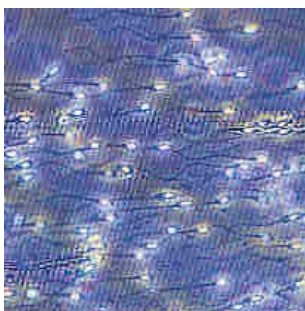
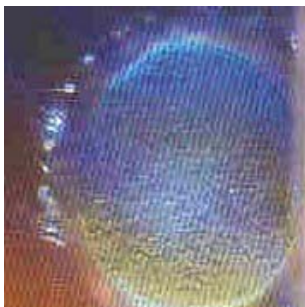




A woman with the problem of infertility receiving osteopathic treatment has an increased chance of becoming pregnant



**Master Thesis zur Erlangung des Grades
Master of Science in Osteopathie**



an der Donau Universität Krems

niedergelegt an der

Wiener Schule für Osteopathie



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Eidesstattliche Erklärung

Hiermit versichere ich, die vorgelegte Master Thesis selbständig verfasst zu haben. Alle Stellen, die wörtlich oder sinngemäß aus veröffentlichten oder nicht veröffentlichten Arbeiten anderer übernommen wurden, wurden als solche gekennzeichnet. Sämtliche Quellen und Hilfsmittel, die ich für diese Arbeit genutzt habe, sind angegeben. Die Arbeit hat mit gleichem Inhalt noch keiner anderen Prüfungsbehörde vorgelegen.

Linz, am 13. November 2006

„The more we know of the architecture of the God of Nature, and the closer we follow it, the better we will be pleased with the results of our work.“

Dr. A. T. Still (Still, 1992, p 281)

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1. Introduction

Since the end of the century, the number of childless marriages in industrial countries is continuously climbing. Nearly every 7th couple stays unintentionally childless (Methoden der Kinderwunschbehandlung, 1999).

According to the international studies, the problem can be considered to be attributable to 35 – 40 % females, 40 – 50 % males and 15 % both partners. In 10 – 20 % of the couples the problem is unidentifiable (Pfleiderer, Breckwoldt, Martius, 2000).

In identifying the disorders of infertility, both partners are required to undergo various clinical investigations. This includes a spermogram for the male partner prior to the female embarking on a number of time consuming and inconvenient diagnostic investigations.

If a fertility disorder is found in the female, there are a number of treatment possibilities available including: drug therapy, surgical intervention and technical assisted reproduction.

Despite various diagnostic procedures no identifiable cause of fertility is identified in a number of women. Their desire to have children cannot be fulfilled. These women are the focus group of my work.

It is acknowledged that this is a complex, sensitive and emotive area. However, the purpose of this study is to prove that these women, who receive osteopathic treatment, have a higher chance of becoming pregnant either during or after a course of treatment, and that osteopathic intervention is an important support mechanism for them during that time.

I want to prove, that despite the complexity of “childlessness” osteopathic treatment is an essentially important step for these women.

2. Disorders of fertility

The purpose of this study is to demonstrate that osteopathy can have a beneficial effect on the women, who for no apparent medical reason, have been unable to conceive whilst having unprotected intercourse for a significant period of time. I want to check the efficiency with objective and subjective examinations. In considering the boundaries and the suitability of the women participating in this study, it was necessary to be satisfied that all potential causes of sterility/infertility had been eliminated. Some of the most common causes are considered in 2.3. "Causes of disorders in female fertility".

2.1. Definition

2.1.1. Fertility

Fertility means, that a woman is conceivable.

2.1.2. Sterility

Sterility means, that a woman is unconceivable.

According to the WHO a marriage or partnership with the couple having regular, unprotected intercourse, for a period of one year, in which pregnancy does not occur, is considered sterile (Unfruchtbarkeit, 2002).

The difference between a primary and secondary sterility must be distinguished:

Primary sterility:

The female was never pregnant.

Secondary sterility:

After one or more pregnancies have occurred, more children are wished and having regularly unprotected intercourse, no pregnancy occurs.

It would be better to speak from a problem with conception instead of sterility. It should not be impressed that the situation is permanent.

2.1.3. Infertility

Infertility exists then, when a woman was pregnant once, but could not carry the baby to full term.

Often infertility is going to become sterility. The causes for both problems can be the same. That is why the difference between the two can not always be clearly separated (Pfleiderer, Breckwoldt, Martius, 2000).

2.2. Epidemiology

80 - 85% of all fertile couples having regular unprotected intercourse will successfully conceive within one year. Tests on populations where no contraceptive prevention was used, pregnancy occurs within 2 years for the most women (Sterilität und Infertilität, 2002).

In 1968, approximately 600,000 women in the USA sought medical attention because of being unable to conceive, this rose in the 1970's to almost one million, and again the early 1980's to over two million.

Number of women using infertility services in 1995: 9,3 million.

It is believed that this figure is continuing to increase (Ungewollte Kinderlosigkeit, 2002; Fertility/Infertility, 2002).

2.3. Causes for disorders in female fertility

(for the following chapter see: Pfeleiderer, Breckwoldt, Martius, 2000)

2.3.1. Age

Childlessness can have many causes. One of the main reasons in this problem is the age of the woman. The probability of chances woman conceiving after 35 years of age is markedly reduced in comparison to a younger woman. 20 % of the women who are between 30 and 35 years old, who actively want children, remain childless. This percentage increases with age.

For a variety of different reasons the number of women who have elected to postpone having their family until after they have reached 35 is increasing. It is interesting to note that every 5th woman in the United States is older than 35 when her first child is born (Ungewollte Kinderlosigkeit, 2002).

Experts in Germany conclude that a 38 year old healthy woman with a spontaneous cycle has a 7 % probability of conceiving within any one cycle. This statistic is based on intercourse taking place 2 - 3 times per week (Zahlen zum unerfüllten Kinderwunsch, 2002).

2.3.2. Hypothalamo-hypophysial causes

Hypothalamo-hypophysial causes together with ovarian causes account for approximately 60% of infertility.

Gonadotropic releasing hormone (GnRH) stimulates the synthesis and secretion of the gonadotropins FSH (follicular stimulating hormone) and the LH (luteinizing hormone).

The GnRH secretion can be diminished or desynchronized in the following situations:

- Hyperprolactinemia
- Hypophysial insufficiency
- Pituitary tumor
- Chronical stress-situations
- Intensive training in high-power-sports
- Anorexia nervosa, anorectic reactions and bulimia
- Idiopathic hypothalamic insufficiency

A poor GnRH-secretion can lead to an ovarian dysfunction with “anovular” menstrual cycles, corpus-luteum-insufficiency, or primary or secondary amenorrhea.

