SUMMARY

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The way pain is experienced is a reflection of the individual's emotional, motivational, cognitive, social, and cultural circumstances. The pain of childbirth is likely to be the most severe pain that a woman experiences during her lifetime. Many women, especially nulliparas, rate the pain of labour as very severe or intolerable .The pain of labour and delivery varies among women, and each labour of an individual woman may be quite different.

Pharmacological treatment of labour pain was introduced in the mid-nineteenth century. These analgesic techniques were controversial, as many women and their physicians strongly believed that labour pain was a natural and necessary accompaniment of childbirth. This battle continues to the present day, with a minority arguing that the use of pharmacological analgesic agents in parturient is unnecessary, unnatural, and may be harmful. Thus, labouring women are often treated differently than other patients suffering from pain. The American College of Obstetricians and Gynecologists (ACOG) supports the concept that maternal request alone is a sufficient medical indication for labour analgesia.

So, interventions to relieve pain have become one of the essential aspects of maternity care .There are two approaches pharmacological and non pharmacological labour pain relief.

Acupuncture is among the best known of non pharmacological labour pain relief methods. Acupuncture is a treatment method that originated more than 3,000 years ago in China and is practiced in most

of the world and it is the procedure of inserting and manipulating needles into various points on the body to relieve pain or for therapeutic purposes.

Traditional Chinese theory explains acupuncture as a technique for balancing the flow of energy or life force — known as qi or chi (chee) — believed to flow through pathways (meridians) in the body. By inserting needles into specific points along these meridians, acupuncture practitioners believe that your energy flow will re-balance.

In contrast, many Western practitioners view the acupuncture points as places to stimulate nerves, muscles and connective tissue. This stimulation appears to boost the activity of the body's natural painkillers and increase blood flow. So many theories have been proposed to address the physiological mechanisms of action of acupuncture as gate control theory, connective tissue mediated mechanisms, electromagnetic mechanisms and neurohormonal theory.

The Neuro-hormonal theory suggests there is an analgesic action of acupuncture that is mediated by stimulating the release of natural endorphins in the brain to affect the thalamus. This has been documented on functional MRI studies of the brain.

The aim of this study was to evaluate the use of the pointer excel 2 as non invasive electroacupuncture for pain relief during childbirth.

The study was carried out during an 8-month period. It was prospective randomized controlled study, which was performed in Benha University Hospital and Alexandria University (Elshatby Hospital). Voluntary participation was requested. The aim and methodology of the study was explained to the pregnant lady that this will help here to

decrease the labour pain. And technique was explained to her as:

- Blood sample were taken from her.
- Then, she was received electroacupuncture stimulation on the dorsum of the hand, between the 1st and 2nd metacarpal bones, and on the radial side of the mid point of the 2nd metacarpal bone. (This was shown to her on her hand.)
- The stimulation was last 15 minutes for each hand.
- Then after 30 minutes from the last stimulation another blood sample were taken.
- Pain score was explained to the lady as *verbal estimation* of the labour pain on a scale from zero to ten, (0 representing no pain and 10 representing the worst imaginable pain) and informing us by it before and after electroacupuncture stimulation.

The pregnant lady was asked after that if she agreed to participate in this study or not.

Group selection of individual cases was randomized .The study was completed after 60 women were asked and agreed to participate in this study.

Pointer excel was used as a non invasive electroacupuncture.It is a handy hold device locates and stimulates acupuncture points.

Hegu point which located in on the dorsum of the hand, between the first and second metacarpal bones, at the midpoint of the second metacarpal bone and close to its radial border was chosen due to its efficacy in labour pain relief. Also, for its oxytocic effect. Another advantage to hegu point as it dose not restrict patient movements.

Blood samples were taken from each participant after their consent before Pointer excel 2 stimulation and after it by 30 mins for

determination of the difference of increment of B endorphin in maternal plasma by molecular technique with use of PCR by convenential way among both groups.

The result of the study was

- In this study, there was no statistically significant difference (P = 0.95) between the mean age for the test group which was (28.90 ± 6.99) and the mean age for the control group (29.60 ± 6.97).
- Also, no statistically significant difference (P = 0.71) could be detected between both groups as regards Gestational age (weeks) by using unpaired t-test.Mean Gestational age (weeks) for test group was (39.20 ± 1.10) and the mean gestional age (weeks) for control group was (39.30 ± 1.02).
- Also, there was no statistically significant difference (P =0.99) could be detected between both groups as regards cervical dilatation.
- Mean cervical dilatation for test group was (4.50 ± 0.97) and the mean cervical dilatation for control group was (4.53 ± 1.14).

These all add more to the consistency and homogeneity of the studied population.

- No statistically significant difference between B endorphin level in the plasma among both groups (P=0.75) before pointer excel 2 stimulation.
- Significantly decreased labour pain. As it was shown on the result of interpretation of pain score before and after its stimulation between control and test group ***(p=0.001).***
- Significant increase in B endorphin level between test and control group occurred after stimulation by Pointer excel 2 (P=**0.032)**.