Bölüm 1

KADIN SPORCU ÜÇLEMESİ

Dilek SEVİMLİ[1]
Ayfer ERDOĞAN[2]

Sporun kadınlar için faydaları, risklerinden çok daha ağır bastığı için sağlık ve spor otoriteleri; ergin dönemdeki kadınları fiziksel olarak aktif olmaya ve spora katılmaya teşvik etmektedir (ACSM, 1992). Düzenli egzersizin kadın sağlığına olumlu etkileri bildirilirken, egzersiz yapan kadınlarda vücut yağ oranlarının da daha kolay kontrol edildiği ve iyi yönetildiği belirtilmektedir (Sevimli&Sanrı, 2017; Ağaoğlu, 2015). Tüm bu nedenlerden ötürü kadınlar spora katılmaya teşvik edilmelidir. Son yıllarda kadınların spora katılımları artmaktadır. Bununla birlikte sporda sakatlanmalar ve bazı sağlık riskleri güncel problemler arasında sayılabilmektedir.

Sakatlanmalara bağlı yaralanmalar dışında kadın sporcular için en önemli sağlık sorununu teşkil eden, bağımsız olmalarına karşın birbiriyle ilişkili üç sağlık probleminden oluşan atletik üçleme (kadın sporcu üçlemesi) ilk kez 1992'de ACSM tarafından tanımlanmıştır. Yeme bozukluğu, amenore ve düşük kemik mineral yoğunluğu kombinasyonu kadın sporcu üçlemesi olarak adlandırılmıştır (Yeager ve ark., 1993). Tüm kadın sporcuların birbiriyle ilişkili üç bileşenden oluşan bu ciddi sendrom riski altında olduğu ancak zayıflığın ve / veya düşük vücut ağırlığının önemli olduğu spor branşlarında yarışan sporcularda üçleme riskinin arttığı belirtilmiştir (Nattiv ve ark., 1994).

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kompozisyonunun, kuvvetin ve fiziksel uygunluğunun vücut ağırlığından daha önemli olduğunu vurgulamalıdırlar. Kadın sporcu üçlemesi ile yapılacak bilimsel araştırmalar sporcu sağlığı açısından sporculara, sağlık ve spor profesyonellerine katkı sağlayacaktır.

KAYNAKLAR

A. Abbott, M.L. Bird, E. Wild, S.M. Brown, G. Stewart, M.K. Mulcahey, "Part I: Epidemiology and Risk Factors for Stress Fractures in Female Athletes", *The Physician and Sports Medicine*, 48.1: 17-24, 2020.

A. Abbott, M.L. Bird, E. Wild, S.M. Brown, G. Stewart, M.K. Mulcahey, "Part II: Presentation, Diagnosis, Classification, Treatment, Andprevention of Stress Fractures in Female Athletes", *The Physician and Sports Medicine*, 48.1: 25-32, 2020.

A. Melin, A.B. Tornberg, S. Skouby, S.S. Møller, J. Sundgot-Borgen, J. Faber, "Energy Availability and The Female Athlete Triad in Elite Endurance Athletes.", *Scand J Med Sci Sports*, 25:610–22, 2015.

A. Nattiv, A.B. Loucks, M.M. Manore, C.F. Sanborn, J. Sundgot-Borgen, M.P. Warren, "The Female Athlete Triad, American College of Sports Medicine Position Stand", *Med Sci Sports Exerc*, 39.10: 1867-1882, 2007.

A. Nattiv, R. Aurelia, B. Drinkwater, K. Yeager, "The Female Athlete Triad: The Inter-Relatedness of Disordered Eating, Amenorrhea, and Osteoporosis." *Clinics in Sports Medicine*, 13.2: 405-418, 1994.

A.B. Loucks, A. Nattiv, "Essay: The Female Athlete Triad. *The Lancet*, 366: S49-S50, 2005.

A.B. Loucks, B. Kiens, H.H. Wright, "Energy Availability in Athletes", *J Sports Sci*. 29(Suppl 1):S7–15, 2011.

A.B. Loucks, S.M. Horvath, "Athletic amenorrhea: a review", *Medicine and Science in Sports and Exercise*, 17.1: 56-72, 1985.

