

Een overzicht van diverse publicaties op het gebied van Hartbrein coherentie

1.1.Eerste publicaties:

Akselrod S,Gordon D et al(1981). Power spectrum analysis of heart rate fluctuation: A quantitative probe of beat-to-beat cardiovascular control. Science 1981;213:220-222.

Sinnreich R,Friedlander Y, Sapoznikov D (1988). Five minute recordings of heart rate variability for population studies:repeatability and age-sex characteristics. Heart 1988;80 156-162

Fuller (1992) The effects of stress-anxiety and coping styles on heart rate variability. International Journal of Psychophysiology 12(1): 81-6

Porges (1995) Cardiac vagal tone: a physiological index of stress. In: Neuroscience Biobehav 19(2):225-233

Tsuji H, Larson MG,Levy D, et al (1996) Impact of reduced heart rate variability on risk for cardiac events. The Framingham Heart Study. Circulation, 1996

Paul Lehrer, Stephen Porges et al(1997) Respiratory Sinus Arrhythmia versus Neck Trapezia EMG and incentive inspirometry biofeedback for asthma. In: Appl Psychophysiol and Biofeedback Vol 22, no 2

1.2.Ontstaan van inzicht en standaarden op het gebied van HRV-biofeedback:

Taskforce of the European Society of Cardiology and the North American Society of pacing and Electrophysiology (1996) Heart Rate Variability: Standards of measurement, physiological interpretations,and clinical use in: European Heart Journal (1996) 17, 354-381 [download](#)

Nolan J,Batin P et al (1998).Prospective study of heart rate variability and mortality in chronic heart failure: Results of the United Kingdom Heart Failure Evaluation and Assessment of Risk Trial (UK-Heart).Circulation 1998 98: 1510-1516

Gevirtz (2000) Physiology of stress. In: Stress and Health, research and clinical applications, Sydney, Harwood Academic Publishers

Sahar,T,Porges,SW (2001), Vagal modulation of responses to mental challenge in posttraumatic stress disorder, Biol.Psychiatry, 2001;49.637-643. [download](#)

Vasschillo, Lehrer (2002) Heart Rate Variability biofeedback as a method assessing baroreflex function: a preliminary study of resonance in the cardiovascular system. In: Applied Psychophysiology and Biofeedback Vol 27, No1.

Porges,(2003) Social Engagement and attachment a phylogenetic perspective. Ann N.Y.Academy of Sciences 10.1196/annals1301.004

Vasschillo, Lehrer (2006) Characteristics of resonance in HRV stimulated by biofeedback, J of Appl Psychophys & Biofeedback [download](#)

Lehrer, Woodfolk &Sime (2007) Principles and practice of stressmanagement, 3d edition New York: Guilford

Gevirtz R,(2009) Autonomous Nervous system markers for Psychophysiological Anxiety and Physical Disorders, in: Integrated Neuroscience and Personalized Medicine.

Porges S (2011) The Polyvagal Theory: neuropsychological foundations of emotions, attachment, communication and selfregulation. New York.

Lehrer P.Gevirtz R (2014)Heart Rate Variability biofeedback: how and why does it work? Front Psychol, 2014;5:756

1.3.Klinisch vervolgonderzoek werd verbreed na positieve effecten van HRV-biofeedback bij astma: Positieve effecten werden gemeten bij: fibromyalgie, depressie, paniekstoornissen, stress and anxiety, ADHD, PTSD en hoge bloeddruk en bij specifieke doelgroepen: oudere patiënten, jongeren, ruimtevaart, topsport, politie en leger.

Piccirillo G, Bucca D,Cacciafesta M (1998) Power spectre analysis of heart rate in participants over a hundred years old. Int J Cardiology 1998;63:53-61.

Bernardi,(2002), Congestive Heart Failure, Circulation

Frederic Luskin (2002) A controlled pilot study of stress management training of elderly patients with congestive heart failure. In: Preventive Cardiology fall 2002

Perkiomaki JS (2002): Heart Rate Variability: recent developments. Ann Noninvasive Electrocardiol 2002, 7: 83-85

Lehrer PM Vasschillo E, Vasschillo B, et al. (2004) Biofeedback treatment for asthma, Chest, 126(2) 352-361.

