

## Bölüm 4

### SAĞLIKSIZ YAŞAM BİÇİMİ DAVRANIŞLARININ KADIN ÜREME SAĞLIĞI ÜZERİNE ETKİSİ

Coşkun KAYA<sup>1</sup>

Endüstriyel toplumlarda her 6 kişiden 1 kişi infertilite problemi yaşamakta (Homan & ark., 2007) ve infertilite tedavisi bireysel ve toplumsal açıdan hem maddi hem de manevi yük'lere neden olmaktadır (Myers & ark., 2008). Vücut ağırlığı, diyet, vitamin replasmanı, alkol ve sigara tüketimi, çevre kirliliği, geçirilmiş enfeksiyonlar, kullanılan tıbbi ilaçlar; fertilité ve canlı bir bebek sahibi olma üzerine etkili faktörler olarak belirlenmişlerdir (Harris & ark., 2009; Homan & ark., 2007). Bu faktörlerden vücut ağırlığı, alkol ve sigara tüketimi ile günlük egzersiz miktarı ve stres değiştirilebilir yaşam biçimini davranışları olarak tanımlanmıştır (Homan & ark., 2012). Bu yaşam biçimini davranışlarının erkek ve kadın üreme sağlığı ve yardımcı üreme tekniklerinin sonuçları üzerine olumsuz etkileri olduğu gösterilmiştir (Gluckman & Hanson, 2007; Homan & ark., 2007; Temel & ark., 2009; Vujkovic & ark., 2009). Son zamanlarda gerek toplumda gerekse sağlık çalışanlarında bu davranışların infertilite üzerine etkisi oldukça ilgi çekici bir konudur (Bunting & Boivin, 2008; Anderson & ark., 2010a). Çünkü bu yaşam biçimini davranışlarının sağlıklı yaşam biçimini davranışları ile değiştirilmesinin tedaviye gerek kalmadan sağlıklı bir çocuk sahibi olma şansını artırmaya yardımcı olabileceği gösterilmeye çalışılmıştır (Homan & ark., 2007). Bununla beraber sağlıklı yaşam biçimini davranışlarını tam olarak belirten ve bu davranışları elde etmek için literatürde düzenlenen tam bir kılavuz da bulunmamaktadır (Anderson & ark., 2010b).

Sağlıklı yaşam biçimini davranışlarının hayata geçirilmesi ile infertilitenin önlenmesi ve genel sağlık koşullarının düzeltilebileceği gösterilmiştir (Homan & ark., 2007). Sigara ve alkol tüketimi ile obezitenin fertilité üzerine olumsuz etkileri net gösterildiği gibi (Chura & Norman, 2007; Gungor & Kızılkaya Beji, 2009; Homan & ark., 2007; Kelly-Weeder & O'Connor, 2006; Quaas & Dokras, 2008; Klonoff-Cohen & ark., 2002; Sabinof & ark., 2012) yine bir başka çalışmada vücut kitle indeksinin 30'un üzerinde olması, depresif semptomlara sahip olmak, düşük meyve ve sebze tüketimi, alkol tüketimi, sigara içilmesi, düzenli egzersiz

<sup>1</sup> Op. Dr., Eskişehir Şehir Hastanesi, Üroloji Bölümü, coskun\_kaya2008@yahoo.com

kisiyle ilgili kanita dayalı bilgilerin verilmesi, motivasyonu arttırılabilir (Homan & ark., 2007). Riskli yaşam biçimini davranışları olan çiftleri; sigara ve alkol tüketiminden kaçınması, kafein alımının sınırlanırılması, vücut kitle indeksinin normal sınırlarda tutulması, dengeli ve düzenli beslenilmesi, düzenli egzersiz (her gün 20-30 dakika) yapılması konusunda bilgilendirmeli; stresle baş etmeye sağlamayabilmek için etkili ve doğru teknikleri öğretilmelidir.

