

A MULTI-VARIATE APPROACH TO POSTURE

By

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**Dedicated to my husband for being teacher, best friend, partner, eternally
inspiring and dependable**

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SUMMARY

What is the ideal human upright posture? Where did it come from, how did it develop, what is its significance, how is it measured? What are the cause and effect of malposture?

Much has been published on the role of posture in physical as well as mental and emotional states of the individual. This study was undertaken to investigate these issues, while at the same time aiming to find the position and role of posture in the physical and psychological context of human life.

The first aspect of posture investigated was its definition. What constitutes good posture is still a debated issue. The conclusion drawn was that good posture represents the state of balance in an individual at rest and during motion. Ideally this state should be achieved with all the body parts aligned on top of each other requiring minimal effort and energy expenditure.

The evolutionary origin of the upright posture in man was traced in order to come to a clearer understanding of the anatomical, biomechanical and physiological mechanisms involved in posture. The positions and functions of some muscles and bones have remained, and some have changed during the development of the upright human from its quadrupedal ancestors. Maintenance of balanced posture depends mainly on the coordinated action of the stabilizing mono-articulated muscles, and their place and purpose in upright man were viewed in the light of their origins. By so doing one is able to uncover their intended use and to identify misuse of these muscles.

Development throughout childhood mimics the evolutionary process. A series of postural exercises was described, which follows the childhood/evolutionary

pattern, and have proven to be successful in postural rehabilitation and body-mind integration.

In order to understand the concept of the upright standing posture, control mechanisms responsible for maintaining upright posture were reviewed. These included the sensory and the neuromusculo-skeletal systems. This was duly undertaken in accordance with existing literature, it was concluded that posture is controlled in association with all human functions.

Following the concept that posture affects the mind and emotions, the work and theories of prominent researchers in the body-mind and postural integration field such as Frederick Alexander, Raymond Dart, Moshe Feldenkrais, Alexander Lowen, Wilhelm Reich and Ida Rolf were reviewed and distilled. This led to evidence that treatment of the body has an effect on the mind, that structure influences function and that postural equilibrium has a beneficial influence on both mind and body.

According to numerous workers malposture in man is pandemic. Ensuing literature and empirical research on total body posture, and the position of each area of the body, from the head to the feet, revealed divergent causes of this problem as well as effects of malposture, including negative self-image, psychological problems, pain, fatigue and the inability to achieve the full human potential.

Although there is no obvious cause of postural imbalance, there are many ways of preventing or rectifying the disorder. During the course of a postural rehabilitation therapy, there is a good chance of uncovering the underlying cause of the postural imbalance. This can be as deep seated as a personality disorder or as clear as the fear of an old sport injury.

The incidence and extent of postural defects were investigated in two small groups of subjects with the aim to determine the range of postural deviations,

and the body areas most commonly affected. All subjects studied, leaned forward with the gravity line anterior to the ankle joint. Postural defects were prevalent in all subjects. Most of the subjects were categorized as having severe postural defects or gross deformity. Postural asymmetry and kyphosis were the most common defects. The conclusions drawn from these studies were that most people, in any age group, suffer from some type of postural defect, supporting the general consensus that malposture is a pandemic condition.

The effects of postural rehabilitation were also investigated. Postures improved in all the subjects over a period of twelve weeks, with a more vertical body alignment the most obvious change.

Postural rehabilitation has physical and psychological consequences. This was demonstrated by improvement in posture and increased body awareness, a decrease in the tendency to become fatigued, an decrease in back and neck stiffness and improvement in mental attitudes. Postural training in general could therefore be profitable for both body and mind, and an appreciation of good posture and its resulting efficiency represents the best kind of preventative medicine. Postural training should have a place in both Education and Health.

KEY WORDS

Body awareness

Body alignment

Body use

Equilibrium

Malposture

Mind-body therapies

Muscular armouring

Poise

Posture

Postural control

SAMEVATTING

Wat is die ideale menslike regop postuur? Waar kom dit vandaan, hoe het dit ontwikkel, wat is die betekenis daarvan en hoe word dit gemeet? Wat is die oorsake en gevolge van wanpostuur?

Baie is reeds gepubliseer oor die rol van postuur in fisiese, geestelike en emosionele toestande van die individu. Hierdie studie was onderneem om hierdie aspekte te ondersoek, en terselfdertyd die posisie en rol van postuur in die fisiese en sielkundige konteks van die menslike lewe na te gaan.

Die eerste aspek van postuur wat ondersoek was, is die definisie daarvan. Waaruit goeie postuur bestaan, is steeds 'n debateerbare onderwerp. Die gevolgtrekking was dat goeie postuur verteenwoordig 'n toestand van balans in 'n individu gedurende rus of tydens beweging. Hierdie toestand kan bereik word met al die liggaamsdele op mekaar belyn met minimale inspanning en energieverbruik.