2.3.3. Ovarian causes

All ovarian functional disturbances grouped together make almost 30 % of all the causes of sterility. Examples of such causes include:

- Genetic causes
- Gonadal dysplasia
- Climacterium praecox
- Cystic changes of the ovaries
- Polycystic ovaries with hyperandrogenemia
- Ovarian tumors
- Ovarian endometriosis

2.3.4. Tubular disorders

2.3.4.1. Post-infectious changes

Most often organic causes of sterility occur from post-infectious changes in the fallopian tubes leading to tubular occlusion and consequential to adhesions. The possible causes come from ascending infections, such as streptococci, gonococci, staphylococci, mycoplasmen or chlamydia are considered to be responsible. Other examples include infection of the adnexa, or the spread of infection from other nearby visceral organs (e.g.: appendicitis). The commonest pathogen responsible for tubular sterility is considered to be Chlamydia. Chlamydia are the main causative pathogen that lead to tubular sterility. The most come to a closure in ampullary area of the tube. Adhesion formations can impair the motility of the tubes and the “egg reception mechanism” (Pfleiderer, Breckwoldt, Martius, 2000)

2.3.4.2. Endometriosis with salpingitis isthmica nodosa

Conglomerate tumours as result of an inflammation or endometriosis lead to an impairment of tubal motility or occlusion.

If you find the focuses of endometriosis in the interstitial part of the tube they are called salpingitis isthmica nodosa.

2.3.5. Uterine causes

These together with tubular and cervical causes account for approximately 15 % of infertility.

2.3.5.1. Inflammation or traumatic damage of the endometrium

A forced abrasion, for example after a miscarriage, it can lead to a loss of the endometrium.

Ascending infections can lead to intrauterine adhesions and deformations of the Cavum uteri.

2.3.5.2. Myomas

Because of an inferior developed endometrium in the area of the myomas, implantation of the fertilised egg cell may be impaired by the presence of a submucosal myoma, and could possibly lead to problems in the ensuing pregnancy.

However, intramural and subserosal myomas rarely cause sterility.

2.3.5.3. Inherited uterine anomalies

Inherited defects of the uterus can lead to trophic disorders or to an inferior developed endometrium for example in the area of an uterus septal. This also makes an implantation of the fertilized egg cell difficult.

2.3.6. Cervical causes

An important roll under the cervical causes of sterility is the lake of weave and increased viscosity of the cervical mucous making it difficult for the spermatozoon to break through the mucous barrier.

2.3.6.1. Anatomical changes of the cervix

Anatomical changes on the cervix uteri, like tears, for example tearing occurring after giving birth, scar tissue or after conisation, can make conception very difficult or even impossible.

2.3.6.2. Infections

The significance of cervical infections and the evidence of negative influences from mycoplasmen and chlamydias on the motility of the sperm is disputed on and can not be proven. Medical intervention is necessary due to the likelihood of increased infection.

2.3.6.3. Sperma immunity

The significance of immunological factors of sterility is often overestimated. These rarely causes sterility.

2.3.7. Vaginal causes

There are several potential causes of sterility arising from within the vagina. Questionable possibilities for causes of sterility are congenital anomalies, inflamed or after traumatic stenosis as well as infections.

2.3.8. Psychogenic causes

Normal sexual activity may be disturbed by a number of factors, these include interferences of normal sexuality with dyspareunia (pain on intercourse, vaginal cramps, loss of libido, frigidity and the inability to attain an orgasm). These may in turn lead to a psychological fear of conflict and eventually sterility.

Various social-economic factors including marital problems, with fear of a divorce or a separation, employment difficulties, job or social conflicts, fear of a changing situation through pregnancy, the concern about balancing work and family, as well as an exaggerated wish for children can all play significant roles in the problem of infertility.

2.3.9. Extragenital causes

Conditions affecting other hormonal systems can also interfere with fertility. These include:

- Suprarenal gland:
 - AGS (adrenogenital syndrome)
 - Adrenal hyperandrogenemia
 - Morbus Cushing
 - Morbus Addison
 - Tumors
- Thyroid:
 - Hypothyreosis
 - Hyperthyreosis
- Diabetes mellitus (untreated)
- Drugs-, alcohol-, and nicotine abuse
- Environment pollution

Eating problems can be up to 6 % of the causes of infertility. Being overweight or underweight can have negative consequences (Unfruchtbarkeit, 2002).

3. Osteopathic connections to anatomy of the inner female sex organs

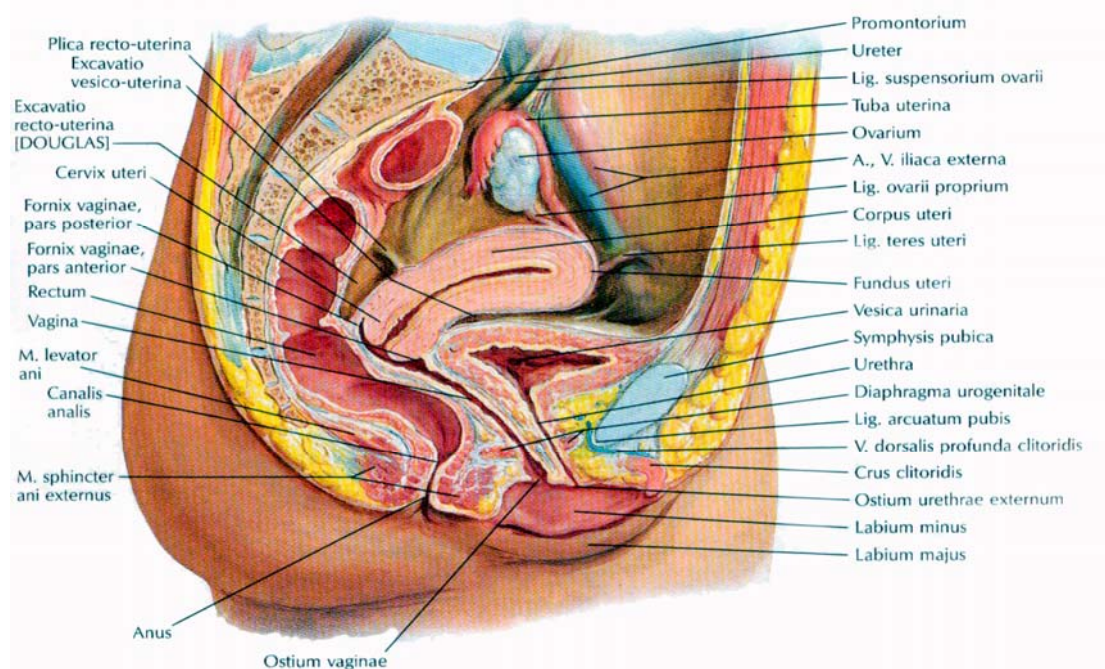
(for the following chapter see: Barral, 1993; Frick, Leonhardt, Starck, 1992; Pfleiderer, Breckwoldt, Martius, 2000)

3.1. Position and relationship to the peritoneum

The inside sex organs push themselves like a plate, called genitalplate, between the bladder and rectum.

The peritoneum is a serous membrane that the stomach cavity and the pelvic inside outer layer, covers up the organs found there.

In the process of fetal and embryonal development, in that more changes have been made, the peritoneum in adults shows a number of folds on it, with a very complex structure that allows to explain only with the help of embryology.