## REFERANSLAR

- Alfer, J., Muller-Schottle, F., Classen-Linke, I., von Rango, U., Happel, L., Beier-Helwig, K. et all .(2000). The endometrium as a noveltarget for leptin: differences in fertility and subfertility. *Molecular Human Reproduction*, 6(7), 595–601.
- Anderson, K., Nisenblat, V. & Norman, R. (2010a). Lifestyle factors in people seeking infertility treatment a review. *Australian and New Zealand Journal of Obstetrics Gynaecology*, 50(1), 8–20.
- Anderson, K., Norman, R.J. & Middleton, P. (2010b). Preconception lifestyle advice for people with subfertility. *Cochrane Database of Systematic Reviews*, 4, CD008189 DOI: 10.1002/14651858.CD008189.pub2.
- Aylott, J., Brown, I., Copeland, R. & Johnson, D. (2008). Tackling obesity: the foresight report and implication for local government. (13/12/2018 tarihinde <http://repad.org/giresss/docs/cahier23/12.%20Tackling%20Obesities%20The%20Foresight%20Report%20and%20Implications%20for%20Local%20Government%20-%20Full%20report.pdf> adresinden ulaşılmıştır).
- Balen, A.H., Platteau, P., Andersen, A.N., Devroey, P., Sørensen, P., Helmgård, L. et all. (2006). The influence of body weight on response to ovulation induction with gonadotrophins in 335 women with World Health Organization group II anovulatory infertility. *An International Journal of Obstetrics and Gynaecology*, 113(10), 1195–1202.
- Bellver, J., Busso, C., Pellicer, A., Remohí, J. & Simon, C. (2006). Obesity and assisted reproductive technology outcomes. *Reproductive Biomedicine Online*, 12(5) , 562–568.
- Benedict, M.D., Missmer, S.A., Vahrtian, A., Berry, K.F., Vitonis, A.F., Cramer, D.W. et all. (2011). Secondhand tobacco smoke exposure is associated with increased risk of failed implantation and reduced IVF success. *Human Reproduction*, 26(9) , 2525–2531.
- Bergrella, V., Buchanan, E., Pereira, L. & Baxter, J.K. (2010). Preconception care. *Obstetrical&Gynecological Survey*, 65(2), 119-131.
- Bolumar, F., Olsen, J., Rebagliato, M. & Bisanti, L. (1997). Caffeine intake and delayed conception: a European multicenter study on infertility and subfecundity. *American Journal of Epidemiology*, 145(4), 324–334.
- Bunting, L. & Boivin, J. (2008). Knowledge about infertility risk factors, fertility myths and illusory benefits of healthy habits in young people. *Human Reproductive*, 23(8), 1858–1864.
- Camlin, N.J., McLaughlin, E.A. & Holt, J.E. (2014). Through the smoke: use of in vivo and in vitro cigarette smoking models to elucidate its effect on female fertility. *Toxicology and Applied Pharmacology*, 281(3), 266-275. doi: 10.1016/j.taap.2014.10.010. Epub 2014 Oct 27.
- Castellucci, M., De Matteis, R., Meisser, A., Cancello, R., Monsurro, V., Islami, D. et all .