A.F. Doyle-Lucas, J.D. Akers, B.M. Davy, "Energetic Efficiency, Menstrual Irregularity, and Bone Mineral Density in Elite Professional Female Ballet Dancers", *J Dance Med Sci*, 14(4):146–154 -, 2010.

A.M. Silva, "Structural and Functional Body Components in Athletic Health and Performance Phenotypes." *European Journal of Clinical Nutrition*, 73.2: 215-224, 2019.

A.S. Tenforde, A. Nattiv, M. Barrack, E. Kraus, B. Kim, A. Kussman, "Distribution of Bone Stress Injuries in Elite Male and Female Collegiate Runners." *MedSciSportExerc*, 47:905, 2015.

A.S. Tenforde, J.L. Carlson, K.L. Sainani, A.O. Chang, J.H. Kim, R. Diaz, M. Fredericson, "Lower Trabecular Bone Score and Spine Bone Mineral Density Are Associated with Bone Stress Injuries and Triad Risk Factors in Collegiate Athletes." *PM&R*, 2020.

A.S. Tenforde, M.T. Barrack, A. Nattiv, M. Fredericson, "Parallels with the Female Athlete Triad in Male Athletes." *Sports Medicine*, 46.2: 171-182, 2016.

A.Z. Hoch, N.M. Pajewski, L. Moraski, G.F. Carrera, C.R. Wilson, R.G. Hoffmann, D.D. Gutterman, "Prevalence of The Female Athlete Triad in High School Athletes and Sedentary Students", *Clinical Journal of Sport Medicine: Official Journal of the Canadian Academy of Sport Medicine*, 19.5: 421, 2009.

American College of Sports Medicine, "Disordered Eating, Amenorrhea, Osteoporosis: Call Toaction", *Sports Medicine Bulletin*, 27: 4, 1992.

B. Kendall, R. Eston, "Exercise-induced Muscle Damage and The Potential Protective Role of Estrogen", *Sports Medicine,* 32.2: 103-123, 2002.

B. Merrigan, J.C. Leggit, "Broadening the Female Athlete Triad: Relative Energy Deficiency in Sport. *American Family Physician*, 99.2: 76, 2019.

C. Fryar, D.R. Howell, C.N. Seehusen, D. Tilley, E. Casey, E.A. Sweeney, "Time Loss Injurıes Among Former Collegiate Gymnasts: The Influence Of Female Athlete Trıad Symptoms", *Orthopaedic Journal of Sports Medicine,* 9(7_suppl3), 2325967121S00171, 2021.

C. Greenleaf, "Athletic Body Image: Exploratory Interviews with Former Competitive Female Athlete", *Women in Sport and Physical Activity Journal*, 11.1: 63-88, 2002.

C. Greenleaf, T.A. Petrie, J. Carter, J.J. Reel, "Female Collegiate Athletes: Prevalence of eating Disorders and Disordered Eating Behaviors", *Journal of American College Health*, 57.5: 489-496, 2009.

C.A. Dueck, K.S. Matt, M.M. Manore, J.S. Skinner, "Treatment of Athletic Amenorrhea with A Diet and Training Intervention Program", *International Journal of Sport Nutrition and Exercise Metabolism*, 6.1: 24-40, 1996.

C.B. Becker, L. Mcdaniel, S. Bull, M. Powell, K. Mcintyre, "Can We Reduce Eating Disorder Risk Factors in Female College Athletes? A Randomized Exploratory Investigation of Twopeer-Led Interventions." *Body image*, 9.1: 31-42, 2012.

C.L. Otis, "Exercise-associated Amenorrhea", *Clinics in Sports Medicine*, 11.2: 351-362, 1992

D. Sevimli, M. Sanrı, "Effects of Cardio-Pilates Exercise Program on Physical Characteristics of Females.", *Universal Journal of Educational Research*, 5.4: 677-680, 2017.

E. Canbolat, F.P. Çakıroğlu, "Kadın Üniversite Sporcularında Kadın Sporcu Triadına Yönelik Risk Faktörlerinin İncelenmesi", 2019.

E. Joy, A. Kussman, A. Nattiv, "2016 Update On Eating Disorders in Athletes: A Comprehensive Narrative Review with a Focus on Clinical Assessment and Management", *British Journal of Sports Medicine*, 50.3: 154-162, 2016.

