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Technology Review

MEDEX SCREEN

HEALTH TECHNOLOGY ASSESSMENT UNIT
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TABLE OF CONTENT

1. INTRODUCTION

As complementary and alternative medicine is gaining popularity among health consumers, diagnostic screening tools based on neuroreflexology are also being developed. These techniques, which are based on the rationale that measurement of electrical impedance of specific dermatomes reflects corresponding internal organ pathologies, have not yet been the subject of conventional scientific research. [1] (Level 9). New scientific discoveries about the information contained in skin reactions as future indicators of likely internal organ function (which is measured and interpreted by the Medex Screen Test system), is the mainstay of this benchmark technology.

2. TECHNICAL FEATURES

The methodological principle of Medex Test™ is based on detecting the neurological changes in electrical skin resistance of certain dermatome-visceral zones (DVZ's) following the organism's pathologies. Since every internal organ has corresponding representative zones on the human body and limbs (whose physical parameters are in absolute correspondence with the condition of the organs represented by them), any pathology affects and changes the DVZ's absolute and relative parameters.

The device is based on the neurological – pathophysiological and reflexological connection between a person's internal body organs and specific zones on the skin (Dermatome-Visceral Zones). This connection is reflected in the electrical resistance of the skin. Medex Test™ analyzes and interprets changes in the electrical resistance of the skin. From this, it pre-diagnoses disorders or abnormalities of internal organs.

The practitioner/health professional/medical assistant locates and touches specific zones on the client's hand and foot areas with a special sensor. The electrical skin resistance (ESR) values are sequentially recorded. Four additional specific zones are stimulated, the said 24 zones are measured repeatedly and the ESR's of the 24 zones are recorded again.

MedexTest™ compares the values before and after the stimulation, interprets and analyzes these changes using special algorithms, and translates the analyzed data into visual information displayed on the system's screen. The displayed information allows the doctor/health professional to pre-diagnose any problems (and their severity), and determine if the problem is chronic or temporary. The whole process takes 20 minutes and is painless, non-invasive, radiation-free, and is conducted through touches with a pen-like sensor on the patient's palm and foot.

It was claimed that Medex Screen is a modern hi-tech neurological product, combining the knowledge of neurology, pathophysiology and neuroreflexology, which has been designed for ambulatory care, private internal clinics, gastrological, therapeutic, functional diagnostics departments, casualty wards, and ambulance services.

3. OBJECTIVE

This review is to determine the safety and effectiveness of a neuroreflexology-based screening test, specifically the Medex device (Medex Screen Ltd.), for diagnosing patients undergoing conventional internal organ assessment, in a hospital setting

4. METHODOLOGY

Search engines such as PUBMED, EBSCO, Proquest, Medline and Googgle were used using the following keywords medex device, medex screen, neuroreflexology. Cross references were also carried out on the article retrieved.

5. RESULT AND DISCUSSION

Safety and effectiveness

It is claimed by the vendor that Medex Test is a modern technological method for early screening of functional and pathological disorders, including any organs cancer, in an effective, non-invasive, simple, fast and inexpensive manner. It is claimed to be painless, non-invasive, without radiation, with quick results and able to establish the degree of severity/ pathology of disease.

Correlation was significant for most of the explored pathologies such as central nervous system, blood/lymph, cardiovascular, respiratory, gastrointestinal, musculoskeletal, endocrine, drug/alcohol abuse and genitourinary categories with a value of $P < 0.01$ except for blood and lymphatic disease in a study done in the Department of Internal Medicine, Tel Aviv University. In that study a high sensitivity (>70%) was measured for cardiovascular, respiratory, gastrointestinal and genitourinary diseases. The highest measure of agreement, as represented by the Cohen-Kappa factor, was found for respiratory disease (0.57) [1] [(level 9)]. This study was considered a preliminary study, aimed at evaluating the potential of this technique.

The Medex Screen is used for screening non-specific pathologies and when the device detected a pathology, it did not state the exact problem and was accepted as correct if the patient had pathology in the same organ /system. For example, when the device detected a cardiovascular pathology, it was considered accurate if the patient had an ischaemic heart disease, congestive heart failure or a vascular pathology.

The mechanism and physiology of the method was not well established. Also the accuracy of the Medex Device was not compared to a gold standard and the diagnosis was based on predetermined evaluations and not on up-to-date diagnostic criteria.

6. CONCLUSION

There is insufficient evidence to support the use of Medex Screen Test system for early screening of functional and pathological disorders. Further research should be done aimed at a better understanding of the physiologic mechanism and further evaluation of this tool's potential as a widely accepted evidence-based screening and diagnostic test.

Although the exact mechanism is not entirely clear, measurement of electroskin impedance of dermal-visceral zones may later has the potential to serve as a screening tool for inner organ pathologies. Further research should be conducted to create more evidence to support or dispute the use of this technique as a reliable diagnostic tool.

REFERENCES

1. E Zimlichman, A Lahad, A Aron-Maor, A Kanevsky, and Y Shoenfeld. Measurement of electrical skin impedance of dermal-visceral zones as a diagnostic tool for inner organ pathologies: a blinded preliminary evaluation of a new technique. Isr Med Assoc J, October 1, 2005; 7(10): 631-4.