal programming: could intrauterin life affect health status in adulthood? *Obstet Gynecol Sci* 64, 473–483. <https://doi.org/10.5468/ogs.21154>

Pedrana, G., Viotti, H., Lombide, P., Cavestany, D., Martin, G.B., Vickers, M.H., Sloboda, D.M., 2020. Maternal undernutrition during pregnancy and lactation affects testicular morphology, the stages of spermatogenic cycle, and the testicular IGF-I system in adult offspring. *J Dev Orig Health Dis* 11, 473–483.

<https://doi.org/10.1017/S2040174420000306>

Phifer-Rixey, M., Nachman, M.W., 2015. Insights into mammalian biology from the wild house mouse *Mus musculus*. *eLife* 4. <https://doi.org/10.7554/eLife.05959>

Rahmawati, W., van der Pligt, P., Worsley, A., Willcox, J.C., 2021. Indonesian antenatal nutrition education: A qualitative study of healthcare professional views. *Women's Health* 17, 174550652110660. <https://doi.org/10.1177/17455065211066077>

Rhind, S.M., 2004. Effects of maternal nutrition on fetal and neonatal reproductive development and function. *Anim Reprod Sci* 82–83, 169–181.

<https://doi.org/10.1016/j.anireprosci.2004.04.003>



- Rosenthal, N., Brown, S., 2007. The mouse ascending: perspectives for human-disease models. *Nat Cell Biol* 9, 993–9. <https://doi.org/10.1038/ncb437>
- Suede, S.H., Malik, A., Sapra, A., 2023. Histology, Spermatogenesis.
- Titi-Lartey, O.A., Khan, Y.S., 2023. Embryology, Testicle.
- Tiwana, M.S., Leslie, S.W., 2023a. Anatomy, Abdomen and Pelvis: Testes.
- Tiwana, M.S., Leslie, S.W., 2023b. Anatomy, Abdomen and Pelvis: Testes.
- Toledo, F.C., Perobelli, J.E., Pedrosa, F.P., Anselmo-Franci, J.A., Kempinas, W.D., 2011. In utero protein restriction causes growth delay and alters sperm parameters in adult male rats. *Reproductive Biology and Endocrinology* 9, 94. <https://doi.org/10.1186/1477-7827-9-94>
- Vawdaw, A.I., Mandlwana, J.G., 2009. The effects of dietary protein deficiency on rat testicular function: Der Einfluß einer proteinarmen Diät auf die Hodenfunktion der Ratte. *Andrologia* 22, 575–583. <https://doi.org/10.1111/j.1439-0272.1990.tb02058.x>
- Vipin, V.A., Blesson, C.S., Yallampalli, C., 2022. Maternal low protein diet and fetal programming of lean type 2 diabetes. *World J Diabetes* 13, 185–202. <https://doi.org/10.4239/wjd.v13.i3.185>
- Wong, W.J., Khan, Y.S., 2023a. Histology, Sertoli Cell.
- Wong, W.J., Khan, Y.S., 2023b. Histology, Sertoli Cell.
- Yilmaz, O., Yuksel, H., Buist, A.S., 2021. Fetal Programming: Lung Health and Disease. *Turk Thorac J* 22, 413–417. <https://doi.org/10.5152/TurkThoracJ.2021.0196>
- Zambrano, E., Rodríguez-González, G.L., Guzmán, C., García-Becerra, R., Boeck, L., Díaz, L., Menjivar, M., Larrea, F., Nathanielsz, P.W., 2005. A maternal low protein diet during pregnancy and lactation in the rat impairs male reproductive development. *J Physiol* 563, 275–84. <https://doi.org/10.1113/jphysiol.2004.078543>