- (2000). Leptin modulates extracellular matrix molecules and metalloproteinases: possible implications for trophoblast invasion. *Molecular Human Reproduction*, 6(10), 951–958.
- Chang, S.H., Kim, C.S., Lee, K.S., Kim, H., Yim, S.V., Lim, Y.J. et all. (2007). Premenopausal factors influencing premature ovarian failure and early menopause. *Maturitas*, 58(1), 19–30.
- Chura, L.R. & Norman, R.J. (2007). Impact of lifestyle factors on ovarian function and reproductive health in women. *Women's Health*, 3, 511–513.
- Claman, P. (2004). Men at risk: Occupation and male infertility. *Fertility and Sterility*, 81, (Suppl. 2), 19–26.
- Clark, A.M., Thornley, B., Tomlinson, L., Galletley, C. & Norman, R.J. (1998). Weight loss in obese infertile women results in improvement in reproductive outcome for all forms of fertility treatment. *Human Reproductive*, 13(6), 1502–1505.
- Cnattingius, S., Signorello, L.B., Aneren, G., Clausson, B., Ekbom, A., Ljunger, E. et all . (2000). Caffeine intake and the risk of first-trimester spontaneous abortion. *The New England Journal of Medicine*, 343(25), 1839–1845.
- Crosignani, P.G., Ragni, G., Parazzini, F., Wyssling, H., Lombroso, G. & Perotti, L. (1994). Anthropometric indicators and response to gonadotrophin for ovulation induction. *Human Reproduction*, 9(3), 420–423.
- Diamanti-Kandarakis, E. & Bergiele, A. (2001). The influence of obesity on hyperandrogenism and infertility in the female. *Obesity Reviews*, 2(4), 231–238.
- Domar, A.D., Clapp, D., Slawsby, E.A., Dusek, J., Kessel, B. & Freizinger, M. (2000). Impact of group psychological interventions on pregnancy rates in infertile women. *Fertility and Sterility*, 73(4), 805–811.
- Dondorp, W., de Wert, G., Pennings, G., Shenfield, F., Devroey, P., Tarlatzis, B. et all . (2010). Lifestyle-related factors and access to medically assisted reproduction. *Human Reproduction*, 25(3), 578–583.
- Eggert, J., Theobald, H. & Engfeldt, P. (2004). Effects of alcohol consumption on female fertility during an 18-year period. *Fertility and Sterility*, 81(2), 379–383.
- El-Nemr, A., Al-Shawaf, T., Sabatini, L., Wilson, C., Lower, A.M. & Grudzinskas, J.G. (1998). Effect of smoking on ovarian reserve and ovarian stimulation in in-vitro fertilization and embryo transfer. *Human Reproduction*, 13(8), 2192–2198.
- Fedorcsak, P., Dale, P.O., Storeng, R., Ertzeid, G., Bjercke, S., Oldereid, N. et all. (2004). Impact of overweight and underweight on assisted reproduction treatment. *Human Reproduction*, 19(11), 2523–2528.
- Fuentes, A., Muñoz, A., Barnhart, K., Argüello, B., Díaz, M. & Pommer, R., (2010). Recent cigarette smoking and assisted reproductive technologies outcome. *Fertility and Sterility*, 93(1), 89–95.
- Ganesan, S., Bhattacharya, P. & Keating, A.F. (2013). 7,12-Dimethylbenz[a]anthracene exposure induces the DNA repair response in neonatal rat ovaries. *Toxicology and Applied Pharmacology*, 272(3), 690–696.
- Gill, J. (2000). The effects of moderate alcohol consumption on female hormone levels and reproductive function. *Alcohol*, 35(5), 417–423.
- Gluckman, P.D. & Hanson, M.A. (2007). Developmental plasticity and human disease: research directions. *Journal of Internal Medicine*, 261(5), 461–471.
- Grodstein, F., Goldman, M.B., Ryan, L. & Cramer, D.W. (1993). Relation of female infertility to consumption of caffeinated beverages. *American Journal of Epidemiology*,

