How Dangerous is Shiatsu?
Science and Polemics

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Under the title "Shiatsu: do the benefits outweigh the risks?" Edzard Ernst, well known in Great Britain as the former Chair of Alternative Medicine (University of Exeter), comes to a devastating conclusion: "... the proven benefits do not outweigh the potential harm". In his opinion therefore, Shiatsu can only be advised against.

However, if one examines his contribution in detail, one sees a wholly tendentious and partly fallacious account – his report appears under the cloak of science, but does not correspond with it in certain essential points.

Preamble

Evidence is probably one of the most important terms in the field of health at the moment: proven efficacy and proven patient safety are the cornerstones of a method's evaluation. Naturally, there are inequalities between those methods backed by financially strong interests and those that are not (keyword: research is expensive). In addition, different methods can be brought into a meaningful research design with differing degrees of ease or difficulty. [1] However, all of this does not change the understandable fact that politicians, actors within the health sector and, of course, clients/patients orient themselves primarily according to research results.

According to Duden, the standard German dictionary, **evidence** is (among other meanings which are less important in this context, such as "the place where data or documents are collected") "*an irrefutable fact*", "*being an evident; immediate and complete insight, clarity, certainty*" and - especially in medicine and pharmacy - "*proof of the efficacy of a preparation, a form of therapy or the like*".

Science separates facts from opinions. Facts (something that has happened, a given circumstance) can be (relatively) objectively established. Theses are accordingly falsified (refuted) or confirmed; something is either true or false. Opinions, on the other hand, are personal views, beliefs and attitudes that someone has about something (e.g. a certain fact). Opinions can be different; unlike facts, opposing opinions can coexist.

Science, as defined by Duden, is a researching activity that produces knowledge (well-founded, ordered and considered to be secured), which, although Duden does not explicitly state this in its definition, is also committed to objectivity. In this it differs from polemics (attacks without objective arguments) as well as from one-sided, tendentious and/or distorted representation of facts and events. [2]

However, the scientific method (scientificness) does not only mean the existence of scientifically collected and processed data; the handling of these data must also be scientific. This means in particular traceability and care in dealing with the sources on the one hand, as

well as the separation of facts from opinions on the other. According to the philosopher Hannah Arendt, "blurring the line between facts and opinions is one of the forms of lying". [3]

For the sake of scientificness, all sources and their contents are listed in the present article as far as possible in a comprehensible manner, which, does however, slightly impair the legibility of the text. In order to enable a reklatively fluent reading flow, explanatory and supplementary contents are located in indentations and footnotes.

On the person of Edzard Ernst

Edzard Ernst, a native German (Wiesbaden), who became a British citizen in 1999, is a man of science, as his titles "MD, PhD, FMedSci, FRSB, FRCP and FRCPEd" [4] alone prove. Wikipedia informs us that he is "*emeritus professor of alternative medicine in Great Britain. He was the first chair holder in this field*", and is "*a member of the Advisory Board of the AlterMed Research Foundation, a foundation that promotes scientific research in alternative medicine*" as well as "*Editor-in-Chief of the two medical journals Perfusion and FACT (Focus on Alternative and Complementary Therapies)*" [5]

Mr Ernst is, without doubt, "active" in the field of science, as he himself states on his website [6]: "*I have published 53 books and well over 1000 articles in the peer-reviewed medical literature. My work has been awarded with 16 scientific awards, most recently (2015) with the 'John Maddox Prize' for standing up for science, and the Ockham Prize (2017).*" He continues: "*During the last 25 years, my research focussed on the critical evaluation of (almost) all aspects of alternative medicine. I do not aim to promote this or that therapy, my goal is to provide objective evidence, reliable information and critical assessments. This ambition does not endear me to many believers in alternative medicine, including Prince Charles.*" [7] His current books, as he further explains, are "*SCAM - So-Called Alternative Medicine*", "*More Harm Than Good*", "*Homeopathy, the Undiluted Facts*", "*A Scientist in Wonderworld, Looking for Truth and Finding Trouble*" and "*Trick or Treatment*", all which are mainly written for laymen.