Picture 1

The pelvic peritoneum (peritoneum parietalis pars inferior) covers out the side walls of the pelvic area and lays along the middle line of the subperitoneal connective tissue area and the organs contained inside: Rectum, inside sex organs, bladder.

It covers the bladder and clings tight to the woman's parametrium, so that the uterus and the adnexa are covered and build two rooms:

- Ventral the excavatio vesicouterina
- Dorsal the excavatio rectouterina (pouch of Douglas)

In these cavities it can at one time come to accumulation of fluids and at another time the intestinal loops can get in ptosis so that they impact.

In women the peritoneum is not a completely enclosed cover. It opens in the area of the ovaries which is called mesovarium.

The interruptions of the continuity makes it possible that peritoneal fluids can flow off through the fallopian tubes and also explains that growing gynaecological originated infections can come to a peritonitis.

3.2. Uterus

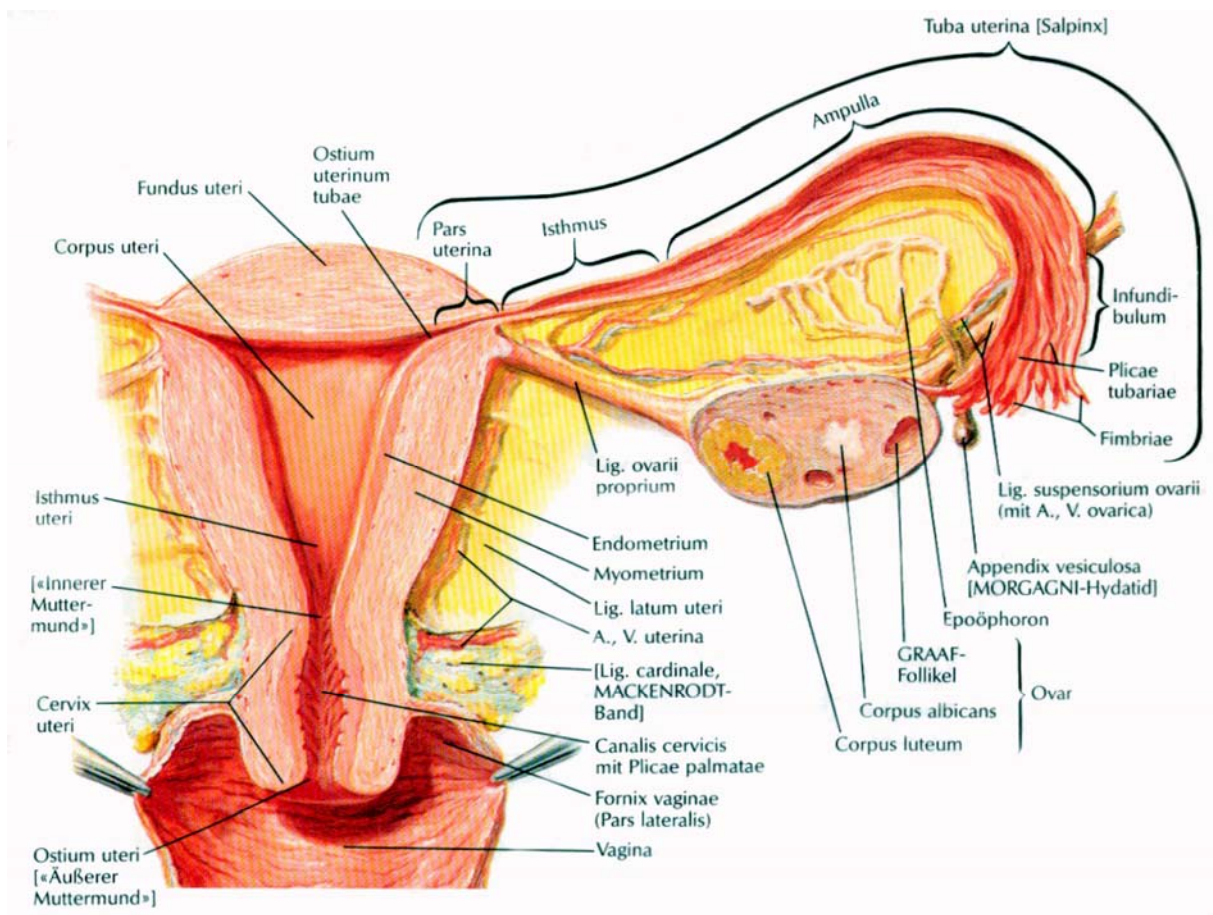
Many events and forces affect the uterus and its attachments. For example: pregnancy and labour, large episiotomies, ventouse and forceps deliveries, primary and secondary hormonal imbalances, traumas, surgery, multiple infections, and a genetic susceptibility to dysplasia. Other indirect contributing factors include the use of repeated courses of painkillers and anti-inflammatory drugs to assist in the relief of a number of causes of gynaecological pelvic pain.

Osteopathic intervention including manipulation of the uterus and its attachments can change a lot in this area. This requires palpatory sensitivity, gentleness, respect and understanding of the anatomy and physiology.

Osteopathic philosophy considers the whole human body as an inter-related functioning unit. This can be illustrated on considering the uterus, its attachments and the consequential effects on other regions of the body.

3.2.1. Construction

Form:	pearshaped, in adults 6 - 7 cm long
corpus:	body
isthmus:	passage between corpus and cervix
cervix:	neck
fundus uteri:	end of the body, that sticks out over the tube angle



Picture 2

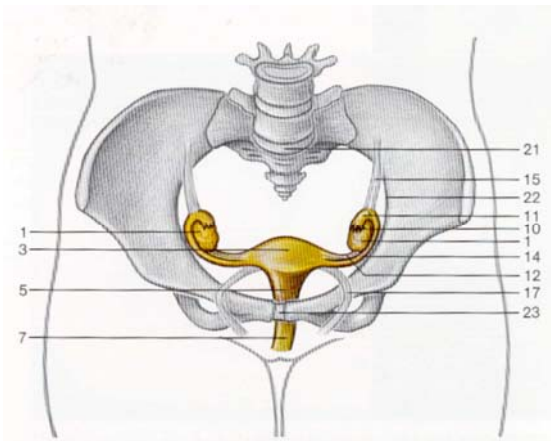
The tube is forming with the uterus almost a right angle, the tube angle. From there the lig. ovarii proprium passes to the ovary and the lig. teres uteri passes to the inguinal canal. The cervix sticks out with her caudal end cone shaped in the vagina, portio vaginalis.

From the uterus wall one can tell the difference between:

- a peritoneum covering, tunica serosa or perimetrium
- a powerful muscle layer, tunica muscularis or myometrium
- a mucous membrane, tunica mucosa or endometrium.
- as parametrium one understands between tunica serosa and tunica muscularis lays a connective tissue layer that has smooth muscle cells.