Giardino ND et al. (2004) Combined Heart rate Variability and pulse oximetry biofeedback for Chronic Obstructive Pulmonary Disease: preliminary findings, Appl Psychophys Biofeedback 29(2), 121-133.

Tripathi (2004) respiration and Heart rate variability. A review with special reference to its application in aerospace medicine. Indian Journal of Aerospace Medicine, 48(1) 64-75

Rajendra Acharya U, Luk Yi Ping, Tji Leng Chua. (2004) Heart Rate analysis in normal participants various age groups. Biomed Eng Online 2004; 3:24

Nolan RP et al (2005) HRV Biofeedback as a behavioral neurocardiac intervention to enhance vagal heart rate control, Am Heart J. 149(6), 1137 (about coronary artery disease)

Hassett, A. Lehrer, P. (2007), A pilot study of the efficacy of Heart Rate Variability Biofeedback in patients with fibromyalgia in: Appl Psychophysiol Biofeedback, 2007; 32:1-10

Maria Karavidas, Paul Lehrer, (2007), Heart Rate Variability Biofeedback for the treatment of major depression. In: Appl Psychophysiol Biofeedback (2007) 32:19-30

Reinke, A, Gevirtz R (2007), Effect of Heart Rate Variability feedback in reducing blood pressure. Appl. Psychophysiology and Biofeedback, 134.

Zucker T, Samuelson, Gevirtz R (2009), The effects of RSA biofeedback in HRV and Post-Traumatic Stress Disorder syndroms, Appl Psychophysiology & Biofeedback [download HRV biofeedback bij PTSD](#)

Mc Craty R, (2009) new hope for correctional officers: an innovative program for reducing stress and health risks. In: Appl Psychophysiol Biofeedback (2009) 34:251-272

Siepmann, M, Aykac, V, Unterdorfer, J (2008). A pilot study on the effects of heart rate variability biofeedback in patients with depression and in healthy subjects. Appl Psychophys and Biofeedback, 33 (4), 195-201 [download HRV biofeedback bij depressie](#)

Moravec CS (2008) Biofeedback therapy in cardiovascular disease: rationale and research overview Cleve Clin J Med 75, Suppl 2 S35-38

Brook H et al (2010). Heart Rate Variability in bipolar mania and schizophrenia, in: Journal of Psychiatric research 44 (2010) 168-176

Kikuchi M et al (2010) Heart Rate Variability in drug-naive patients with panic disorder and major depressive disorder in: Progress in Neuro Psychopharmacology & Biological Psychiatry 33 [download HRV biofeedback bij depressie](#)

Sowder E, Gevirtz (2010) Restoration of Vagal Tone: A possible mechanism for functional abdominal pain. Appl Psychophysiol Biofeedback

Tan G, Dao TK, Gevirtz R (2011), Heart Rate Variability and Posttraumatic Stress disorder: a pilot study, Appl Psychophysiol. Biofeedback (2011) 36:27-35 [download HRV en PTSD](#)

Rene R Gevirtz R et al (2011) The efficacy of a portable HRV Feedback device in conjunction with mental health treatment of clients with major depressive disorder, Alliant International University

Gregg Henriques (2011) Exploring the effectiveness of a computer based heart Rate Variability biofeedback program in reducing anxiety in college students in: Appl Psychophysiol Biofeedback (2011) 36 101-112

Lin G,Xiang O, Wang,S e.a.(2012) Heart Rate Variability biofeedback decreases blood pressure in prehypertensive subjects by improving autonomic function and baroreflex.J Altern Complement.Med 18(2) 143-152

Patron E,Benvenuti GF, Palombo D (2013), Biofeedback assisted control of RSA as a biobehavioral intervention for depressive symptoms in patients after cardiac surgery: a preliminary study.Appl Psychophysiol Biof 2013;38:1-9

Ebert, C (2013), The use of HRVB for the treatment of FGID in children and adolescents, AAPB, Portland (about abdominal pain)

Chalmer JA,e.a. (2014) Anxiety disorders are associated with reduced heart rate variability. Front Psychiatry 2014;5:80

1.4. Het aantal artikelen over HRV neemt sterk toe. Sinds 2005 worden er wekelijks gemiddels 10 artikelen gepubliceerd.

*Nunan D, Sandercock G,(2010) A quantitative systematic review of normal values for short term Heart Rate Variability in healthy adults PACE,Vol 33, nov 2010.