Even if the titles of his books suggest a tendency towards a certain attitude to alternative methods of treatment, who could distrust or even imply unfairness in a man with such credentials? [8]

The effects of Shiatsu in the mirror of Edzard Ernst's contribution

On May 10, 2016, Edzard Ernst dealt with Shiatsu ("Shiatsu: do the benefits outweigh the risks?" [9]), and writes that Shiatsu is a popular alternative form of treatment with a remarkable void of research. Edzard Ernst goes on to describe Shiatsu ("*according to one of the rare reviews on the subject*") on the basis of the review article "*The role of shiatsu in palliative care*" by Caroline Stevensen published in 1995. [10]

"*Shiatsu is a form of Japanese massage, working on the meridian system of the body; the energetic pathways along which the acupuncture points are placed. The theory for shiatsu is based in the system of traditional Chinese medicine, understood in China for over 2000 years. Shiatsu can be valuable for reintegrating the body, mind and spirit, helping with the general energy level of the body as well as specific symptoms... Feelings of deep relaxation, support*

and increased vitality are common following a shiatsu treatment. The method, strength and frequency of treatment can be varied to suit individual need." *[11]*

The abstract, which was just over 20 years old at the time, is cited in almost its complete entirety. The following is however, omitted from Ernst's article: "*Its role in western palliative care is little studied to date. This paper explores the potential benefits of shiatsu in this setting and cites a case example where it has been beneficial*" and finally "*Shiatsu should be considered when thinking of complementary methods of support in palliative care*". [12]

If, Edzard Ernst continues, this description seems too optimistic to the reader, he is recommended to "*have a look on the Internet where where bogus claims for Shiatsu abound. But such uncritical nonsense is, of course, neither informative nor responsible".* Furthermore, Edzard Ernst refers to an earlier entry (2013) in which he has been "*a little more critical about the value of Shiatsu and concluded that is an unproven therapy*". This contribution was based on a systematic summary in the *Oxford Handbook of Complementary Medicine* [13], (2008), in which the authors (Edzard Ernst, among others) found only little evidence for Shiatsu and " *In fact, we concluded, that no convincing data available to suggest that Shiatsu is effective for any condition*".

Since then, according to Edzard Ernst, a systematic review of Shiatsu has been published, the review by Nicola Robinson et al. (2011) [14] on Shiatsu and acupressure. And although the authors are usually in favour of alternative treatments, as Edzard Ernst notes, they concluded that the evidence for Shiatsu was "*more research is needed, particularly for Shiatsu, where evidence is poor*". The reason for this is that only a single RCT [15], three controlled but non-randomised studies, one within-subjects study, one observational study and three uncontrolled studies were found for the review.

In the study by T. Sundbert et al. (2009) on back and neck pain (*Exploring integrative medicine for back and neck pain* [16]), the only randomized and controlled study cited by N. Robinson et al., there are no significant effects compared to the standard care group, for which the number of participants was too small ("*The study used a fairly large sample (n = 80) but was underpowered to detect any statistically significant effects*"). [17]

The studies by D. Lucini (*Complementary medicine for the management of chronic stress: superiority of active versus passive techniques* [18]), S. Ballegaard et al. (*Cost-benefit of combined use of acupuncture, Shiatsu and lifestyle adjustment for treatment of patients with severe angina pectoris* [19]) and J. Ingram et al. (*The effects of Shiatsu on post-term pregnancy* [20]), on the other hand, show no randomised allocation.

In D. Lucini's work, the effect of Shiatsu on chronic stress is investigated - compared with active treatments (relaxation and breathing exercises) and "sham treatment" (information on stress management). The number of only 70 participants, however, limits the influence of the study. Moreover, because the choice of treatment was left to the participants, the influence of a confounder is reflected in the fact that more stressed persons opted for sham treatments.

The study by S. Ballegaard et al. deals with the effectiveness and a cost-benefit analysis of shiatsu in the treatment of angina pectoris patients. The "comparison group" consists of study results from an independent study [21] with two invasive treatment approaches. In the Shiatsu study 7% of the participants had a heart attack, compared to 21% and 22% in the comparative study. In addition, a cost saving of approx. 12,000 dollars per patient was calculated. In addition to the fact that the patients were in one case from the USA and the other from Denmark, there were other methodological limitations, such as a lack of blinding.