E. Kraus, A.S. Tenforde, A. Nattiv, K.L. Sainani, A. Kussman, M. Deakins-Roche, M. Fredericson, Bone Stress Injuries in Male Distance Runners: Higher Modified Female Athlete Triad Cumulative Risk Assessments Cores Predictin Creased Rates of Injury. *British journal of sportsmedicine*, 53.4: 237-242, 2019.

E.E. Finn, A.S. Tenforde, M. Fredericson, N.H. Golden, T.L. Carsol, C.A. Karvonen-Gutierrez, J.L. Carlson, "Markers of Low Iron Status Are Associated with Female Athlete Triad Risk Factors", *Medicine and Science in Sports and Exercise*, 2021.

H.M. Emara, A.B. Kassab, A.H. Abbassy, H.R.Sakr, "Effect of Acupuncture and Diet Modification on Amenorrhea in Female Athlete Triad: A Single Blind Randomized Controlled Trial." *Fizjoterapia Polska* 19(3); 62-67, 2019,

H.T. Huovinen, J.J. Hulmi, J. Isolehto, H. Kyrolöläinen, R. Puurtinen, T. Karila, A.A. Mero, "Body Composition and Power Performance Improved After Weight Reduction in Male Athletes with Outhampering Hormonal Balance", *Journal of Strength and Conditioning Research,* 29(1), 29–36, 2015.

I.A. Heikura, A.L.T. Uusitalo, T. Stellingwerf, D. Bergland, A.A. Mero, L.M. Burke, "Low Energy Availability is Difculttoassess but Outcomes Have Large Impact on Bone Injuryrates in Elite Distance Athletes", *Int J SportNutrExercMetab,* 28:403–11, 2018.

J. Morrison, "DSM-5 Made Easy: The Clinician's Guide to Diagnosis." *Guilford Publications*: syf: 277-280, 2014.

J. Morrison, "DSM-5 Made Easy: The Clinician's Guide to Diagnosis." Guilford Publications: syf:281-282, 2014.

J. Sundgot-Borgen, I. Garthe, "Elite Athletes in Aesthetic and Olympic Weight-Class Sports and The Challenge of Body Weight and Body Composition" *Journal of Sports Sciences*, 2011.

J. Sundgot-Borgen, M.K. Torstveit, "Prevalence of Eating Disorders in Elite Athletes is Higher Than in The General Population." *Clinical Journal of SportMedicine*; 14(1), 25–32*,* 2004.

J. Van Heest, C.D. Rodgers, C.E. Mahoney, M.J. De Souza, "Ovarian Suppression Impairs Sport Performance in Junior Elite Female Swimmers." *Medicine & Science in Sports &Exercise,* 46(1), 156–166*,* 2014.

J. Waldrop, "Early Identification and Interventions for Female Athlete Triad.", *J Pediatr HealthCare,* 19:213–20*,* 2005.

J.A. Kanis, "Diagnosis of Osteoporosis ond Assessment of Fracture Risk", *TheLancet*, 359.9321: 1929-1936, 2002.

J.P. Daily, J.R. Stumbo, "Female Athlete Triad" *Primarycare*, 45.4: 615-624, 2018.

K. Yeager, R. Agostini, A. Nattiv, B. Drinkwater, "The Female Athlete Triad: Disordered Eating, Amenorrhea, Osteoporosis." *Medicine & Science in Sports &Exercise*, 1993.

K.A. Beals, M.M. Manore, "Nutritional Status of Female Athletes with Subclinical Eating Disorders", *Journal of the American Dietetic Association*, 98.4: 419-425, 1998.

K.E. Ackerman, N. Cano Sokolof, G. De NardoMafazioli, H.M. Clarke, H. Lee, M. Misra, "Fractures in Relation to Menstrual Status and Bone Parameters in Young Athletes", *Med Sci Sport Exerc,* 47:1577–86, 2015.

K.H. Myburgh, J. Hutchins, A.B. Fataar, S.F. Hough, T.D. Noakes, "Low Bone Density is An Etiologic Factor for Stress Fractures in Athletes." *Annals of Iinternal Medicine*, 113.10: 754-759, 1990.

K.J. Thralls, J.F. Nichols, M.T. Barrack, M. Kern, M.J. Rauh, "Body Mass-Related Predictors of The Female Athlete Triad Among Adolescent Athletes. *International Journal of Sport Nutrition and Exercise Metabolism*, 26.1: 17-25, 2016.