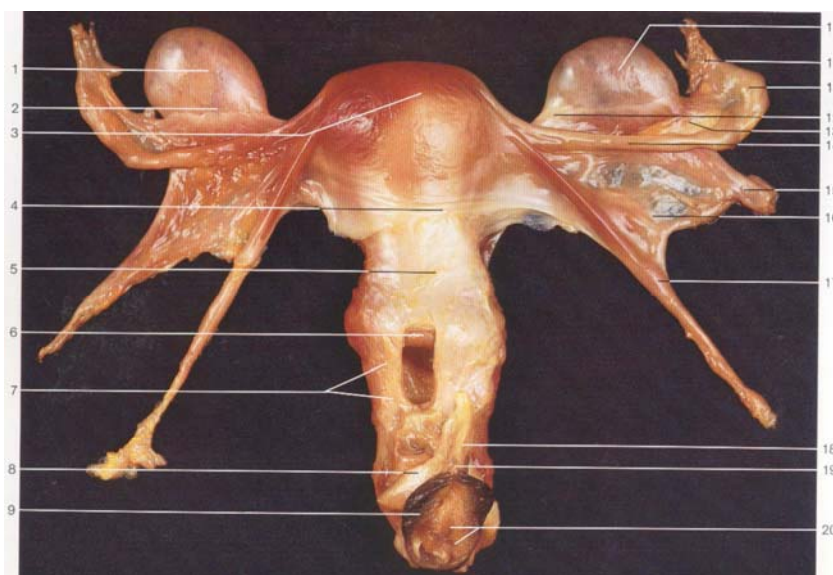
3.2.2. Suspension and support

There are numerous ligaments and other connective tissue structures suspending and supporting the uterus. These structures are closely interrelated with the attachments of the bladder.



1. Ovarium
2. Mesovarium
3. Fundus uteri
4. Excavatio vesicouterina
5. Cervix uteri
6. Portio vaginalis cervicis
7. Vagina
8. Crus clitoridis
9. Labium minus pudendi
10. Fimbriae tubae
11. Infundibulum tubae uterinae
12. Lig. Ovarii proprium
13. Mesosalpinx
14. Tuba uterina
15. Lig. suspensorium ovarii
16. Lig. latum uteri
17. Lig. teres uteri
18. Corpus cavernosum clitoridis
19. Glans clitoridis
20. Ostium vaginae und Hymen
21. Promontorium
22. Linea terminalis
23. Symphysis pubica

Picture 3



Picture 4

3.2.2.1. Peritoneum

It has a very minor role in suspending the uterus. Peritoneal restrictions can seriously disrupt mobility of the uterus.

3.2.2.2. Round ligaments

They are thin fibrous cords that start from the uterin horns, run anterolaterally through the deep inguinal ring and inguinal canal and finally break up into strands that merge into the labia majora. Near the uterus, this ligament contains many smooth muscle fibres; these progressively disappear farther away from the uterus. The round ligaments slightly antevert and stabilize the uterus. They have reflexogenic effects when manipulated.

3.2.2.3. Broad ligaments

The broad ligaments are constructed of two leaves of a peritoneum fold which go out from the sides of the uterus and covers up the front and the back sides. Both leaves stay connected continuously. They go lateral to the sides of the pelvic wall, turn over near there and become the peritoneum of the pelvic floor.

One tells the difference between two sections:

Lower section:

Thicker and stronger section, connected tightly to the pelvic wall as well as with the uterus neck and vagina. It equals the perimetrium (superior supportive tissue of the vagina).

Upper section:

Its superior section, the mesometrium, contains 3 parts:

- the tubular part or the mesosalpinx
- the funicular (conforming) part with the lig. teres uteri
- the mesovarium stretched through the proper ovarian ligament and the lig. suspensor ovary.

3.2.2.4. Lig. sacrouterina

Very strong tissue, half bow formed from the back wall of the cervix, spreads around the rectum and go into the sacrum cavity. They contain smooth muscle fibres.

3.2.3. Movements

The healthy uterus is mobile, under the control of several passive and active factors.

3.2.3.1. Passive Movements

Respiratory Diaphragm:

The strong, rhythmic contractions of the diaphragm mobilize all the abdominal and pelvic organs. Its effects diminish with distance, but nonetheless influence the uterus. Forced inhalation and exhalation can move the bottom of the uterus 2 cm in a young woman. Some studies suggest that the “attractive” force of the diaphragm reduces the effective weight of the uterus by approximately 50 %.

Walking:

Walking, or other everyday activities cause the uterus to passively follow the body's movements. Dimple inactivity even without a structural problem can reduce mobility and thereby predispose parts of the uterus to inflammation or other disorders.

Influence of Bladder and Rectum:

When the bladder is full, all of its diameters (especially the vertical) increase. This pushes the uterine fundus superiorly and slightly posteriorly. If the uterus is, for example, retroverted and anteflexed, the pressure from a full bladder will be focused on the cervix, leading to tension in this area. If the tension is strong enough, the bladder may be passively depressed by the cervix.

When the rectum is full, the uterus is pushed forward. This commonly happens in women with persistent constipation affecting the lower colon. If the bladder and rectum are simultaneously full, their forces combine to lift up and verticalize the uterus.

3.2.3.2. Intrinsic or Active Movements

Hormonal Rhythm:

The position of the uterus changes in response to the menstrual cycle. Before ovulation, estrogen increases tonus of the myometrium and frequency of contractions, and interstitial fluid absorption increases, with a resulting increase in the weight of the uterus. In the luteal phase, the myometrium becomes hypotonic and contractions have greater amplitude. Manipulative treatment, therefore, will be most effective during the week following the end of the period.

Intercourse:

The movements of the vagina and uterus during intercourse were described by Masters and Johnson (Kolodny, Masters and Johnson 1979). During the third phase (orgasm), there is a rhythmic lifting of the uterus and opening of the cervix. Absence of the movements would inhibit the afferent reflex phenomena and their central stimuli. Lack of proper motion also adversely affects fertility because of failure of the cervix to open and weak vertical movements of the uterus.

Pregnancy and Childbirth:

During pregnancy obviously the uterus increases tremendously in weight and volume. During childbirth there is, in addition, considerable movements and muscular contraction of the uterus.

