Abstract of the dissertation

The evolution of basic training principles and their implementation in the field of the therapeutical application of movement related interventions using the example of a scientific research project on the use of methods of whole body vibration training in supportive cancer treatment

submitted by

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This thesis illustrates the evolution as well as the current status of basics of the training science and their use in the field of the therapeutical application of movement related interventions. The current status is presented with the help of a scientific research project on the use of methods of whole body vibration (WBV) training in supportive cancer treatment. It is illustrated why the intervention is implemented, what it is aiming for and how effective it is. The pilot study on the use of methods of WBV training in supportive cancer treatment additionally demonstrates the feasibility and safety as well as the tolerance of an intervention with WBV training in the context of an allogeneic hematopoietic stem cell transplantation. The effects of an intervention with WBV training (accompanying a classic general physiotherapy) on central parameters of the physical capacity in comparison to a control group (only getting a classic general physiotherapy) as well as in the intraindividual progress were analyzed. Furthermore the question is answered which of the newly developed training principles of a therapeutic-medical training science have to be used in the field of the therapeutical application of movement related interventions and how they have to be implemented.

Altogether the results of this thesis show that an intervention with WBV training in supportive cancer treatment can be implemented safely and without a raised risk for any unwanted side effects. Besides a WBV training is easy to implement in matters of respective processes of a hospital treatment. Particularly the results of the isokinetic diagnostic of the muscular capacity as well as those of the chair-rise-test indicate an effectiveness of the intervention and the chosen implementation especially with regard to the reintegration of the patients in everyday life. The specific basics of a therapeutic-medical training science have to be considered and implemented in the use of classical methods like aerobic training and strength training ideally in the form of the training principles of the therapeutic-medical training science. The afore formulated hypothesis stating that the as part of this thesis developed training principles of a therapeutic-medical training science enable a comprehensive planning of a movement related intervention can be confirmed. Furthermore the hypothesis stating that the implementation of these training principles is inalienable for the effectiveness of a movement related intervention can be confirmed as well as the hypothesis regarding the consideration of the therapeutical practice and the good eligibility of the system of the training principles of the therapeutic-medical training science.

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Source:

Kaeding, TS: Die Entwicklung grundlegender Trainingsprinzipien und ihre Umsetzung im Bereich der therapeutischen Anwendung von bewegungsbezogenen Interventionen: Eine praxisorientierte Darstellung am Beispiel eines Forschungsprojektes zum Einsatz von Methoden des Vibrationstrainings in der supportiven Krebstherapie. Hamburg: Verlag Dr. Kovac, 2013.