J. Ingram compares Shiatsu with standard care. This study shows that women who received Shiatsu needed significantly less introductory measures and also had a significantly shorter course of birth. However, the treatment had no effect on the sensation of pain. The allocation to the experimental and control group was not randomised, but depended on which midwife was on duty. [22]

The study by K. Faull (*A pilot study of the comparative effectiveness of two water-based treatments for fibromyalgia syndrome: Watsu and Aix massage*) [23] compares Watsu ("Water Shiatsu") [24] with Aix massage in a within-subject design [25]. Watsu demonstrated a significant improvement in fibromyalgia patients (compared to Aix massage).

The studies by M. Iida et al. (*Effects of shiatsu massage on relief of anxiety and side effect symptoms of patients receiving cancer chemotherapy* [26]), L.H. Brady et al. (*The effects of shiatsu on lower back pain* [27]) and P. Lichtenberg (*Shiatsu as an adjuvant therapy for schizophrenia: An open-label pilot study* [28]) have no control group and used only a simple before-after design, which limits the validity of their results.

The study by Ieda et al. shows the relaxing effects of shiatsu treatments on anxiety and other side effects in nine patients receiving chemotherapy. The small size of the experimental group, the selection of participants and the lack of a control group, however, significantly limited the study's findings.

Brady et al. can show in their study on lower back pain that pain and anxiety improved significantly in 66 participants after Shiatsu treatments. This effect was also observed when demographic variables were controlled. The statement of the study is limited by the fact that 13 subjects had already received Shiatsu before.

In their study, Lichtenberg et al. show significant improvements in values such as psychopathy, anxiety and depression through Shiatsu as a supportive treatment method for schizophrenia.

A.F. Long (*The effectiveness of shiatsu: findings from a cross-European, prospective observational study*, 2008 [29]) conducted a prospective observational study (cohort study) with 948 participants in three different countries, demonstrating significant improvements in existing symptoms. Although the study for a longitudinal cohort study had a good response rate (67%), considered confounders and recorded the changes accurately, the study suffers from so-called "response bias" because the data of those participants who did not participate or did not complete all required questionnaires were not recorded. [30]

Referring to the weak evidence of the efficacy of Shiatsu, also recorded by Robinson et al., Edzard Ernst views his assessment in the *Oxford Handbook of Complementary Medicine* 2008 as being confirmed ("*this seems to indicate that our verdict of 2008 is still not far off the mark").*

This picture of Shiatsu in science (weak evidence) has not changed fundamentally to this day, even though some work has been done on Shiatsu in the meantime.

Natural Medicines [31], is a website dedicated to science in dealing with traditional methods of treatment. Since many aspects of medicine, especially in the field of naturopathy, are influenced by traditions and beliefs, the goal of Natural Medicines, the website informs us, is to take an objective look at these methods and to use verified scientific research for their evaluation. [32] In the monographs produced by Natural Medicines, it is explained in particular what the respective method is traditionally used for, whether it is safe and what side effects can be expected.

With regard to Shiatsu, according to Natural Medicines (the last review took place on 7 July 2015 [33]), there is too little reliable scientific evidence for a rating of efficacy. In this context, four studies are cited: the study by L.H. Brady et al. (improvement of pain and anxiety in lower back pain [34]), the study by J. Ingram et al. (faster and less induced births [35]), the study by H. Saito (efficacy against intestinal obstruction and intestinal sluggishness after abdominal laparotomic surgeries [36]) and the study by S. Cheesman et al. (improvements of quality of life in patients with advanced diseases in palliative care [37]). But here too, according to Natural Medines, more research data are needed to evaluate these effects ("*more evidence is needed to rate Shiatsu for these uses*").

The side effects of Shiatsu as mirrored by the contribution of Edzard Ernst

What about the risks of Shiatsu? In order to answer this question, since it is even more difficult to find reliable information about this than about the effectiveness of Shiatsu, Edzard Ernst quotes the warnings given on the verywellhealth website:

"Safety and Side Effects

While shiatsu is generally considered safe when done by a qualified professional, certain individuals should take caution and consult a physician before receiving shiatsu. For example, there's some concern that shiatsu may have harmful effects in pregnant women, patients who have recently undergone chemotherapy or radiation, and people with such conditions as osteoporosis, heart disease, and blood clotting disorders.

Additionally, shiatsu should not be performed directly over bruises, inflamed skin, unhealed wounds, tumors, abdominal hernia, or areas of recent fractures. People with leg stents should avoid abdominal massage.