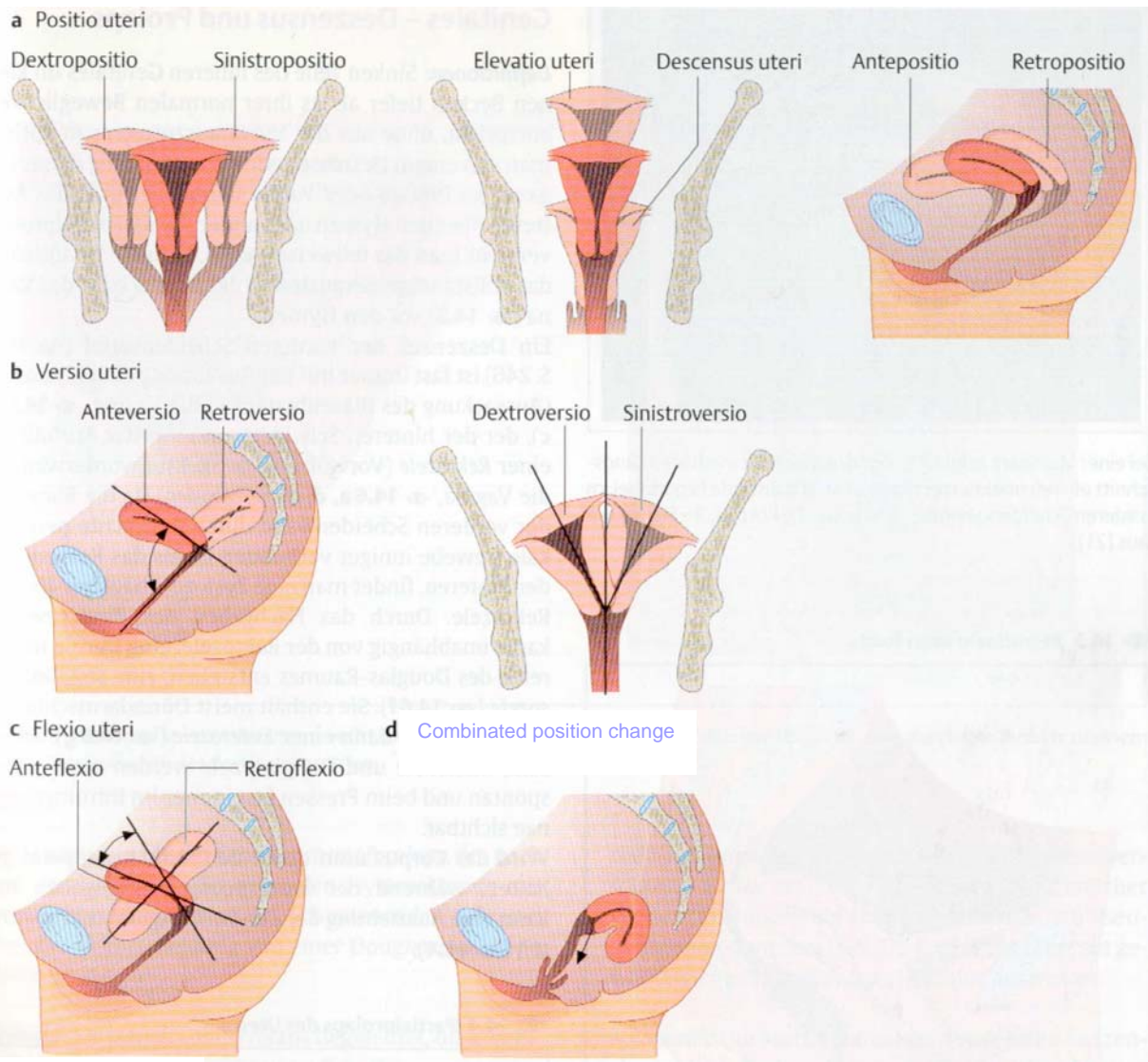
3.2.4. Position changes of the uterus

In the average woman, the uterus makes a 60° angle with the umbilicoccygeal axis, and the angle between the fundus and cervix is 110° - 130°. Variations in these angles can result from age, structure type, childbirth, diseases which affect uterin attachments and tonus. The curvature of the lumbar spine (lordosis) always affects the angles of the uterus.

3.2.4.1. Intraoperative position variations

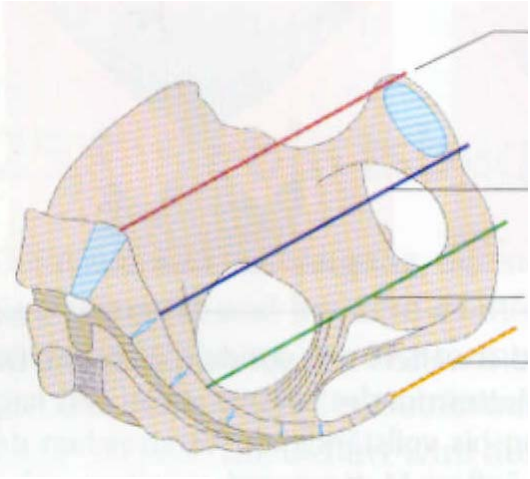
One can tell the difference of the given positions of the uterus:

- Positio uteri, means the position of the uterus in the pelvic area
- Variations from normal middle position are these:
 - ante-position
 - retro-position
 - dextro-position
 - sinistro-position
 - elevatio uteri
 - deszensus uteri



Picture 5

Normally the fundus uteri almost reaches to the level of the pelvic entrance and the external orifice of uterus is in the elevation of the level.



- pelvic entrance level
- inferior „Schossfugenrand“-level
- inter spinal level
- pelvic floor

Picture 6

Versio uteri, means the position of the cervix axis to the vagina axis. Normally the cervix lays at an angle towards the front when the orificouterus looks to the back in the direction of the coccyx.

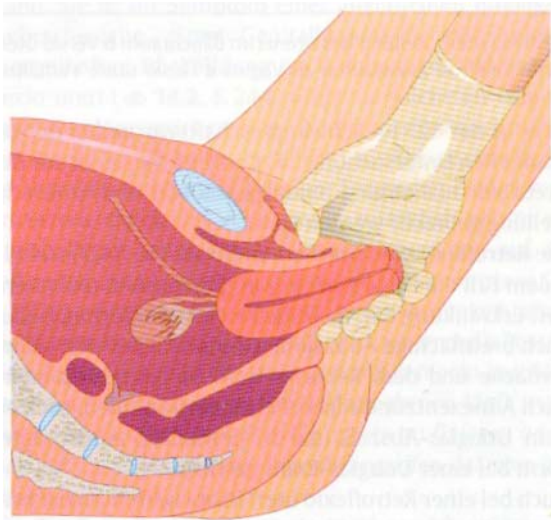
The most intraperitoneal position changes are not a sickness, but are hinted at important changes in the small pelvic (building of tumours, infections, adhesions, weak connecting tissues, inside straining ("tension") etc.).

3.2.4.2. Extraperitoneal position changes

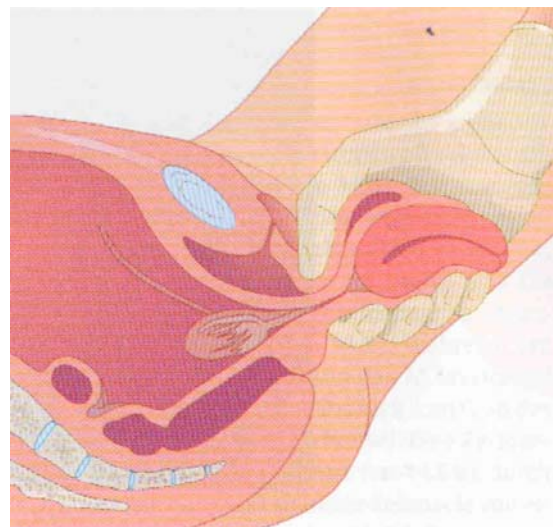
Deszensus and prolaps:

Sinking parts of the inside genitals in the small pelvic deeper as in the equivalent of normal mobility, without coming out of the vulva, is called a deszensus of these organs.