*Gevirtz R.The promise of Heart rate Variability Biofeedback: Evidence-based application. Biofeedback 2013; 41:110-120.

*Schoenberg PL, Divid,AS,Biofeedback for psychiatric disorders: a systematic review, Appl.Psychophysiol Biofeedback 2014;39:109-135

*Blase KL,A van Dijke, PJM Cluitmans, E Vermetten, Evidentie voor de effectiviteit van HRV Biofeedback bij behandeling van depressie en PTSS?, Tijdschrift voor Psychiatrie, 2016

2. HRV in het kader van professionalisering van huisartsen en HRV-biofeedback in Nederland

Steeds duidelijker wordt dat het gaat om een breed spectrum van ziekten die gepaard gaan met een ontregeling van het autonome zenuwstelsel, dus het brede spectrum van emotionele dysregulatie, iets waar de huisarts zeer veel mee te maken heeft: stressgerelateerde ziekten, slaap/vermoeidheidssyndroom, hoge bloeddruk.

Burton, Rahman, et al,(2010) Reduced Heart Rate Variability predicts poor sleep quality in case-control study of chronic fatigue syndrome, in: Exp Brain Res(2010) 204:71-78

Gregg Henriques (2011) Exploring the effectiveness of a computer based Heart Rate Variability biofeedback program in reducing anxiety in college students in: Appl Psychophysiol Biofeedback (2011) 36 101-112

In Nederland wordt inmiddels ook op de VU en UvA onderzoek gedaan en gepubliceerd en is het boek Slanker met je hartritme, een methode om af te vallen via deze HRV biofeedbackmethode geïntroduceerd en een succes aan het worden.

T.Vrijkotte, E.de Geus (2000)Effect of Work Stress on Ambulatory Blood pressure, Heart Rate and Heart Rate Variability. In: Journal of American Heart Association

Dekker,JM, Crow RS , Schouten,et al (2000),Low heart rate variability in a 2-minute rhythm strip predicts risk of coronary heart disease and mortality from several causes: The Aric Study. Circulation 2000; 102:1239-1244.

Camilla Licht, Eco de Geus, e.a.2008, Association between major depressive disorder and Heart Rate Variability in the Netherlands Study of Depression and Anxiety (NESDA) American Medical Association, University of Amsterdam

Bregje Hartogs et al (2008) Hartcoherentietraining: een nieuwe aanpak om zelfcontrole bij mensen met een psychotische stoornis te vergroten? in: GGZet Wetenschappelijk 2008, jaargang 12, no 2.

Camilla Licht, Eco de Geus (2010) Longitudinal evidence for unfavorable effects of antidepressants on heart Rate Variability. In: Biological Psychiatry 2010;68:861-868

Marjan de Vries et al (2011) The predictive value of low heart rate variability during stress for reoffending in adolescents. In: Psychophysiology (2011) 1-8

David O Hare, Kees Blase (2009) Slanker met je hartritme, in negen fasen afvallen met je hart als dirigent. Kosmos Uitgeverij. (3^e druk in 2012)

En als laatste het proefschrift van Wieke de Vente: Sick and tired: Psychological and physiological aspects of work-related stress. Hierin toont zij aan dat er verband is tussen zelfgerapporteerde werkstress gerelateerde klachten en fysiologische metingen, en zij adviseert in haar proefschrift dan ook het cardiovasculair profiel op te nemen voor klinische beoordelingen, met name cardiac output en Heart Rate Variability.

Dat Heart Rate Variability in Nederland nu in de mainstream bij artsen is gekomen blijkt uit het feit, dat prof dr Eco de Geus (V.U. Amsterdam) in 2008 op het UMCG in Utrecht zijn onderwerp " genome wide analysis on heart rate and heart rate variability "presenteerde.

Literatuurlijst met dank aan www.hartfocus.nl