L. Armstrong, Y. Epstein, J. Greenleaf, E. Haymes, R. Hubbard, W. Roberts, P. Thompson. "ACSM Position Stand: The Female Athlete Triad: Heat And Cold Illnesses During Distance Running", *Medicine&Science in Sports & Exercise*, 28.10: 139-148, 1996

L. Cialdella-Kam, C.P. Guebels, G.F. Maddalozzo, M.M Manore, "Dietary Intervention Restored Menses in Female Athletes with Exercise-Associated Menstrual Dysfunction with Limited Impact on Bone and Muscle Health", *Nutrients*, 6.8: 3018-3039, 2014.

L.M. Burke, B. Kiens, J.L. Ivy "Carbohydrates and Fat for Training and Recovery", *Journal of Sports Sciences*, 22.1: 15-30, 2004.

L.M. Burke, G. Millet, M.A. Tarnopolsky, "Nutrition for Distance Events", *Journal of Sports Sciences*, 25.S1: S29-S38, 2007.

L.M. Burke, G.R. Cox, N.K. Cummings, B. Desbrow, "Guidelines for Daily Carbohydrate Intake", *Sports Medicine*, 31.4: 267-299, 2001.

L.W. Rosen, D.B. Mckeag, D.O. Hough, V. Curley, "Pathogenic Weight-Control Behavior in Female Athletes.", *The Physician and Sports Medicine*, 14.1: 79-86, 1986.

L.W. Rosen, D.O. Hough, "Pathogenic Weight-Control Behaviors of Female College Gymnasts.",*The Physician and Sports medicine*, 16.9: 140-144, 1988.

M. Barrack, M. Fredericson, F. Dizon, A. Tenforde, B. Kim, E. Kraus, A. Nattiv, "Dietary Supplement Use According to Sex and Triad Risk Factors in Collegiate Endurance Runners", *The Journal of Strength & Conditioning Research,* 35.2: 404-410, 2021.

M. Edama, H. Inaba, F. Hoshino, S. Natsui, S. Maruyama, G. Omori, "The Relationship Between The Female Athlete Triad and Injuryrates in Collegiate Female Athletes", Peer Journal, 9: e11092, 2021.

M.El Ghoch, F. Soave, S. Calugı, G.R. Dalle, "Eating Disorders, Physical Fitness and Sport Performance: a Systematic Review. *Nutrients*, 5.12: 5140-5160, 2013.

M. Mountjoy, J. Sundgot-Borgen, L. Burke, S. Carter, N. Constantini, C. Lebrun, A. Ljungqvist, "The IOC Consensus Statement: Beyond The Female Athlete Triad—Relative Energy Deficiency in Sport (RED-S). *British Journal of Sports Medicine*, 48.7: 491-497, 2014.

M. Nagel, "The Relationship of The Female Athlete Triad with Psychocognitive Functions and Balance." *Journal of Exercise Science and Fitness, 1*, 116–124, 2003.

M. Shangold, R.W. Rebar, A.C. Wentz, I. Schiff, "Evaluation and Management of Menstrual Dysfunction in Athletes.", *Jama*, 263.12: 1665-1669, 1990.

M. Tosi, S. Maslyanskaya, N.A. Dodson, S.M. Coupey, "The Female Athlete Triad: A comparison of Knowledge and Risk in Adolescent and Young Adult Figüre Skaters, Dancers, and Runners." *Journal of Pediatric and Adolescent Gynecology*, 32.2: 165-169*,* 2019.

M.A. Raj, A.D. Rogol, "Female Athlete Triad"i In: *StatPearls [Internet]*. StatPearls Publishing, 2019.

M.B. Loveless, "Female Athlete Triad". *Current Opinion in Obstetrics and Gynecology*, 29.5: 301-305, 2017.

M.D. Johnson, "Disordered Eating in Active and Athletic Women" *Clinics in Sports Medicine*, 13.2: 355-369, 1994.

M.J. De Souza, A. Nattiv, E. Joy, M. Misra, N. Williams, R. Mallinson, G. Matheson, "2014 Female Athlete Triad Coalition Consensus Statement on Treatment and Return to Play of The Female Athlete Triad: 1st International Conference Held in San Francisco, California, May 2012 and 2nd International Conference Held in Indianapolis, Indiana, May 2013", *British Journal of Sports Medicine*, 48.4: 289-289, 2014.

