

ACUPUNCTURE ON THE TONGUE ON HEALTHY VOLUNTEERS -  
QUESTIONNAIRE

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**ABSTRACT**

Acupuncture on the tongue possesses advantages-rapid manipulation, high efficiency, possibility of sublingually administration of drugs, high sensitivity of the reflexology zone. Purpose: Elaboration and evaluation of the toolkit for research of positive and negative attitudes towards acupuncture of the tongue in heterogeneous groups of patients. A comparison between the expectations of pain and the pain experienced. A comparison between the pain sensation in acupuncture on the tongue and acupuncture of a limb. Material and methods: Volunteers are selected from students and staff of the Trakia University, as well as by alternative medicine offices in Stara Zagora and Yambol. They fill out a mixed questionnaire- a survey of the attitudes of different groups of healthy volunteers regarding their preferences for corporal and lingual acupuncture. The questionnaire proved suitable as length and content. The attitude towards acupuncture varies from negative to enthusiastic, and often there is indifference on the subject. The expected pain in most cases is stronger than the registered during the procedure. The prepared informed consent, pain scale and questionnaire are understandable and appropriate. The attitude in the studied group is inhomogeneous and the reactions vary widely. There is a need to individualize the approach and to a more thorough psychological preparation of the patient before manipulation.

**Key words:** *tongue, acupuncture, poll, TCM, pain*

**INTRODUCTION**

According Chinese medicine the tongue is the window for diagnosis, it is organ, which is rich of nerves, and blood supply (17). The tongue acupoints are related to various functional region of the body. By this kind of acupuncture can be stimulated different meridians associated with different organs' functions in order to adjust blood circulation and energy-flow in the body (15). There are forty point on the tongue that linked to *zang-fu* organs and certain parts of the body (12). The sensation evoked by needle in the point is called de qi, it is essential to its clinical effectiveness. By tongue acupuncture we restore consciousness and brain resuscitation, in China, it is used for different diseases (12). Most acupuncturists puncture the surface of the tongue and take out the needle despite this they receive good therapeutic effects. Horizontal and deep puncturing approaches were also sometimes used (15).

By needling tongue, the heart, spleen, kidney meridian awake brain, dredge the bullishness and finally improve the swallowing functions. Tongue acupuncture increased cerebral blood flow of ischemic brain, and decreased cerebral vascular resistance (1).

Tongue acupuncture is used to treat diseases like stroke (12), children with visual disorders with peripheral and central in origin, can have improvement in visual status by body

and tongue acupuncture (18), improving oral cavity function (3). Combined with body acupuncture tongue acupuncture is used on patients with depression (15). This is relatively non-invasive method and there is researches that shows it helps improvement in gross motor function in cerebral palsy (17). Tongue acupuncture is better than the body acupuncture in improving the recovery of patients with post-stroke dysphagia, according one prospective, randomized, mono-blind control study (1). Children with autism spectrum disorder have improvement after course of tongue acupuncture, mostly in the function of speech domain and cognition (19). Tongue acupuncture is used to treat the diseases such as dysphagia, aphasia and trigeminal neuralgia (1). Acupuncture of the tongue has great advantages over the corporal acupuncture, such as rapid manipulation, high efficiency, sublingual drug use, high sensitivity of the reflex zone, also tongue acupuncture can enhance the treatment effects of body acupuncture (15). The efficacy of acupuncture can be explained by potentiation of neural receptors or neurotransmitters through repeated direct stimulation (19). The sublingual fold is correlated with spinal and limbs lesions. Tongue acupuncture provides new approaches to treat many diseases (16).

Acupuncture studies of the tongue acupuncture are also performed on rats. One of the objects studied is mast cells (13). Mast cells play an important role in humans and rats. (8-10).

The study of acupuncture of human tongue is the next stage of our study. This stage being preceded by the application of tongue acupuncture to experimental animals without any side effects or complications. Morphological studies on human tissues from necropsy come close to the clinical practice, however these are dead structures and therefore does not have the reactivity of the living organism. The psychological factor is additional influence unique to every living person and in the practice of traditional Chinese medicine always of great importance. In order to conduct tongue acupuncture, it is always necessary to request informed consent from the patient and therefore we have developed a form, suitable for this exact study with comprehensive information. From the literature review, we collect data, about previous studies and their questionnaires that we used for basic and create our own form (2, 5-7).