One calls the coming out above the hymen outwardly prolaps or prolapsus. Under partial prolaps one understands the partly under total prolaps the completely coming out of the uterus, for example the vagina before the hymen.



Picture 7



Picture 8

The cause for a descensus and prolaps of the uterus is quite often a combination of three modes of action:

- insufficiency of the pelvic floor
- slacking off of the suspension and strengthening apparatus
- enteroptosis.

3.2.5. Pathology

3.2.5.1. Pelvic Articulations

The bony pelvis is a massive structure requiring powerful ligaments for stabilization. The elasticity of these ligaments is extremely important. Loss of this elasticity (e.g., because of pregnancy, childbirth, trauma,...) prevents anterior flexion of the sacrum, the body compensates for this through increased movement of the intervertebral disca.

A fixed pelvis will adversely affect the mobility of the urogenital organs. A pelvic restriction always changes the normal axes of movement, and redirects intrapelvic pressures.

The muscles and ligaments of the pelvic joints are very reflexogenic, and affect functioning of urogenital structures through hypothalamic stimulation. Fibrosis or other restrictions can prevent the afferent tracts from sending messages to the cortex. Sometimes 1 cm of movement of the sacrum may be the difference between eutocia and dystocia. This demonstrates what an important preventative role osteopathy can play in obstetrics.

3.2.5.2. Intrapelvic Soft Tissues

Soft tissues tend to lose their elasticity through chronic mechanical tension. For example an adhesion of the left uterosacral ligament.

Each time that the woman walks, breathes, has sex, has a full bladder or rectum, is premenstrual, etc., the anterior-posterior movement of the uterus takes place on a modified axis, with a sidebending rotation. Gradually, the uterus rests on its side and compresses its vascular system. It becomes edematous and heavy, pulling on its supporting muscles or connective fibers until they are stretched or damaged. Retroversion, ptosis, or prolaps can easily follow.

A fixed organ tends to pull other organs toward itself. Typically, the sacrogenital folds and uterosacral ligaments contract and the pelvis becomes very painful. If fluid circulation is deficient, the organs are vulnerable to the numerous pathogenic agent which constantly surround them. Urogenital manipulation has aims other than normalization of intrapelvic mobility, it also helps re-establish normal fluid circulation and immune function.

Fibrosis brings about mechanical stretching of nerve fibers, whose chronic stimulation causes the vasomotor and muscular systems to go into spasm. The pelvic ligaments are all contractile and highly interdependent.

Normally movement between the various organs is facilitated by the presence of serous fluid. With inflammatory conditions, the connective organization of fibrinous exudates can actually create capsules, septa, or bands which isolate or encapsulate the organs. Surface adhesions can join the deep side of the ovary to the broad ligaments and edge of the uterus, or join the uterin tube to the base of the ovary.

In women, a relationship between sciatica and the urogenital system is common.

Characteristic signs include:

- Pain in rhythm with the menstrual cycle
- Increase of pain in the premenstrual phase
- A variable Lasegue sign depending of phase of cycle
- Signs of abdominal heaviness or pain
- Paradox sciatica, sometimes accompanied by paresthesia of the thigh
- Haemorrhoid crises in synchrony with sciatica and menstrual cycle
- A positive completed Lasegue sign (improvement through pressure/inhibition on the appropriate urogenital area).

A large herniated disc may be documented by a CT scan, and yet give few or no symptoms. Conversely, we often see people with intensely painful sciatica who have little or no disc disease.

In cases of atypical sciatica, radicular pain is due to some problem with the periradicular venous system. Venous stasis of the epidural (rachidian) veins could, because of contiguity of the foramen, compress and irritate the sciatic nerve roots.

3.3. Ovaries (ovarium)

3.3.1. Structure

The ovaries are about 2,5 - 5 cm long, 1,5 - 3 cm wide, and 0,6 – 1,5 cm thick and lay intraperitoneal. They weigh 5 - 8 grams.

During the menstrual cycle the size and weight change. They lay sideways on the pelvic wall, mostly in the fossa ovarica. When the woman stands, the ovaries hang almost vertical.

The ovaries are connected with the uterus through the lig. ovarii proprium and over the mesovar and the hilus ovarii behind and under the tube with the lig. latum connected and hang lateral and cranial on the lig. suspensorium ovarii that it is also called infundibulum. The infundibulum is the vascular handle of the ovari. It leads the artery ovarica and a venous plexus.

3.3.2. Position and Connections

The position of the ovary depends on the patient's age and activities and can often be linked to symptomatology. Most commonly the ovary is found in the retrouterine cavity, behind the broad ligament. The ovary is posteroinferior to the uterine tube and anterior to the rectum. It is not covered by the visceral peritoneum and is free in the pelvic cavity.

There is a intimate relationship between the ovary and peritoneum, any surgical, traumatical or infectious damage to the peritoneum will adversely affect normal tubo-ovarien physiology.

Differences between the two ovaries:

Problems of the right ovary are often related to the cecum and appendix. The anatomical proximity and connections between these organs make differential diagnosis between them sometimes difficult. With certain problems of the cecum (particularly those caused by poor diet or malposition), the ovary may become inflamed.

Problems of the left ovary are more often related to the reproductive system. This is explained by lymphatic and venous distribution patterns and the position of the cervix (often fixed posteriorly and to the left). In a sexually active woman, such cervical restrictions often provoke pain and congestion of the left ovary.

The obturator nerve crosses over the lateral face of the ovary near its superior pole, and can easily be irritated by malposition problems of the ovary. In young women and nulliparas, the ovary may press directly on the nerve.

To put it in overly simplistic and picturesque terms, one could say about the ovaries (in analogous to the kidneys) that the right one is more “digestive” while the left one is more “genital”.

