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# Study Concerning the Efficiency of the Reflex Massage in the Treatment of Varicose Veins

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**Abstract**

Varicose veins are a very common chronic disease among the adult population, with repercussions on people's quality of life. Therefore research in this area is necessary, with results that are intended to alleviate aspects of the symptomatology, especially pain, in order to prevent the occurrence of new varicose veins and to stop the evolution of existing ones. Such results could be obtained by using reflex massage, which, due to the effects of neurovegetative rebalancing, contribute to the normalization of vasomotricity, to the activation of venous circulation, prevent venous stasis and trophic disorders.



*Keywords: reflex massage; varicose veins; treatment; efficiency*

## 1. Introduction

Frequently encountered and usually located in the lower limbs, varicose veins are part of the sphere of chronic diseases, they may affect in time the functionality of lower limb, especially because of complications which may arise during the evolution of the disease. Varicose veins have a symptomatology that increases in time, the pain is one of these symptoms and it is felt with an increasing intensity during the disease evolution.

Reflex massage has a great applicability for the symptomatic treatment of diseases. It is indicated especially in the pain relief, which was proved experimentally. The explanation comes from the fact that pain can be relieved through endogenous opiates, such as endorphin, substance whose level increased after reflex massage of connective tissue, according to a study performed by Kaada and Torsteinbø (Kaada and Torsteinbø, 1989). Pain is very important in reflexology, the painful areas becoming, at the same time, signs and places for treatment

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application (Mârza, 2002).

In a study, Frazer, quoted by Holey, found connective tissue massage being more powerful in the pain relief than epidural analgesia (Holey, 1995). Reflex massage also has a special role in improving blood circulation, fighting against venous stasis and trophic disorders; these statements are supported by the life experience of the founder of connective tissue massage (also known as the *BINDEGEWEBSMASSAGE*), E. Dicke, who, trying to relieve her lower back pain through massage, found that blood circulation was restored in the lower limb that was on the verge of necrosis (Holey, 1995; H. Schliack and Harms, 1998; Goats and Keir, 1991).

The general principle of reflex organization is based on the fact that a stimulus from inside of an organism can determine a certain sign to the outside and vice versa, and that a therapeutic stimulation in a certain area may have effects on all areas with it is connected (Mârza, 2002).

## 2. Organizing research

### *2.1. Research hypotheses*

The hypotheses from which we started in organizing and conducting our research are as follows:

- the pain, symptom which occurs in varicose veins, can be relieved through the reflex massage;
- the use of the reflex massage as complementary therapy to the pharmacological treatment can have a positive response to relieve symptoms caused by disease, especially to persons who do not want interventions considered to be aggressive, such as surgery, endovenous intervention, laser therapy, sclerotherapy;
- the reflex massage can have preventive (prophylactic) effect for the lower limb not yet clinically diagnosed with varicose veins, but with predisposition to this disease, which could be revealed through the reflexo-diagnosis;
- the application of the reflex massage can avoid the occurrence of complications that can affect and/or aggravate the functionality of lower limb ill, with implications on the daily activities.

### *2.2. Purpose of the research*

The purpose of the research was to establish the efficiency of using the reflex massage in the treatment of varicose veins.

### *2.3. Research methods*

In this study we used the following research methods: theoretical documentation; survey; conversation; observation; exploration and evaluation methods; experimental method; the methods of registration, processing and graphical representation of data. The theoretical documentation was accomplished during the whole period of the research, but especially between September 10 to November 2, 2008, and consisted of searching and consulting the bibliography.

The survey had a special role both in the selection and establishment the groups of subjects according to inclusion and exclusion criteria established, and for completing the assessment forms of the subjects.

The conversation was used to find personal data of the subjects, data about medical conditions, as well as to find the expectations of the subject who would be followed to benefit from treatment with reflex massage. Patients' expectations were similar to therapist's expectations: pain relief and an improvement of lower limbs functionality. With each treatment session, the conversation was an exchange of information, controlled by a permanent feedback between therapist and patient.

The observation was used to obtain information on some aspects of the disease, information on the effect of

the treatment applied, to observe various reactions of patients during treatment.