### **OBJECTIVE**

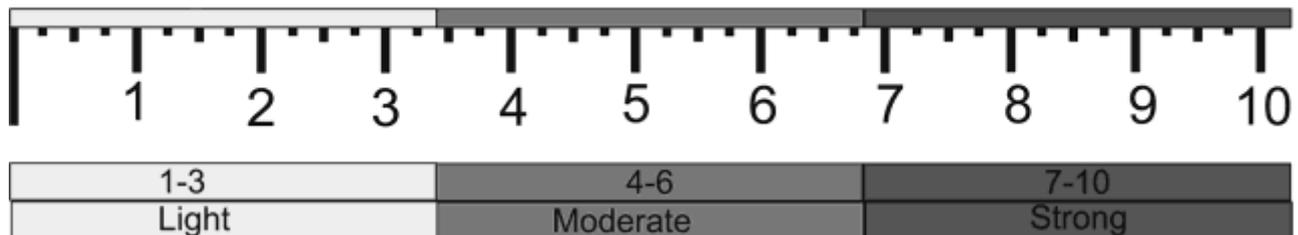
To assess the positive and negative attitudes towards acupuncture on the tongue in diverse groups of patients.

Tasks: To create a reliable and effective tool for assessing positive and negative attitudes towards acupuncture. Assessment of pain caused by acupuncture of the tongue and the body. A comparison of pain expectations with pain experience. Comparison between the pain sensation in acupuncture of the tongue and the limb acupuncture.

### **MATERIAL AND METHODS**

The volunteers are selected from students and employees of Trakia University, as well as from alternative medicine offices in Stara Zagora and Yambol. They are offered to participate free of charges by initially signing informed consent. They fill out a mixed questionnaire - a survey of the attitudes of different groups of healthy volunteers on their preferences for corporal and tongue acupuncture. The questionnaire contains 31 questions, detailing 4 parts: the first part contains questions about demographic indicators, the second part of questions about the attitude of patients to the acupuncture method that is part of TCM, and third part are questions for assessing pain on an applied scale, and the fourth part about the patient's emotional response to acupuncture. The selected pain assessment scale is given in Figure 1, the questionnaire is attached in Table 1. After explaining the informed consent, the patient completes the survey by himself up to question 28 page 3. Then a needle is applied on the limb at the standard

acupuncture point LI-11 (Quchi) located at the proximal end on the lateral side of the forearm. A standard disposable sterile acupuncture needle (40 mm / 0.35 mm) is used at a depth of 10 mm for 3 sec. The doctor and the patient then assess the pain according to the pain scale and makes a pause of 1 minute. Next, a standard disposable sterile acupuncture needle (40 mm / 0.35 mm) at a depth of 10 mm for 3 seconds is placed in the middle of the body on the upper surface (Ex-HN-10 Zhu'Cuan) and then removed. The doctor will fill out the last questions from 29 to 31 on page 4 together with the patient. The survey is suitable for both self-study of attitudes and pain sensation in corporal acupuncture as well as lingual acupuncture. In case the patient refuses to participate in the study, the physician notes informed consent for one or several reasons that the patient has pointed out.



Light 1-3: 1.No pain, 2.Very weak, 3. Weak,  
 Moderate 4-6: 4. Moderately strong to distracting, 5.May be ignored but act distracting,  
 6. Can not be ignored for more than 30 minutes, 6. Can not be ignored at all  
 Strong 7-10: 7. Prevents concentration, 8. Difficulty in physical activities, 9. Inability to talk or cry, 10. Unconsciousness, fainting

Fig.1 Pain scale

**28.** On the 10-point pain assessment scale attached to the questionnaire (look at the pain scale), what do you think the pain would be:

A: on the tongue	B: on the forearm
? .....	? .....

*The following questions should be completed with the doctor conducting the study after the acupuncture.*

**29.** Were there any complications from acupuncture:

A: on the tongue	B: on the forearm
? non	? non
? bleeding	? bleeding
? Muscular spasm	? Muscular spasm
? faint	? faint
? agitation	? agitation
? other .....	? other.....

**30.** On the ten-point pain assessment scale attached to the questionnaire, how do you assess the pain of the procedure:

A: on the tongue (point:.....)	B: on the forearm
? .....	? .....