- 137(12), 1353–1360.
- Güngör, İ. & Kızılıkaya Beji, N. (2009). İnfertil Çiftlerde Sağlıklı Yaşam Biçimi Davranışları Geliştirme ve Hemşirenin Rolü. Kızılıkaya Beji, N. (Ed.), *İnfertilite Hemşireliği içinde* (s. 163-176). İstanbul: Acar Basım.
- Gülen Tek, B. (2008). Vücut kitle indeksinin invitro fertilizasyon ve embriyo transfer sonuçlarını öngörmekte klinik etkisi. Uzmanlık Tezi, İstanbul.
- Hakim, R.B., Gray, R.H. & Zatur, H. (1998). Alcohol and caffeine consumption and decreased fertility. *Fertility and Sterility*, 70(4), 632–637.
- Hammiche, F., Laven, J.S., van Mil, N., de Cock, M., de Vries, J.H., Lindemans, J. et all. (2011). Tailored preconceptional dietary and lifestyle counselling in a tertiary outpatient clinic in The Netherlands. *Human Reproduction*, 26(9), 2432-2441.
- Han, Z., Mulla, S., Beyene, J., Liao, G. & McDonald, S.D. (2011). Maternal underweight and the risk of preterm birth and low birth weight: A systematic review and meta-analyses. *International Journal of Epidemiology*, 40(1), 65–101.
- Harris, M., Bennett, J., Del Mar, C., Fasher, M., Foreman, L., Furler, J. et all. (2009). Guidelines for preventive activities in general practice. (7th ed.). South Melbourne, Australia: The Royal Australian College of General Practitioners.
- Hassan, M. & Killick, S.R. (2004). Negative lifestyle is associated with a significant reduction in fecundity. *Fertility and Sterility*, 81(2), 384–392.
- Hayatbakhsh, M.R., Clavarino, A., Williams, G.M., Sina, M. & Najman, J.M. (2012). Cigarette smoking and age of menopause: a large prospective study. *Maturitas*, 72(4), 346–352.
- Heslehurst, N., Ells, L.J., Simpson, H., Batterham, A., Wilkinson, J. & Summerbell, C.D. (2007). Trends in maternal obesity incidence rates, demographic predictors, and health inequalities in 36,821 women over a 15-year period. *British Journal of Obstetrics and Gynaecology*, 114(2), 187-194.
- Homan, G.F., Davies, M. & Norman, R. (2007). The impact of lifestyle factors on reproductive performance in the general population and those undergoing infertility treatment: a review. *Human Reproduction Update*, 13(3), 209–223.
- Homan, G., Litt, J. & Norman, R.J. (2012). The FAST study: Fertility ASsessment and advice Targeting lifestyle choices and behaviours: a pilot study. *Human Reproduction*, 27(8), 2396-404.
- Hull, M.G., North, K., Taylor, H., Farrow, A. & Ford, W.C. (2000). Delayed conception and active and passive smoking. The Avon Longitudinal Study of Pregnancy and Childhood Study Team. *Fertility and Sterility*, 74(4), 725–733.
- Inskip, H.M., Crozier, S.R., Godfrey, K.M., Borland, S.E., Cooper, C. & Robinson, S.M. (2009). Women's compliance with nutrition and lifestyle recommendations before pregnancy: general population cohort study. *British Medical Journal*, 338-481.
- Kanagalingam, M.G., Forouhi, N.G., Greer, I.A. & Sattar, N. (2005). Changes in body mass index over a decade: retrospective analysis from a Glasgow Maternity Hospital. *British Journal of Obstetrics and Gynaecology*, 112(10), 1431-1433.
- Kaya, Y., Kızılıkaya Beji, N., Aydn, Y. & Hassa, H.(2016). The effect of health-promoting lifestyle education on the treatment of unexplained female infertility. *European Journal of Obstetrics & Gynecology and Reproductive Biology*, 207,109–114.
- Kelly-Weeder, S. & O'Connor, A. (2006). Modifiable risk factors for impaired fertility in women: what nurse practitioners need to know. *Journal of the American Association of Nurse Practitioners*, 18(6), 268-276.
- Kirchengast, S., Gruber, D., Sator, M., Hartmann, B., Knogler, W. & Huber, J. (1997).