3.3.3. Mobility

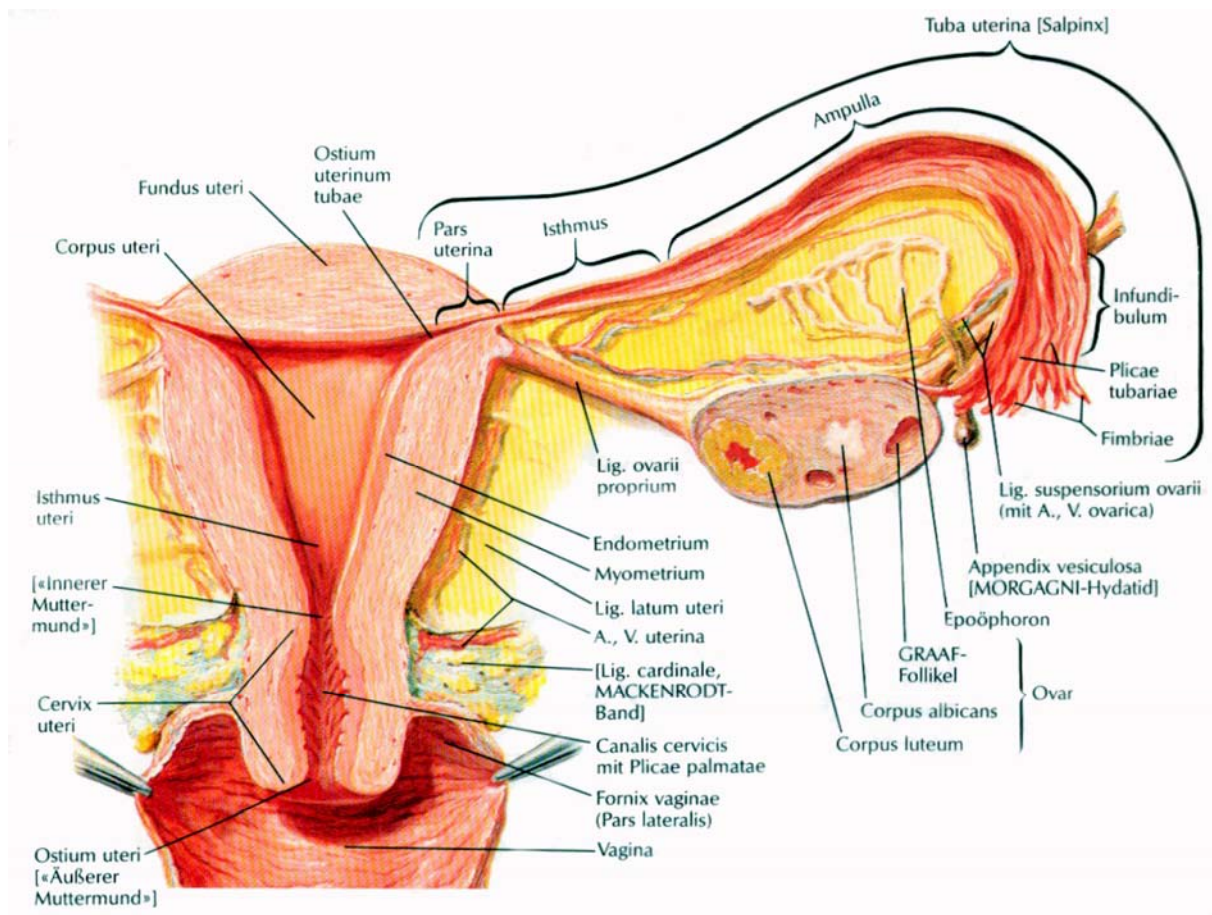
The ovary moves in the same way as a door on its hinges, thanks to the mesovarium and the suspensory ligament of the ovary. Its mobility depends on general, mechanical, digestive, and hormonal factors. The ovary follows uterine mobility.

3.4. Fallopian tube (tuba uterine)

3.4.1. Construction

The tubes extend to both sides from the cranial lateral corner of the corpus uteri, the angle of the tube, downwards. They are enclosed by the peritoneum and pass in the cranial edge of the broad ligament. The tubes end in medial with narrow lumen in the cavum uteri (ostium uterinum) and lateral under a funnel like opening, free in the abdominal cavity (ostium-abdominale). The average size is 11 - 14 cm long. It can be divided into three longitudinal parts:

- Isthmus
- Ampulla
- Infundibulum with fimbriae



Picture 9

Like by all intraabdominal hollow organ the wall of the tubes are made out of mucosa, submucosa, muscularis, and serosa. The tube epithelium is one layer, cubical to cylindrical epithel that partly glitter and partly secrete. The glitter power is directed back to the uterus.

3.4.2. Position and Connection

The uterine tube is located in the superior wing of the broad ligament, between the ovary posteriorly and the round ligament anteriorly. Medially it is related to the small intestine, bladder and rectum (when full). Laterally it is related to the iliac vessels, ureter, small intestine, sigmoid and sometimes the rectum.

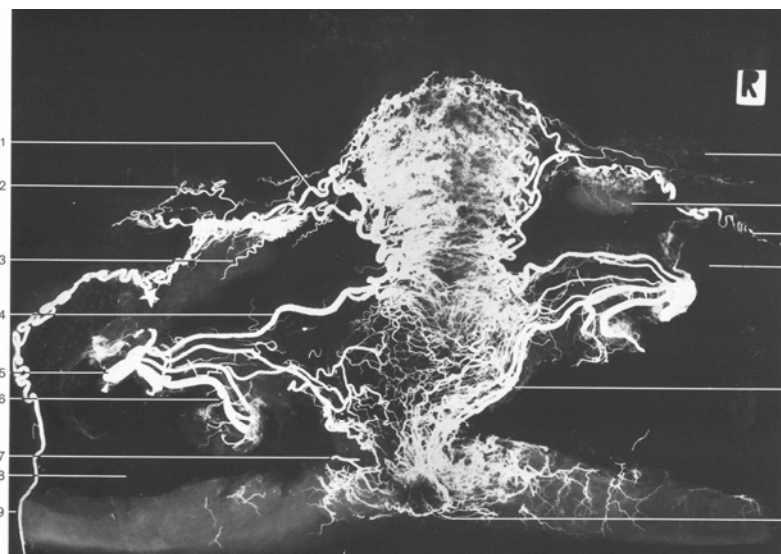
Good tubo-ovarian physiology requires that:

- There exists a liquid intratubal current
- The cilia are moving
- The uterine tubes communicate with the peritoneum (a single tubal spasm is enough to disturb tubal circulation)
- The ovary and uterine tubes are mobile
- Neurohormonal adjustments are correct.

3.5. Vascular supply and innervation

The course of the veins near the genital organs is spiral which enables the needed enlargement during pregnancy.

Arteries	Veins	Nerves
A. uterina	V. uterina	Plexus hypogastricus inferior
A. ovarica	V. ovarica	



1. R. ovaricus der A. Uterina
2. R. Tubarius der A. Ovarica
3. R. Ovaricus der A. Ovarica
4. A. Uterina
5. A. Iliaca int.
6. A. Glutealis inf.
7. A. Pudende int.
8. Lig. Teres uteri
9. A. Ovarica
10. A. Vaginalis
11. Ostium vaginae
12. Infundibulum tubae uterinae
13. Ovarium
14. Fundus uteri
15. Tuba uterina

Picture 10

3.6. Adhesions and scars

(for the following chapters see Serge Paoletti, 2001)

3.6.1. Scars

After an injury the healing process starts. There is an increased amount of elastin and collagenous fibres in the area of the injured tissue for a complete recovery or healing. It is often that these scars are the reason for interferences and for pathological changes in the area and cause for irritation. They can cause deformities to occur, which causes interruption of the mechanical and physiological flow of the body.

The irritation through a scar is a factor of disturbance of the tissue and causes it to tense, which causes plasticity and elasticity changes on this place. Because of this, sooner or later a long time interruption of the fascial mechanic occurs.