Die evolusionêre ontstaan van die regop postuur van die mens was nagevors met die doel om 'n duidelike begrip van die anatomiese, biomeganiese en fisiologiese meganismes betrokke by postuur te bekom. Die posisies en funksies van sommige spiere en dele van die skelet het onveranderd gebly, terwyl sommige verander het gedurende die ontwikkeling van die regop mens uit sy viervoetige voorvaders. Handhawing van 'n gebalanseerde postuur by die mens hang hoofsaaklik af van die gekoördineerde aksie van die stabiliserende, mono-artikulerende spiere, en hulle plek en doel in die regop mens was oorweeg in die lig van hulle oorsprong. Sodoende was dit moontlik om hulle doel te ontbloot en misbruik van hierdie spiere te identifiseer.

Ontwikkeling gedurende die kinderjare volg die evolusionêre proses. `n Reeks posturale oefeninge was beskryf wat die evolusionêre patroon volg, en wat suksesvol toegepas kan word in posturale rehabilitasie en die integrasie van die liggaam en gees.

Om die konsep van die regopstaande postuur te verstaan, was die beheer meganismes wat verantwoordelik was vir die handhawing van die regop postuur nagegaan. Dit het die sensoriese en neuromuskulêre-skeletale sisteme ingesluit. Die studie was onderneem inagneming van bestaande literatuur. Die gevolgtrekking was dat postuur beheer word in assosiasie met alle menslike funksies.

Na aanleiding van die konsep dat postuur die emosies affekteer, was die werk en teorieë van vooraanstaande navorsers, soos Frederick Alexander, Raymond Dart, Moshe Feldenkrais, Alexander Lowen, Wilhelm Reich en Ida Rolf in die veld van liggaam-gees en posturale integrasie ondersoek. Die bydraes van hierdie individue het getoon dat behandeling van die liggaam `n effek het op die gees, dat funksie beïnvloed word deur struktuur, en dat posturale balans voordelig is vir beide liggaam en gees.

Volgens verskeie navorsers is wanpostuur `n pandemiese toestand. Daaropvolgende literatuur en empiriese navorsing oor totale liggaamspostuur, en die posisie van elke area van die liggaam relatief tot die ander het uiteenlopende oorsake van die probleem ontbloot. Dit sluit in die gevolge van wanpostuur soos swak selfbeeld, sielkundige probleme, pyn, moegheid en die onvermoë om die volle menslike potensiaal te ontwikkel.

Alhoewel daar geen ooglopende rede vir posturale wanbalans is nie, is daar baie maniere om die toestand te voorkom of reg te stel. Gedurende terapie vir posturale rehabilitasie is daar `n goeie kans op ontbloting van onderliggende rede vir die posturale wanbalans. Dit kan so diepelligend wees soos `n persoonlikheidsafwyking of so duidelik soos die vrees vir `n herhaling van 'n ou sport besering.

Die voorkoms en omvang van posturale afwykings was ondersoek in klein groepies subjekte met die doel om die omvang van posturale afwykings na te gaan sowel as die liggaamsareas wat die meeste geaffekteer word. Al die subjekte wat ondersoek was het vorentoe geleun met die gravitasielyn voor die enkelgewrig. Alle subjekte het posturale defekte getoon. Die meeste subjekte was gekategoriseer onder ernstige posturale defekte. Posturale asimmetrie en kifose was die mees algemene afwykings. Die gevolgtrekking was dat meeste mense, van enige ouderdomsgroep ly aan een of ander tipe posturale afwyking. Dit ondersteun die algemene konsensus dat wanpostuur `n pandemiese toestand is.

Die gevolge van posturale rehabilitasie was ondersoek. Die postuur van alle subjekte het verbeter oor `n tydperk van twaalf weke, met `n meer regop liggaam die opvallendste verandering.

Posturale rehabilitasie het fisiese en sielkundige gevolge. Dit was aangedui deur `n verbetering in postuur en `n toename in liggaamsbewustheid, `n afname in die neiging om moeg te word, `n afname in rug- en nek styfheid en `n verbetering in gemoedstoestand. Posturale opleiding kan in die algemeen voordelig wees vir beide liggaam en gees. `n Waardering vir goeie postuur en die gevolglike effektiwiteit daarvan verteenwoordig die beste soort voorkomende medisyne. Posturale opleiding behoort dus `n plek in te neem in beide Opvoedkunde en Gesondheid.

SLEUTELTERME

Liggaamsbewustheid

Liggaamsbelyning

Liggaamsgebruik

Balans

Wanpostuur

Liggaam-gees terapieë

Spierbewapening

Poise

Postuur

Posturale beheer

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