- Menopause-associated differences in female fat patterning estimated bydual-energy X-ray absorptiometry. *Annals of Human Biology*, 24(1), 45–54.
- Klonoff-Cohen, H., Bleha, J. & Lam-Kruglick, P.A. (2002). A prospective studyof the effects of female and male caffeine consumption on the reproductiveendpoints of IVF and gamete intra-Fallopian transfer. *Human Reproduction*, 17(7), 1746–1754.
- Klonoff-Cohen, H. (2005). Female and male lifestyle habits and IVF: what is known and unknown. *Human Reproduction Update*, 11(2), 179–203.
- Klonoff-Cohen, H., Chu, E., Natarajan, L. & Sieber, W. (2001). A prospective study of stress among women undergoing in vitro fertilization or gamete intrafallopian transfer. *Fertility and Sterility*, 76(4), 675-687.
- Kummer, V., Mašková, J., Zralý, Z. & Faldyna, M. (2013). Ovarian disorders in immature ratsafter postnatal exposure to environmental polycyclic aromatic hydrocarbons. *Journal of Applied Toxicology*, 33(2), 90–99.
- Lambert-Messerlian, G.M. & Harlow, B.L. (2006). The influence ofdepression, body mass index, and smoking on serum inhibinB levels in late reproductive-aged women. *Journal of Clinical Endocrinology and Metabolism*, 91(4), 1496–1500.
- Linne, Y. (2004). Effects of obesity on women's reproduction and complications during pregnancy. *Obesity Reviews*, 5(3), 137–143.
- Lintsen, A.M., Pasker-de Jong, P.C., de Boer, E.J., Burger, C.W.,Jansen, C.A., Braat, D.D. et all. (2005). Effects of subfertility cause, smoking and body weight on the success rate of IVF. *Human Reproduction*, 20(7),1867–1875.
- Lucero, J., Harlow, B.L., Barbieri, R.L., Sluss, P. & Cramer, D.W. (2001). Earlyfollicular phase hormone levels in relation to patterns of alcohol,tobacco, and coffee use. *Fertility and Sterility*,76(4),723–729.
- Lumley, J., Chamberlain, C., Dowswell, T., Oliver, S., Oakley, L. & Watson, L. (2009). Interventions for promoting smoking cessation during pregnancy. *Cochrane Database of Systematic Reviews*, 8(3), CD001055. doi: 10.1002/14651858.CD001055.pub3.
- McLean, M. & Wellons, M.F. (2012). Optimizing natural fertility: the role of lifestyle modification. *Obstetrics & Gynecology Clinics of North America*, 39, 465-477.
- Mikkelsen, T.F., Graff-Iversen, S., Sundby, J. & Bjertness, E. (2007). Early menopause, association with tobacco smoking, coffee consumption and otherlifestyle factors: a cross-sectional study. *BMC Public Health*, 7,149.
- Moore, V.M. & Davies, M.J. (2005). Diet during pregnancy, neonataloutcomes and later health. *Reproduction, Fertility and Development*, 17(3), 341–348.
- Morris, S.N. & Johnson, N.R. (2005). Exercise during pregnancy: a criticalappraisal of the literature. *The Journal of Reproductive Medicine*, 50(3), 181–188.
- Mukherjee, R.A., Hollins, S., Abou-Saleh, M.T. & Turk, J. (2005). Low levelalcohol con- sumption and the fetus: abstinence from alcohol is the only safe message in pregnan- cy. *BMJ*, 330(7488), 375–376.
- Mutsaerts, M.A., Groen, H., Huiting, H.G., Kuchenbecker, W.K., Sauer, P.J., Land, J.A. et all. (2012). The influence of maternal and paternal factors on timeto pregnancy—a dutch population-based birth-cohort study: the GECKO Drenthe study. *Human Reproduc- tion*, 27(2), 583–593.
- Myers, E.R., McCrory, D.C., Mills, A.A., Price, T.M., Swamy, G.K., Tantibhedhyangkul, J. et all. (2008). Effectiveness of Assisted Reproductive Technology. Evidence Report/ TechnologyAssessment No. 167 (Prepared by the Duke UniversityEvidence-based Practice Center under Contract No. 290-02-0025). AHRQ Publication No. 08-E012. Rockville,M.D. (2008). Agency for Healthcare Research and Quality.