Shiatsu should also be avoided immediately after surgery, and by people with infectious skin disease, rash, or open wounds." [38]

And what about adverse reactions and complications from Shiatsu? Here Edzard Ernst refers to shiatsu-london.net ("Professional Shiatsu School" [39]) and quotes that Shiatsu, if done properly, does not lead to side effects. Individual patients may experience slight discomfort, but this usually ends during treatment ("*when performed properly, shiatsu is not associated with any significant side effects. Some people may experience mild discomfort, which usually disappears during the course of the treatment session*"). [40]

Whether Shiatsu is without side effects, Edzard Ernst says, can unfortunately be answered in the negative, but for that one has to dig deeper to get even a preliminary answer. He then refers to the 2009 published work by A.F. Long et al. (*A typology of negative responses: a case study of shiatsu* [41]) on the evaluation of "negative" reactions.

The basis of this work is the prospective cohort study lasting six months, which was carried out in three countries (Austria, Spain and Great Britain) with a response rate of 67%. Here, Edzard Ernst continues, the responses of the participants show a prevalence rate of 12 to 22 % (in the three countries) for "negative" reactions.

This means that in 12 to 22 % of all treatments there were "negative" reactions. This may sound high, but needs to be put into perspective, because certain "negative" reactions (e.g. feeling cold, fatigue, muscle aches like "sore muscles"...) are regarded as side effects of regeneration and healing and in this sense not as "negative".

82% of these "negative reactions", Ernst continues, were temporary "negative effects" and a total of nine subjects (1.4%) described "*a potentially negative event or effect*" that could pose a risk to client safety.

The 82% of all "negative" reactions mentioned by Edzard Ernst are classified by A.F. Long et al. [42] as transitional effects of type 2 and 3. They are in accordance with theory (thus no undesirable side effects, rather "expected", "normal reactions") and therefore change from originally "negatively" experienced to "positively". They do not burden the client, only last for a short time and do not hinder their normal activities.

The difference between type 2 and type 3 reactions is that clients initially experience type 2 reactions as "negative", but over the next few days as positive (e.g. fatigue after treatment, so that the treated person has to rest for a short time and feels much better afterwards). In contrast to this, type 3 reactions also change from "negative" to "positive", but are not explicitly perceived by the client in this form (e.g. greater exhaustion on the day of treatment).

The type 5 responses (those "potentially negative events or effects" reported by Edzard Ernst), on the other hand, describe effects and reactions that limit and disturb the participants in their daily lives, such as pain in the back, knees (after stretching) and neck, strong emotional reaction or even burns (after moxa treatment). [43]

A.F. Long et al. evaluate the type 5 responses based on the work of H. Yamashita (*Adverse events in acupuncture and moxibustion treatment: a six-year survey at a national clinic in Japan*, 1999 [44]), whereby first of all a distinction is made between negligence on the part

of the practitioner (e.g. non-execution or incorrect execution of a necessary procedure, as in the above enumeration the burns after a moxa treatment) and proper treatment. The non-negligently induced events, in turn, are then divided into "definite", "probable", "possible" or "doubtful". Assessment criteria are the time of occurrence after treatment and recurrence after further treatment. [45]

If one applies this definition to type 5 responses, then the repeated back pain ("many times") turns out to be a definitely undesirable but not negligent event (or "undesirable effect"): the pain occurred in a temporarily appropriate context and was repeated during renewed Shiatsu treatments.

In contrast, complaints that got stronger after the first treatment (spine) were classified as a "possible" adverse event (but not as a "possible" adverse *effect*). Complaints that become stronger when *used* (?) again would be a "probably" adverse event (or "probably" adverse effect). [46]

In contrast to Edzard Ernst, A.F. Long et al. in their study, after a detailed discussion of the "negative" reactions, come to the conclusion that Shiatsu is a safe form of treatment, at least when in the hands of a competent practitioner: "... *shiatsu being inherently a safe modality, at least when in the hands of a competent (and, in the current context, experienced and accredited) practitioner*". [47]

But Edzard Ernst goes one step further and states that even much more serious consequences are possible, such as a stroke, and refers to the 2002 work by M.A. Elliott and L.P. Taylor (*Shiatsu sympathectomy: ICA dissection associated with a shiatsu massager* [48]). The work of Elliot and Taylor describes two cases of dissection of carotid [49] that occurred after the use of a mechanical shiatsu-type massager. Figure 1 of this paper clearly shows the first patient, the massager and the position he had taken on it before the dissection.