Among the methods of exploration and evaluation we used:

- an assessment form – questionnaire type, with 3 of the 8 scales of the SF-36 [*Physical Functioning* (PF); *Role limitations due to physical health* or, briefly, *Role-Physical* (RP); *Bodily Pain* (BP)]. This questionnaire has scores from 0 to 100; 0 corresponds to the worst state of health, and 100 corresponds to the best state of health;
- the reflexo-diagnosis (by ascending paravertebral strokes);
- a pain assessment form, for the reflex zone, pain intensity being in the range 0-10, where 0 means no pain, and 10 represents very severe pain.

In the research activity, the experiment was used to verify (to confirm) the extent to which the hypotheses, initially established, were later confirmed.

The data obtained in the research activity was tabulated and registered for centralization, processing and their comparison. The presentation of results was followed by graphical representation for quantifying the evolution of state of the subjects and for comparing the results obtained from the experimental group and from the control group subjects.

### *2.4. Description and conducting research*

In this research, two types of criteria were used to form the groups of subjects: inclusion and exclusion criteria. The inclusion criteria were: same sex (female), the 45-55-year-old age range, clinical diagnosis of varicose veins in the lower limbs. The exclusion criteria consisted of the existence of other conditions (and/or complications of varicose veins). Out of twelve individuals with varicose veins, all females, two have refused to take part in the study, six were eliminated after applying the exclusion criteria, four subjects remaining, finally, two of which formed the experimental group and the other two, the control group. Duration of study was 5 ½ months (10 September 2008 – 26 February 2009), and the treatment was conducted in two stages of four weeks each, with a break of two weeks between stages.

We used the Dicke method, following these steps: basic section (rhombus, 3 strokes over the pelvis, 5 paravertebral strokes, strokes *in fan* in iliolumbar angle, subcostal strokes), compensatory strokes (strokes on pectorals and clavicular strokes), dorsal derivatives (the small and the great derivatives) and accessory strokes (strokes on the thigh, hepatic strokes).

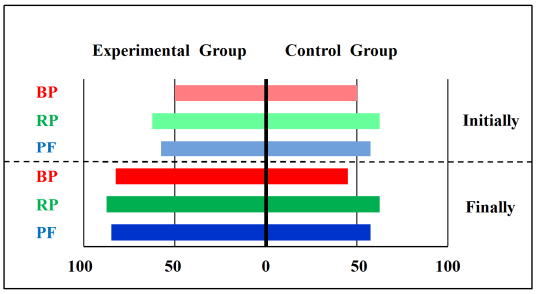
## 3. Results and discussions

The data obtained by analyzing questionnaire results are presented in the tables below:

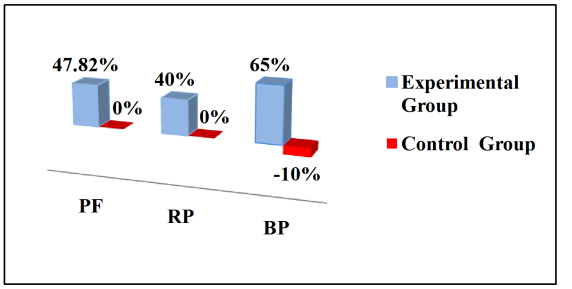
Table 1. The average values of scores on the three aspects, for the two groups, after initial and final assessments through the questionnaire

| Group | Experimental Group | | | | Control Group | | | |
|---|---|---|---|---|---|---|---|---|
| | Average scores | | Difference of score | | Average scores | | Difference of score | |
| Scale | Initially | Finally | Finally -Initially | % | Initially | Finally | Finally - Initially | % |
| Physical Functioning (PF) | 57.5 | 85 | 27.5 | 47.82 | 57.5 | 57.5 | 0 | 0 |
| Role-Physical (RP) | 62.5 | 87.5 | 25 | 40 | 62.5 | 62.5 | 0 | 0 |
| Bodily Pain (BP) | 50 | 82.5 | 32.5 | 65 | 50 | 45 | -5 | -10 |
| Average score of the three scales | 56.66 | 85 | 28.34 | 50.01 | 56.66 | 55 | -1.66 | -2.92 |

According to Table 1, for the experimental group improvements were registered for all three aspects investigated through the questionnaire: *Physical Functioning* (47.82%), *Role-Physical* (40%), *Bodily Pain* (65%), while for the control group were registered constant values (for *Physical Functioning* and for *Role-Physical*), but also a negative value (-10%) for *Bodily Pain*, indicating a worsening of pain, this difference of score (-10%) being due, especially, to the pain severity, as can be seen in Table 2, below. The average score of the three aspects for the experimental group was improved by 50.01%, while for the control group the value is negative (-2.92%), thus the condition of the subjects has worsened (as can also be seen in Graph 4).