**31.** Has the procedure caused an emotional reaction in the patient:

- ? positive (amazement, joy, tranquility)
- ? negative (fear, disgust, anger, sadness)
- ? no (indiscretion)

Table.1 Exmple questions from the questionnaire

**RESULTS**

80 students and 20 patients were interviewed. Of them, only 17 students and 11 patients volunteered to fill in the survey, a total of 27 records. Only 9 students answered all the questions, the rest filled the questionnaire partially, according to their preferences. Fourteen of them agreed to experimental acupuncture, with only 9 of them participated in both the tongue acupuncture and the limb acupuncture. All 11 patients completed the entire questionnaire and participated in acupuncture. The procedure lasts about 15-20 minutes per patient, including explanations and time for informed consent. We had zero complications and side effects.

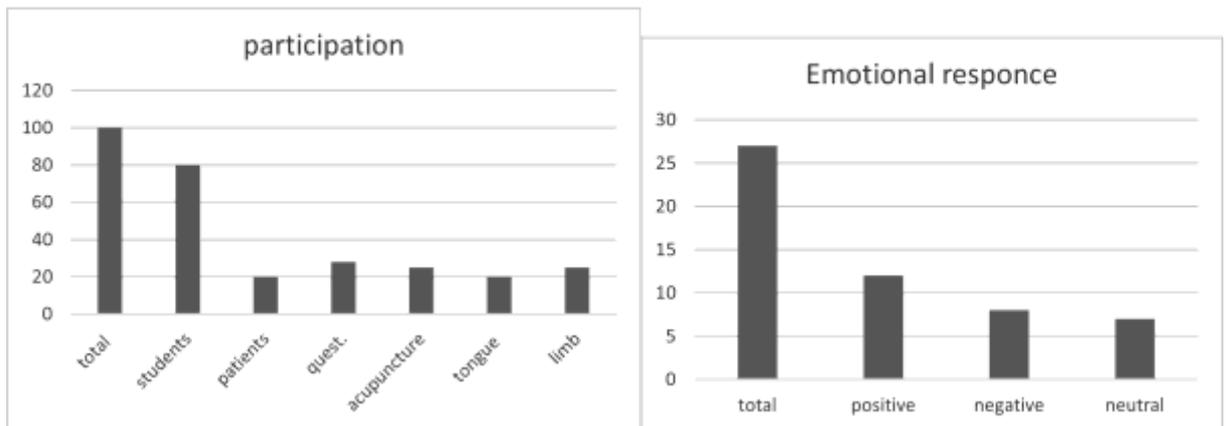


Fig. 2 Participation and emotional response

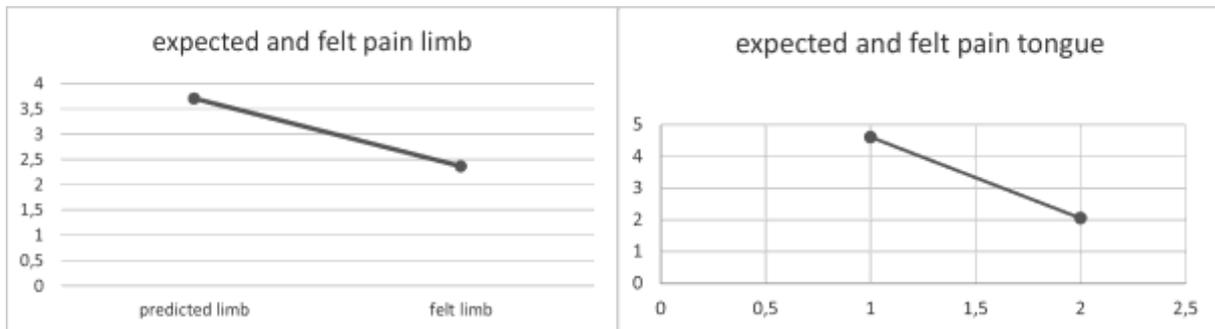


Fig. 3 Comparison of expected pain and felt pain in limb and tongue acupuncture.