Edzard Ernst perhaps thought that a "shiatsu massager" is a person, but then he might not have studied the illustration in the original study properly or maybe even the entire study, for **although the title of the work already shows that it is a shiatsu-type massage device and not a shiatsu treatment by a qualified practitioner, he draws an unfounded and almost polemical conclusion on this basis: "*These might be extreme rarities - but who knows? Nobody! Why? Because, as with most alternative therapies, there is no reporting or monitoring system for such events. Therefore the true prevalence is anyone's guess***".

The entry concludes (logically from Edzard Ernst's point of view) that there is no real evidence for the effectiveness of Shiatsu, but there is evidence for risks - and that can only mean one thing: The demonstrable benefit does not outweigh the potential harm: "*the proven benefits do not outweigh the potential harm*".

Conclusion

In summary one could call this account by Edzard Ernst: **A tendentious report on Shiatsu, which concludes with a blatant misjudgment based on partially incorrect statements**.

It is true that the evidence for the effectiveness of Shiatsu is weak. But it is incorrect to state that there is evidence of a high risk from Shiatsu treatments: One of the cited papers does not refer to Shiatsu treatments at all, while the other deals with the distinction between theory-compliant and undesirable reactions to Shiatsu treatment and concludes that Shiatsu (professionally performed) is a safe form of treatment.

To assume risks that are not present, for which there is no evidence, is not scientific, certainly not in the "responsible" medicine that Edzard Ernst strives for.

Quote from the comments on page: [50]

Tom on 12/6/17: "Absence of evidence is not evidence of absence. Just because no adequate research has been done on Shiatsu does not mean that it is therefore quackery, it just means that no adequate research has been done yet."

Edzard responds, also on 12/6/17: "How clever!!!! But in responsible medicine, we tend to discard treatments that are not evidence-based and focus where possible on those that are - and the latter category does NOT include shiatsu!"

It is true to say that the effectiveness of Shiatsu lacks the necessary evidence. Nevertheless, dangers for Shiatsu recipients are not scientifically proven to be evident. To quote A.F. Long et al. once more: Shiatsu is a safe form of treatment, at least when performed by a competent, experienced and accredited practitioner. [51]

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[1] For example, the randomised controlled double-blind study can be used in pharmaceutical research, but not in many other areas, such as in Shiatsu.
[2] Nonetheless, in the field of journalism there is the so-called tendency protection, called the Blattlinie in Austria. This describes the right of a publisher to determine the political opinion of a medium. In this sense, however, it has nothing to do with science.
[3] Quoted after an interview ("Facts are reformulated into opinions") with the philosopher Prof. Dr. Sophie Loidolt. The Standard on March 19, 2019. https://www.derstandard.at/story/2000099763667/philosophin-sophie-loidolt-tatsachen-werden-zu-meinungen-umformuliert. Access: 5/7/19.
[4] Source: https://edzardernst.com. Access: 28/6/19.
[5] Source: https://de.wikipedia.org/wiki/Edzard_Ernst. Access: 28/6/19.
[6] Following quotations: https://edzardernst.com/about. Access: 28/6/19.
[7] This allusion refers to a scandal, as Wikipedia (ibid.) writes, which in 2005 led Ernst to refer to Prince Charles as a "snake oil salesman". See also: Max Rauner: Edzard v. Charles. Die Zeit, 6/12/11. https://www.zeit.de/zeit-wissen/2012/01/Portrait-Ezard-Ernst/komplettansicht. Access: 28/6/19.