M.J. De Souza, S.L. West, S.A. Jamal, G.A. Hawker, C.M. Gundberg, N.I. Williams, "The Presence of Both an Energy Deficiency and Estrogen Deficiency Exacerbate Alterations of Bone Metabolism in Exercising Women", *Bone*, 43.1: 140-148, 2008.

M.K. Torstveit, J. Sundgot-Borgen, "Participation in Leanness Sports but not Training Volume is Associated with Menstrual Dysfunction: A National Survey of 1276 Elite Athletes and Controls." *Br J Sports Med*; 39: 141– 147*,* 2005.

M.M. Manore, "Nutritional Needs of The Female Athlete", *Clinics in Sports Medicine*, 18.3: 549-563, 1999.

M.M. Manore, L.C. Kam, A.B. Loucks, "The Female Athlete Triad: Components, Nutrition Issues, and Health Consequences. *Journal of Sports Sciences*, 25.S1: S61-S71, 2007.

M.P. Warren, "Health Issues for Women Athletes: Exercise-İnduced Amenorrhea." *The Journal of Clinical Endocrinology & Metabolism*, 84.6: 1892-1896, 1999.

N.R. Rodriguez, N.M. DiMarco, S. Langley, "American College of Sports Medicine Position Stand. Nutrition and Athletic Performance", *Medicine and Science in Sports and Exercise*, 41.3: 709, 2009.

N.S. Ahmad, M.S. Hamid, J.P.G. Cheong, S.H. Hamzah, "Dietand Bone Status in Eumenorrheic Female Athletes" In: *International Conference on Movement, Health and Exercise, Springer, Singapore*, 2016.

O. Bar-Or, D. Lamb, P.M. Clarkson, "Exercise and The Female: A Life Span Approach". *Cooper Pub Group*, 1996.

P. Skorseth, N. Segovia, K. Hastings, E. Kraus, "Prevalence of Female Athlete Triad Risk Factors and Iron Supplementation Among High School Distance Runners: Results From a Triad Risk Screening Tool." *Orthopaedic Journal of Sports Medicine*, 8.10: 2325967120959725, 2020.

P.J. Horvath, C.K. Eagen, N.M. Fisher, J.J. Leddy, D.R. Pendergast, "The Effects of Varying Dietary Fat on Performance and Metabolism in Trained Male and Female Runners", *Journal of The American College of Nutrition*, 19.1: 52-60, 2000.

R. Bouillon, P. Burckhardt, C. Christiansen, H. Fleisch, T. Fujita, C. Gennari, B. Riis, "Consensus Development Conference: Prophylaxis and Treatment of Osteoporosis". *Am. J. Med.*, 90: 107-110, 1991.

R.J. Mallinson, M.J. De Souza, "Current perspectives on the Etiology and Manifestation of The "Silent" Component of The Female Athlete Triad", *International Journal of Women's Health*,6: 451, 2014

R.J. Mallinson, N.I. Williams, M.P. Olmsted, J.L. Scheid, E.S. Riddle, M.J. De Souza, "A Case Report of Recovery of Menstrual Function Following a Nutritional Intervention in Two Exercising Women with Amenorrhea of Varying Duration", *Journal of The International Society of Sports Nutrition,* 10.1: 34, 2013.

R.J. Stubbs, D.A. Hughes, A.M. Johnstone, S. Whybrow, G.W. Horgan, N. King, J. Blundell, "Rate and Extent of Compensatory Changes in Energy Intake and Expenditure in Response to Altered Exercise and Diet Composition in Humans." *American Journal of Physiology-Regulatory, Integrative and Comparative Physiology*, 286.2: R350-R358, 2004.

R.L. Duckham, K. Brooke-Wavell, G.D. Summers, N. Cameron, N. Peirce, "Stress Fracture Injury in Female Endurance Athletes in The United Kingdom: A 12-month Prospective Study", *Scand J MedSci Sports*, 25:854–9, 2015.

S. Ağaoğlu, "Kadın Sağlığı ve Egzersiz", *Spor ve Performans Araştırmaları Dergisi*, 6.2: 67-72, 2015.

S. Baumgartner, "Management der Female Athlete Triad/RED-S", Journal für Gynäkologische Endokrinologie/Schweiz", 1-7, 2021.