- Nawrot, P., Jordan, S., Eastwood, J., Rotstein, J., Hugenholz, A. & Feeley, M. (2003). Effects of caffeine on human health. *Food Additives & Contaminants*, 20(1), 1–30.
- National Institute of Child Health and Human Development. (2005). *Female reproduction*. (28/08/2012 tarihinde [http://www.nichd.nih.gov/about/cpr/rs/report/female\\_reproduction.htm](http://www.nichd.nih.gov/about/cpr/rs/report/female_reproduction.htm) adresinden ulaşılmıştır).
- Neal, M.S., Zhu, J., Holloway, A.C. & Foster, W.G. (2007). Follicle growth is inhibited by benzo-[a]-pyrene, at concentrations representative of human exposure, in an isolated rat follicle culture assay. *Human Reproduction*, 22(4), 961–967.
- Ockhuijsen, H.D., Gamel, C.J., van den Hoogen, A. & Macklon, N.S. (2012). Integrating preconceptual care into an IVF programme. *Journal of Advanced Nursing*, 68(5), 1156–1165.
- Olivius, C., Friden, B., Borg, G. & Bergh, C. (2004). Why do couples discontinue in vitro fertilization treatment? A cohort study. *Fertility and Sterility*, 81(2), 258–261.
- Practice Committee of American Society for Reproductive Medicine. (2008). Smoking and infertility. *Fertility and Sterility*, 90, 254–259.
- Quaas, A. & Dokras, A. (2008). Diagnosis and treatment of unexplained infertility. *Reviews in Obstetric & Gynecology*, 1(2), 69–76.
- Rajkhowa, M., McConnell, A. & Thomas, G.E. (2006). Reasons for discontinuation of IVF treatment: a questionnaire study. *Human Reproduction*, 21(2), 358–363.
- Rasch, V. (2003). Cigarette, alcohol, and caffeine consumption: Risk factors for spontaneous abortion. *Acta Obstetricia et Gynecologica Scandinavica*, 82(2), 182–188.
- Redman, L.M. (2006). Physical activity and its effects on reproduction. *Reproductive BioMedicine Online*, 12(5), 579–586.
- Rich-Edwards, J.W., Goldman, M.B., Willett, W.C., Hunter, D.J., Stampfer, M.J., Colditz, G.A. et al. (1994). Adolescent body mass index and infertility caused by ovulatory disorder. *American Journal of Obstetrics and Gynecology*, 171(1), 171–177.
- Sadeu, J.C. & Foster, W.G. (2011). Cigarette smoke condensate exposure delays follicular development and function in a stage-dependent manner. *Fertility and Sterility*, 95(7), 2410–2417.
- Sharma, R., Biedenharn, K.R., Fedor, J.M. & Agarwal, A. (2013). Lifestyle factors and reproductive health: taking control of your fertility. *Reproductive Biology and Endocrinology*, 11(1), 66.
- Sharpe, R.M. & Franks, S. (2002) Environment, lifestyle and infertility—an inter-generational issue. *Nature Cell Biology*, 4, 33–40.
- Shiloh, H., Lahav-Baratz, S., Koifman, M., Ishai, D., Bidder, D., Weiner-Meganzi, Z. et al. (2004). The impact of cigarette smoking on zona pellucida thickness of oocytes and embryos prior to transfer into the uterine cavity. *Human Reproduction*, 19(1), 157–159.
- Soares, S.R., Simon, C., Remohi, J. & Pellicer, A. (2007). Cigarette smoking affects uterine receptiveness. *Human Reproduction*, 22(2), 543–547.
- Sobinoff, A.P., Pye, V., Nixon, B., Roman, S.D. & McLaughlin, E.A. (2012). Jumping the gun: smoking constituent BaP causes premature primordial follicle activation and impairs oocyte fusibility through oxidative stress. *Toxicology and Applied Pharmacology*, 260(1), 70–80.
- Stanton, C.K. & Gray, R.H. (1995). Effects of Caffeine Consumption on Delayed Conception. *American Journal of Epidemiology*, 142(12), 1322–1329.
- Stewart, D.E., Robinson, E., Goldblom, D.S. & Wright, C. (1990). Infertility and eating disorders. *American Journal of Obstetrics & Gynecology*, 163(4), 1196–1199.