[8] In some passages of the text I tried to correspond to the quite casual writing style of Edzard Ernst.
[9] https://edzardernst.com/2016/05/shiatsu-do-the-benefits-outweigh-the-risks. Access: 28/6/19.
[10] Stevensen, Caroline: The role of shiatsu in palliative care. Complement Ther Nurs Midwifery. 1995 Apr;1(2):51-8. https://www.ncbi.nlm.nih.gov/pubmed/9456709. Access: 28/6/19.
[11] Source: https://www.ncbi.nlm.nih.gov/pubmed/9456709. Access: 28/6/19.
[12] Ebd. The extent to which Edzard Ernst has read the underlying work cannot be deduced from this..
[13] Edzard Ernst, Max H Pittler, Barbara Wider und Kate Boddy: Oxford Handbook of Complementary Medicine. Oxford University Press Print, Mai 2008. Online: August 2010. https://oxfordmedicine.com/view/10.1093/med/9780199206773.001.0001/med-9780199206773. Access: 28/6/19.
[14] Nicola Robinson, Ava Lorenc und Xing Liao: The evidence for Shiatsu: a systematic review of Shiatsu and acupressure. BMC Complement Altern Med. 2011 Oct 7;11:88. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3200172/pdf/1472-6882-11-88.pdf. Zugriff: Access: 28/6/19.
[15] RCT: randomized controlled trial.
[16] Sundberg T, Petzold M, Wandell P, Ryden A, Falkenberg T: Exploring integrative medicine for back and neck pain - A pragmatic randomised clinical pilot trial. BMC Complementary and Alternative Medicine 2009, 9.
[17] Nicola Robinson, Ava Lorenc und Xing Liao: The evidence for Shiatsu: a systematic review of Shiatsu and acupressure. BMC Complement Altern Med. 2011 Oct 7;11:88. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3200172/pdf/1472-6882-11-88.pdf, S.3: „The study used a fairly large sample (n = 80) but was underpowered to detect any statistically significant effects“. Access: 28/6/19.
[18] Lucini D: Complementary medicine for the management of chronic stress: superiority of active versus passive techniques. Journal of Hypertension 2009, 27:2421-2428. 21.
[19] Ballegaard S, Norrelund S, Smith DF: Cost-benefit of combined use of acupuncture, Shiatsu and lifestyle adjustment for treatment of patients with severe angina pectoris. Acupunct Electrother Res 1996, 21:187-197. 22.
[20] Ingram J, Domagala C, Yates S: The effects of shiatsu on post-term pregnancy. Complement Ther Med 2005, 13:11-15.
[21] King SB, Lembo NJ, Weintraub WS, Kosinski AS, Barnhard HX, Kutner MH, Alazraki NP, Guyton RA, Zhao X: A randomised trial comparing coronary angioplasty with coronary bypass surgery. New England Journal of Medicine 1994, 331:1044-1050.
[22] Nevertheless, as N. Robinson notes, the two groups were homogeneous.
[23] Faull K: A pilot study of the comparative effectiveness of two waterbased treatments for fibromyalgia syndrome: Watsu and Aix massage. Journal of Bodywork and Movement Therapies 2005, 9:202-210.
[24] Dull and used in warm water. Watsu is not evaluated as Shiatsu in Austria. The Aix massage goes back to a form of massage used in the French Spa Aix-les-Bains, which also includes a massage under the jets with thermal water (see https://teara.govt.nz/en/photograph/6584/the-aix-massage). In this respect, this study makes no statement about Shiatsu.