Graph 1. Evolution of the average scores of the three scales [*Physical Functioning* (PF), *Role-Physical* (RP), *Bodily Pain* (BP)], for each group

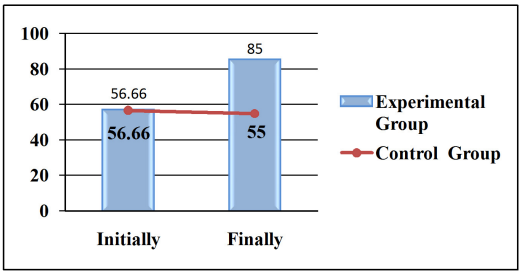



Graph 2. Difference of score for each of the three aspects investigated, for each group

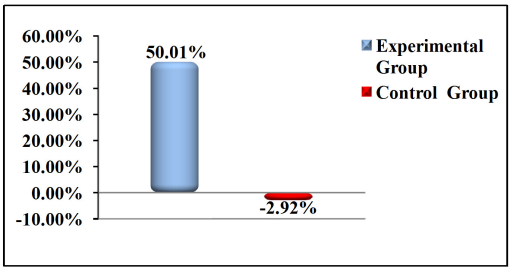
As illustrated in Graph 1, the experimental group has registered improvements at all three aspects investigated by questionnaire: *Physical Functioning* (PF), *Role-Physical* (RP), *Bodily Pain* (BP), in the last aspect (*Bodily Pain*) ascertaining also the highest evolution, while for the control group is observed a maintenance of scores for *Physical Functioning* (PF), *Role-Physical* (RP), but also a worsening of *Bodily Pain* (BP).

It should be noted that although the *Bodily Pain* has registered the best difference of score (for the experimental group), meaning the biggest evolution of all aspects investigated, this aspect is still behind the other two aspects relative to the maximum score of 100.

Graph 2 shows that the highest difference of score is for the experimental group, namely *Bodily Pain* (BP), indicating that, from this point of view, it was the most significant improvement after reflex massage, while for the control group is found, regarding *Bodily Pain* (BP), a negative difference of score, indicating a worsening of this aspect, for the other two aspects [*Physical Functioning* (PF) and *Role-Physical* (RP)] the situation remaining unchanged.




Graph 3. Evolution of the general average score of all aspects investigated, for each group




Graph 4. Difference of the general average score of all aspects investigated, for each group

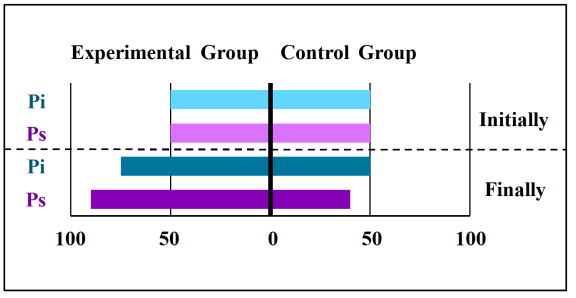
Graph 3 shows that the general average score on all aspects increased for the experimental group, while for the control group this score decreased.

Graph 4 shows improvements of up to 50.01% of the average score of the three aspects for the experimental group, while for the control group the value is negative (-2.92%), emphasizing the worsening of the condition.

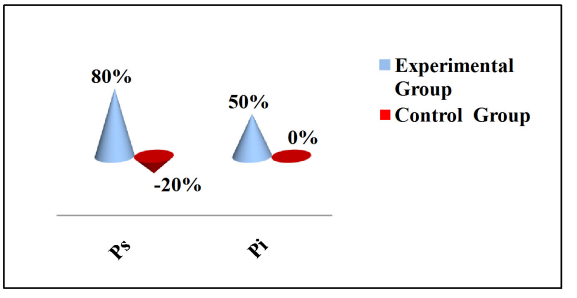
Table 2. Average scores and differences of score for pain, for the two groups, after initial and final assessments through the questionnaire

| Group | Experimental Group | | | | Control Group | | | |
|---|---|---|---|---|---|---|---|---|
| | Average scores | | Difference of score | | Average scores | | Difference of score | |
| Bodily Pain (BP) | Initially | Finally | Finally -Initially | % | Initially | Finally | Finally - Initially | % |
| Pain severity (Ps) | 50 | 90 | 40 | 80 | 50 | 40 | -10 | -20 |
| Pain interference (Pi) | 50 | 75 | 25 | 50 | 50 | 50 | 0 | 0 |