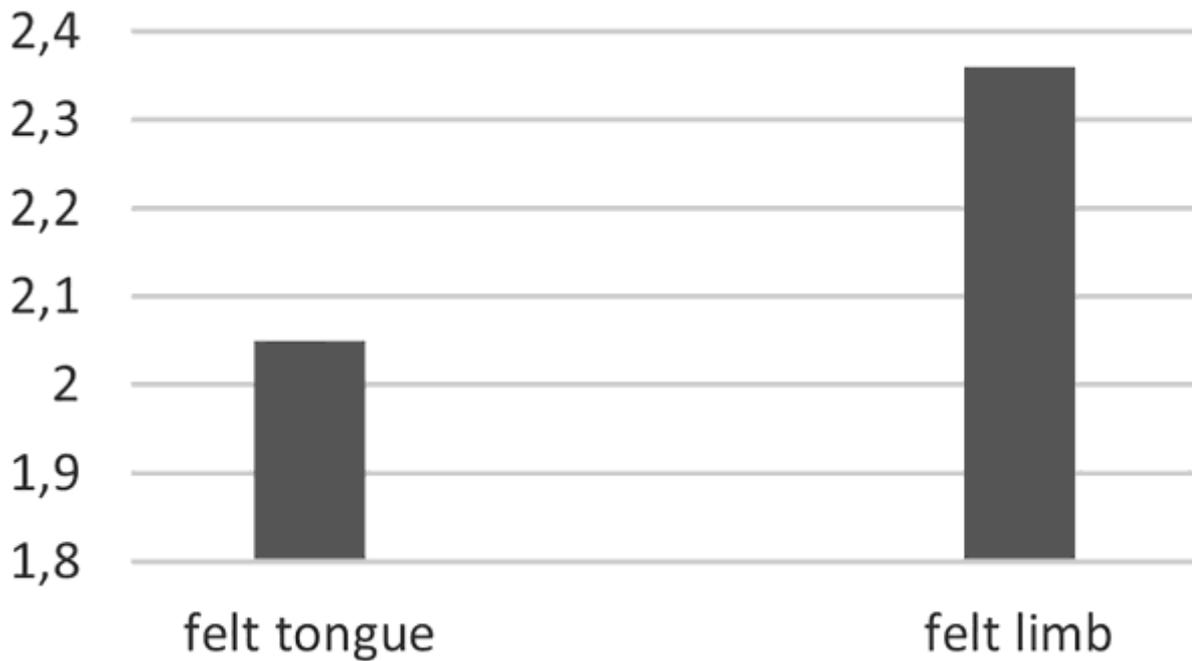


Fig. 4 Comparison of the pain felt on the limb and on the tongue during acupuncture.

## DISCUSSION

The questionnaire would remain an important part of the clinical experiment and could be improved or pointed in different direction. Nevertheless, more effort are made to standardize the diagnostic method of TCM and improve the reliability of its diagnosis (14). Computer assisted digital imaging devices are logical step towards that goal (4) together with applications of PET, functional magnetic resonance imaging (fMRI) and VEP (16). In modern medicine armed with multiple treatment methods tongue acupuncture is never applied as a sole or even leading healing method but it could be recognized as important complimentary approach. Important new areas were that has been tested with promising results are for the management of depression (15) a leading society problem, and also the never ending struggle with the emergency medical conditions (11). TA could enhance western medicine and also the body acupuncture (15).

## CONCLUSIONS

Public opinion in Stara Zagora about Traditional Chinese Medicine is still negative or indifferent. The questionnaire is comprehensive, understandable, medium in complexity for implementation, and relatively quick to fill. Many patients have doubts about the use of this method to favorably affect human health, particularly with regard to: fear of pain, choking, bleeding, scarring, fear of infection. Our study did not account for such complications, which confirmed the literature that they were rare. While a patient with acute or chronic pain is psychologically more likely to risk a new type of therapy, a healthy volunteer is more likely to save as much as possible from manipulations. The volunteer's expectations for the pain sensation do not coincide with the subsequent reactions, being overstated by about 50% for tongue acupuncture and about 40% for the limb. The painful sensation of the tongue and the limb is similar (2.05 tongue / 2.36 limb). It is important to note that individual feelings can not be ignored on the basis of statistics due to the different threshold pain of different individuals as

well as at different times. The individual approach to dealing with the pain sensation should always be the guiding principle. The psychological factor is important and time and effort must be taken to predispose the patient before acupuncture. Of the 27 participants in the study - 20 committed themselves emotionally. This reaction is important both for the acceptance of therapy and for the healing effect, and for the therapist himself. It is necessary for the doctor to be ready to offer a suitable analgesic preparation before acupuncture for patients who may express a strong concern or anxiety about the procedure. The physician needs to have information about a trained psychologist who can recommend to patients with marked psychological problems that obstruct their treatment.

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