[25] Within-Subject-Design: the same person will successively complete all experimental conditions.
[26] Iida M, Chiba A, Yoshida Y, Shimizu K, Kanda K: Effects of shiatsu massage on relief of anxiety and side effect symptoms of patients receiving cancer chemotherapy. Kitakanto Medical Journal 2000, 227-232.
[27] Brady LH, Henry K, Luth JF, Casper-Bruett KK: The effects of shiatsu on lower back pain. J Holist Nurs 2001, 19:57-70.
[28] Lichtenberg P: Shiatsu as an adjuvant therapy for schizophrenia: An open-label pilot study. Alternative Therapies in Health and Medicine 2009, 15:44-46.
[29] Long AF: The effectiveness of shiatsu: findings from a cross-European, prospective observational study. J Altern Complement Med. 2008 Oct;14(8):921-30. https://www.ncbi.nlm.nih.gov/pubmed/18990043.
[30] Robinson et al. also note that the studies by Sundberg et al. and Ballegaard et al. follow a "pragmatic" approach, namely that of Shiatsu as part of a healthcare setting or in conjunction with other "interventions" such as acupuncture or lifestyle changes. Thus, in the eyes of the authors, these studies reflected the usual practice, but the specific effects of Shiatsu could not be filtered out.
[31] https://naturalmedicines.therapeuticresearch.com is a payed service.
[32] *„Natural Medicines approaches the subject of natural medicines from a completely objective and unbiased perspective. It seeks to answer questions about natural medicines by systematically identifying, evaluating, and applying scientific information. As a result, it curtails perpetuation of myths and age-old beliefs and replaces them with reliable scientific data“* (https://naturalmedicines.therapeuticresearch.com/about-us/editorial-principles-and-process.aspx). Access: 28/6/19.
[33] https://naturalmedicines.therapeuticresearch.com/databases/health-wellness/professional.aspx?productid=1178. Access: 28/6/19.
[34] Brady LH, Henry K, Luth JF, Casper-Bruett KK: The effects of shiatsu on lower back pain. J Holist Nurs 2001, 19:57-70. http://www.ncbi.nlm.nih.gov/pubmed/11847714?dopt=Abstract.
[35] Ingram J, Domagala C, Yates S: The effects of shiatsu on post-term pregnancy. Complement Ther Med 2005, 13:11-15. https://www.ncbi.nlm.nih.gov/pubmed/15907673?dopt=Abstract.
[36] Saito H: Preventing and resolving post-laparotomy intestinal obstruction: an effective shiatsu method. Am J Chin Med. 2000;28(1):141-5. https://www.ncbi.nlm.nih.gov/pubmed/10794126?dopt=Abstract.
[37] Cheesman, S et al.: Exploring the value of shiatsu in palliative care day services. Int J Palliat Nurs. 2001 May;7(5):234-9. 2. https://www.ncbi.nlm.nih.gov/pubmed/12148974.
[38] Cathy Wong: What You Can Expect From a Shiatsu Massage. Can Shiatsu Soothe Pain? https://www.verywellhealth.com/shiatsu-what-should-i-know-about-it-89743. Access: 28/6/19.
[39] http://shiatsu-london.net/contraindications.html.
[40] In the meantime this page might have been changed, because now you can find there unde „Contraindications“: *„Although shiatsu is a very safe massage, with no side effects, there are certain cases when it is better to avoid receiving it“.* And then circumstances are mentioned on the page under which Shiatsu should be avoided (http://shiatsu-london.net/contraindications.html). Access: 28/6/19.

[41] Long AF, Esmonde L, Connolly S: A typology of negative responses: a case study of shiatsu. Complement Ther Med. 2009 Jun;17(3):168-75. Doi: 10.1016/j.ctim.2008.09.004. Epub 2008 Nov 17. https://www.ncbi.nlm.nih.gov/pubmed/19398071. Siehe auch die deutsche Zusammenfassung der Studie unter https://www.gruene-masseurinnen.at/index.php/info-pool/studien/472-long-andrew-et-al-a-typology-of-negative-responses-a-case-study-of-shiatsu. Access: 28/6/19.

[42] Ibid.

[43] For the sake of completeness: Type 1 responses are not related to the treatment ("unconnected responses", e.g. the outbreak of influenza). Type 4 responses are "undesired, but not unsafe events or effects": which are presented by the client as negative, disturb her and interfere with her activities (e.g. "feeling of depression" for two days after treatment).

[44] Yamashita H, Tsukayama H, Tanno Y, Nishijo K.: Adverse events in acupuncture and moxibustion treatment: a six-year survey at a national clinic in Japan. J Alternative Complement Med 1999;5:229—36.

[45] For example a "clearly" undesirable event occurs after a reasonable period of time and during any further treatment, a "likely“ undesirable event occurs after a reasonable period of time and occasionally during further treatment, a "possible" undesirable event occurs after a reasonable period of time and not again, and a "dubious" undesirable event occurs at a later time and then no longer.

[46] According to A.F. Long et al., however, the final classification would require more information, especially regarding the interaction between the practitioner and the client.

[47] Long AF, Esmonde L, Connolly S: A typology of negative responses: a case study of shiatsu. Complement Ther Med. 2009 Jun;17(3):168-75. Doi: 10.1016/j.ctim.2008.09.004. Epub 2008 Nov 17.

[48] Elliott MA, Taylor LP: "Shiatsu sympathectomy": ICA dissection associated with a shiatsu massager. Neurology. 2002 Apr 23;58(8):1302-4. https://www.ncbi.nlm.nih.gov/pubmed/?term=shiatsu+sympathecyomy%2C+neurology+2002.

[49] A dissection is a tear within the wall of a blood vessel, which allows blood to separate the wall layers.

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