S. Bratland-Sanda, J. Sundgot-Borgen, "Eating Disorders in Athletes: Overview Of Prevalence, Risk Factors and Recommendations for Prevention and Treatment", *European Journal of Sport Science*, 13.5: 499-508, 2013.

S. Cleary, V. Chi, R. Feinstein, "Female Athletes: Managing Risk and Maximizing Benefit", *Currentopinion in Pediatrics*, 30.6: 874-882, 2018.

S. Nose-Ogura, "Advancement in Female Sports Medicine and Preventive Medicine", *Journal of Obstetrics and Gynaecology Research,* 47(2), 476-485, 2021.

S. Nose-Ogura, M. Nakamura, T. Koshimizu, "Study on Strategic Strengthening of Female Athletes, Female Athlete Training and Support Project Commissioned by The Department of Obstetrics and Gynecology, University of Tokyo Hospitalandthe Japan Sports Agency, Health Management for Female Athletes, Version 3", *Tokyo: TheUniversity of Tokyo, Department of Obstetrics and Gynecology*, 2018.

S. Nose-Ogura, O. Yoshino, M. Dohi M, Risk Factors of Stress Fractures Due to The Female Athlete Triad: Differences in Teens and Twenties", *Scand J MedSci Sports,* 29: 1501–1510, 2019

S. Nose-Ogura, O. Yoshino, M. Dohi, M. Kigawa, M. Harada, T. Kawahara, S. Saito, "Low Bone Mineral Density in Elite Female Athletes with A History of Secondary Amenorrhea in Theirteens", *Clinical Journal of Sport Medicine*, 30.3: 245-250, 2020.

S. Ravi, B. Waller, M. Valtonen, J. Villberg, T. Vasankari, J. Parkkari, U.M. Kujala, "Menstrual Dysfunction and Body Weight Dissatisfaction Among Finnish Young Athletes and Non-Athletes". *Scandinavian Journal of Medicine & Science in Sports*, 2020.

S. Thomas, A.M. Gonzalez, J.J. Ghigiarelli, "The Relationship between Weight Cutting and The Female Athlete Triad in Combat Sport Athletes." *International Journal of Kinesiologyand Sports Science*, 9.1: 9-14, 2021.

S. Wheatley, S. Khan, A. D. Székely, D. P. Naughton, A. Petróczi, "Expanding the Female Athlete Triad Concept Toad Dress a Public Health Issue." *Performance Enhancement & Health*, 1(1), 10-27, 2012.

S.A. Hasbay, "Balerinlerde Yeme Bozuklukları, Amenore Ve Osteoporozis Görülme Durumunun (Kadın Sporcu Triadı) Saptanması", Doktora Tezi. *Hacettepe Üniversitesi*, 2005.

S.A. Kopp-Woodroffe, M.M. Manore, C.A. Dueck, J.S. Skinner, K.S. Matt, "Energy and Nutrient Status of Amenorrheic Athletes Participating in A Diet and Exercise Training Intervention Program", *International Journal of SportNutritionandExerciseMetabolism*, 1999, 9.1: 70-88.

S.M. Statuta, "The Female Athlete Triad, Relative Energy Deficiency in Sport, and the Male Athlete Triad: The Exploration of Low-Energy Syndromes in Athletes." *Current Sports Medicine Reports*, 19.2: 43-44, 2020.

S.M. Statuta, C.L. Wood, L.K. Rollins, "Common Medical Concerns of The Female Athlete." *Primary Care: Clinics in Office Practice*, 47.1: 65-85, 2020.

T. Dusek, "Infuence of High Intensity Training on Menstrual Cycle Disorders in Athletes", *Croat Med Journal,* 42:79–82, 2001.

U.P. De Maria, "Juzwiakcr. the Risk for the Female Athlete Triad in Brazilian Athletes", *Hum Mov*, 22.2: 53-59, 2021.

Y. Ishii, S. Nose-Ogura, A. Kamei, "Changes in Energy Availability and Luteinizing Hormone Levels by Nutritional Guidance in Amenorrheic Elite Athletes", *J JpnSocClin Sports Med*, 27: 206–214, 2019.