

Foot massage: effective or useless?

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Foot massage is popular in many countries. As part of Traditional Chinese Medicine (TCM), it has a long history since the establishment of TCM. In early 20th century, it was introduced to North America and became Reflexology. The foot massage industry has many supporters, who are mainly practitioners of TCM and Reflexology. They claimed: 1, feet are connected with organs by “channels”, which are pathways for the circulation of body energy. Each area on the feet, known as reflecting area, corresponds to an organ. If it is painful when massaging a reflecting area, there is a medical condition in the reflected organ. Massaging certain reflecting areas could be beneficial to reflected organs; 2, foot massage could accelerate blood circulation, improve endocrine system, and thus provide immunization for many diseases; and 3, the use of magnetic devices in foot massage will increase the effectiveness because the magnetic force has effects on the reflecting areas. We used “FiLCHeRS” principles, developed by James Lett [1], to critically appraise the claims of foot massage.

Falsifiability. The criterion of falsifiability is not met in the case of foot massage. There are many common excuses used to explain why foot massage does not improve your health. For example, “you don’t take massage frequently enough so that it doesn’t work”. It is impossible to disprove all the excuses, because the supporters will either argue that we did not get good service or enough service, or accuse that our physical conditions hindered the benefits of foot massage. The non-falsifiable excuses are against the “Falsifiability” principle of a scientific claim.

Logic. There are several mistakes on logic in the claims of foot massage. First, there is no scientific evidence to prove the existence of “channels” and the connection between feet and organs. It is illogical to fabricate an association by imagination. Second, even assuming there is a mysterious association between feet and organs, we cannot assert a causation, as a causal relationship is different with association and needs much more evidences. Third, foot massage cannot accelerate blood circulation, which could be proved by the steady pulse rate during massage. Fourthly, a change in endocrine system will not provide immunization; otherwise, hormone therapy will be a better alternative, as it modifies the hormone levels directly. Fifth, magnetic device in foot massage has no effects on health; otherwise, the geomagnetic force will alternate our health condition every day.

Comprehensiveness of evidence. Supporters only cited positive evidence for foot massage and ignored evidences that contradicted the

claims purposely, which is a violation of comprehensiveness principle. There are many studies opposing the claims of foot massage and reflexology. For example, a study invited three reflexologists to examine 18 adults with certain health problems. Diagnoses of reflexologists were compared with medical records, and no significant correlation was found [2]. A systematic review stated that the best evidence available to date does not prove the effectiveness of reflexology for any medical condition [3].

Honesty. Every piece of evidence must be evaluated without fraud to make a scientific claim valid. However, a clinical trial, supporting foot massage and reflexology, only recruited 16 subjects, indicating it was impossible to apply randomization for the clinical trial [4]. This was a fraudulent evidence.

Replicability and Sufficiency of evidence. There must be adequate clinical evidences before we could establish a valid scientific claim in medicine; all of them should be replicable. However, the current evidence for foot massage are mostly expert opinions and testimonies, which are not sufficient and replicable. The literature search for “Foot Massage” as keywords on MEDLINE and EMBASE resulted in only 82 records; most of them were testimonies and authority opinions, and the rest were unreliable observational studies and trials. The literature search on MEDLINE for “Reflexology” and related MeSH term “Massage” resulted in 4882 records, the majority of which were trials and reviews against Reflexology and foot massage. Thus, the supporters of foot massage failed to fulfill the requirements of sufficiency and replicability.

In conclusion, the requirements of FiLCHeRS principles are not fulfilled by the claims of foot massage. Foot massage might be beneficial for relaxing. However, it is false to claim the effectiveness of foot massage on various medical conditions.

References

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