## Güncel Üroloji Çalışmaları I

- Temel, S., Laven, J.S.E. & Steegers-Theunissen, R.P.M. (2009). Lifestyle and conception. Textbook of Periconceptional Medicine. London, United Kingdom: Informa Health-care.
- Vals, K., Kiivet, R.A. & Leinsalu, M. (2013). Alcohol consumption, smoking and overweight as a burden for health care services utilization: A cross-sectional study in Estonia. *BMC Public Health*, 13(1), 1-9.
- Van Balen, F., Verdurmen, J. & Ketting, E. (1997). Choices and motivations of infertile couples. *Patient Education and Counseling*, 31(1), 19-27.
- Van der Steeg, J.W., Steures, P., Eijkemans, M.J., Habbema, J.D., Hompes, P.G., Broekmans, F.J. et all. (2007). Pregnancy is predictable: a large-scale prospective external validation of the prediction of spontaneous pregnancy in subfertile couples. *Human Reproduction*, 22(8), 536-542.
- Vujkovic, M., de Vries, J.H., Dohle, G.R., Bonsel, G.J., Lindemans, J., Macklon, N.S. et all. (2009). Associations between dietary patterns and semen quality in men undergoing IVF/ICSI treatment. *Human Reproduction*, 24(6), 1304-1312.
- Warren, M.P. & Perlroth, N.E. (2001). The effects of intense exercise on the female reproductive system. *Journal of Endocrinology*, 170(1), 3-11.
- Waylen, A.L., Metwally, M., Jones, G.L., Wilkinson, A.J. & Ledger, W.L. (2009) Effects of cigarette smoking upon clinical outcomes of assisted reproduction: a meta-analysis. *Human Reproduction Update*, 15(1), 31-44.
- Weisman, C.S., Hillemeier, M.M., Chase, G.A., Misra, D.P., Chuang, C.H., Parrott, R. et all. (2008). Women's perceived control of their birth outcomes in the Central Pennsylvania Women's Health Study: Implications for the use of preconception care. *Womens Health Issues*, 18, 17-25.
- Windham, G.C., Fenster, L. & Swan, S.H. (1992). Moderate maternal and paternal alcohol consumption and the risk of spontaneous abortion. *Epidemiology*, 3, 364-370.
- Wisborg, K., Kesmodel, U., Bech, B.H., Hedegaard, M. & Henriksen, T.B. (2003). Maternal consumption of coffee during pregnancy and stillbirth and infant death in first year of life: Prospective study. *British Medical Journal*, 326-420.
- Wu, S.-C. & Liu, M. (2012). In vitro assessment of reproductive toxicity of cigarette smoke and deleterious consequences of maternal exposure to its constituents. *Biological Research*, 45(2), 101-109.
- Youngrail, E.V., Holloway, A.C. & Foster, W.G. (2005). Environmental and occupational factors affecting fertility and IVF success. *Human Reproduction Update*, 11(1), 43-57.
- Zaadstra, B.M., Seidell, J.C., Van Noord, P.A.H., Tevelde, E.R., Habbema, J.D.F., Vrieswijk, B. et all. (1993). Fat and female fecundity: Prospective study of effect of body fat distribution on conception rates. *British Medical Journal*, 306(6876), 484-487.
- Zenzes, M.T. (2000). Smoking and reproduction: gene damage to human gametes and embryos. *Human Reproduction Update*, 6(2), 122-131.