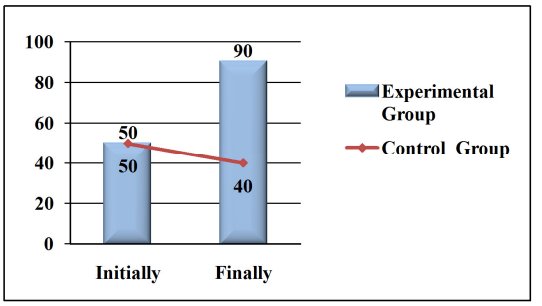
Regarding the *Bodily Pain*, as shown in Table 2, for the experimental group we found improvements both in *Pain severity* (80%) and in *Pain interference with normal work* (or, briefly, *Pain interference*) (50%); while for the control group we registered constant values (initially-finally) for *Pain interference*, and a negative value for *Pain severity* (-20%), indicating an increase in severity of the pain (as can also be seen in Graph 6).




Graph 5. Scores evolution for *Bodily Pain* [*Pain severity* (Ps), *Pain interference* (Pi)], for each group




Graph 6. Difference of score for *Pain severity* (Ps) and *Pain interference* (Pi), for each group




Graph 7. Evolution of the average score for *Pain severity*, for each group

Graph 5 suggests that, for the experimental group, there was an increase of scores for *Bodily Pain*, both for *Pain interference* (Pi), but especially for *Pain severity* (Ps), which indicate a decrease of pain interference and pain severity; while for the control group is observed a maintenance of score for *Pain interference* (Pi), and even a decrease of score for *Pain severity* (Ps), which indicates an increase in severity of the pain.

Graph 6 indicates, regarding the *Pain severity* (Ps), an increase by 80% of the difference of score for the experimental group, thus signifying a decrease in severity of the pain, and a decrease by 20% of the difference of score for the control group, which means an increase in severity of the pain, and regarding the *Pain interference* (Pi) one can observe an increase by 50% of the difference of score for the experimental group and a maintenance of the difference of score for the control group.

Finally, Graph 7 suggests that the average score for *Pain severity* increased for the experimental group, indicating an improvement, while for the control group this score decreased, indicating a worsening of the condition regarding the severity of the pain.

## 4. **Conclusions**

Data analysis and interpretation confirmed the hypotheses initially established. As such, the following findings have emerged from our study:

- starting from the initial condition of the patients and analyzing the results obtained after treatment with reflex massage, the study highlights the efficiency of the reflex massage in the treatment of varicose veins, by revealing its influence both on the symptoms, and on the functionality of the affected lower limb. This could be due to the fact that the reflex massage has a special role in the normalization of vasomotricity, improving blood circulation and fighting against venous stasis and trophic disorders;
- for all aspects investigated through the questionnaire (*Physical Functioning*, *Role-Physical*, *Bodily Pain*) improvements were registered for the experimental group, but significant results of the reflex massage were recorded regarding the *Bodily Pain*; while, for the control group, the state remained constant (for *Physical Functioning* and *Role-Physical*) or worsened (for *Bodily Pain*);
- through the reflexo-diagnosis, it was found that the painful spots (the *maximal points*), the swellings initially encountered in sacro-lumbar areas had relief during treatment or even disappeared after treatment, for subjects of the experimental group. Meanwhile, for subjects of the control group, the signs and the symptoms encountered initially remained the same or worsened;
- the reflex massage had a preventive (prophylactic) effect for the lower limb unaffected by varicose veins, as evidenced the results obtained by one of the subjects from the experimental group; at that person, at the initial reflexo-diagnosis, *maximal points* were also found in the area corresponding to the unaffected lower limb (clinically undiagnosed with varicose veins), and after treatment with reflex massage, the *maximal points* and

the pain in the reflex area disappeared.

The results obtained on the subjects of the experimental group represents evidence of the efficiency of the reflex massage in the treatment of varicose veins, in line with the therapist's and patient's expectations. This is encouraging for the use of reflex massage by therapists, where required, as patients can clearly benefit from its therapeutic effects, which perhaps other therapies can not provide to the same extent.

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