When the scar is in the abdominal area, the neighbouring organs are also influenced because of the constant tension and irritation the organs lose their mobility and get more fixed. The limitation of mobility can cause a malfunction of the organ, that can under circumstances develop a real sickness.

3.6.2. Adhesions

Growths count for the most often cause of tissue diseases. They can be the result from scarring, inflammations, infection, irritation or a stronger pressure on a certain body part. They especially develop easily in the abdominal area. Adhesions have about the same affect as scars do. In some cases unstretchable fibres build up between organs. That starts another vicious circle from hypomobility, dysfunction and possibly disease.

3.6.3. Influence on the inner female sex organs

Certain abdominal scars, because of their effect on the peritoneum and reciprocal membranous/visceral tension, disturb tubo-ovarian mobility. Uterine twisting or scarring may diminish or close the peritoneal ostium and thereby interfere with suction and tubal fluid pushing and pumping.

Adhesions and scars can occur on either the broad ligaments or their posterior wings, decreasing and disturbing the motion of the ovary in the pelvic cavity.

Restrictions of the uterine tubes and ovaries press these organs against each other, particularly in cases of sequelae and salpingitis. This can block the fimbriae or even collapse the canal. Sexually transmitted diseases and abortions can lead to tubal adhesions.

Finally, reduction or loss of mobility in the sexual organs can affect pelvic circulation and fertility.

4. Sexual hormones

(for the following chapter see: Pfeleiderer, Breckwoldt, Martius, 2000)

4.1. Neuroendocrine regulation of the sexual hormones

Higher centres like cerebral cortex, limbic system and formation reticularis are effecting, in a modulating way the synthesis of the Gonadotropic releasing hormone (GnRH) in the hypothalamus (especially in the nucleus arcuatus). GnRH is coming to the adenohipophysis (anterior pituitary) over the hypophysial portal system.

Under the stimulation of GnRH the gonadotropic hormones FSH (follicular stimulating hormone) and LH (luteinizing hormone) are synthetised and set free.

FSH and LH regulate with special receptors the cyclic ovarial function und so the maturation of the egg cell as well as the synthesis and set free of estrogen and progesterone.

The ovar is signalling to the hypophysis when reaching a special threshold of estrogen concentration that the follicular maturation is finished on what the hypophysis is setting free bigger amounts of LH and FSH. This midcyclic peak releases the ovulation.

Very important is that if this sudden increase of LH is missing or is it too low, there will be no ovulation and therefore it also will not come to pregnancy.

Another hypophysial hormone is prolactine. Its secretion is inhibited with dopamine. Estradiol and Thyroliberin promote its secretion. So interferences of thyroid function can affect the functional circle of the ovaries.

4.2. Ovarian steroid hormone synthesis

The ovarian steroid hormones are separated in three groups:

- Gestagenic hormone (prototype: progesterone)
- Androgenic hormone (prototype: testosterone)
- Estrogenic hormone (prototype: estradiol)

4.2.1. Gestagenic hormone

The most efficient gestagenic hormone is the progesterone. First of all it will be secreted during the corpus luteum part of the menstruation cycle. The main function of this hormone is to prepare the genital system for the uptake and the maturation of the conceived egg cell and keep on pregnancy.

4.2.2. Androgenic hormone

They promote the development of the male sexual signs. The production of the testosterone is going only half part at the ovaries and suprarenal cortex. The rest is built in the liver and subcutaneous fat.

4.2.3. Estrogenic hormone

Estrogens are important for the development of the female sexual signs. Places of production are the ovaries, the placenta, the suprarenal cortex.

Effects of the estrogen:

- Ovar: Promotes the follicular and egg maturation.
- Uterus: Promotes the proliferation of the uterus mucosa and increases the contraction of the uterus musculature.
- Vagina: Leads to thicken the mucosa and to a more often rejection of glycogen epithelial cells. The glycogen allows a higher production of milk acid through the Döderlein bacillus that brings the PH value in the vagina to 3,5 - 5,5 and diminish the danger of infection.
- Cervix: A very important barrier for the sperms to get into the uterus is the orifice of the uterus with a cervical mucous plug. Estrogene is changing the consistence of this mucousis especially at the term of ovulation so that the "walking-tour" of the sperms is promoted and they also live longer.
- Insemination: Estrogene regulates the speed of the egg cell through the tube and prepare the sperm (in the female organism) to get into the egg.
(Barral, 1993)

5. Methods

5.1. Type of study

It was decided to use a “within subject design”, as special form of “repeated measure design”.

The major advantage of the repeated measure design is the ability to control for the potential influence of individual differences. It is a fairly safe assumption that important subject characteristics such as age, sex, motivation, and intelligence will remain constant throughout the course of an experiment. Therefore, differences observed among treatment conditions are more likely to reflect treatment effects, and not variability between subjects.

Using subjects as their own control provides the most equivalent “comparison group” possible.

It was very difficult for me to decide, which type of study I should choose. I think it is very important to have in mind the **ethical issues** in clinical research and the **protection of human rights** in clinical research.

The primary professional purpose in conducting clinical research is to document the effectiveness and efficiency of treatment intervention. The patients are therefore the sine qua non of our research activities. Commitment to the protection of their rights and dignity must be inherent in the design of any clinical research project.

Research with human subjects requires adherence to three basic principles: **Autonomy** of each individual, **beneficence** and **justice**.

So it was not possible for me to take a control group of women, who want to get pregnant but must not do anything for it.

5.2. Criterion

Treatment of 10 women between the ages of 25 - 40 years who have failed to conceive after a minimum of 16 months during which intercourse has been frequent and unprotected.

These women are expected to demonstrate all of the following:

- They are familiar with their menstrual cycle
- They have never given birth
- They have had no hormonal treatment or IVF
- The fallopian tubes are confirmed to be intact and open
- Male infertility has been excluded

Excluded medical diagnosis:

- Tumor (anywhere in the body)
- Present inflammation and infection in the urogenital system
- Present problem with the suprarenal cortex and the thyroid gland
- Hypophysial insufficiency
- Diabetes mellitus

5.3. Methodical construction of practical parts

Each woman received the following treatment:

- Treatment 1 and 2 within the first month of treatment.
- Treatment within the first part of the individual menstrual cycle on a four week cycle for six months.
- There was no treatment, either osteopathic or otherwise, for the next three months.

For example:

Treatment	Cycle	Day
1	1	12
2	1	26
3	2	11
4	3	13
5	4	12
6	5	13
7	6	11
Then 3 months without any treatment.		

5.3.1. Clinical controls

1. Precise recording of the menstrual cycle
2. Regular recording of the cycle temperature
3. Control of the ovulation with LH-strips, using them up from the 10th day of the menstrual cycle

With this clinical controls I want to proof if

- There is a regular cycle of 28 days +/- 3 days
- There is an increase of the basal body temperature
- There is a release of LH

5.3.1.1. Precise recording of the menstrual cycle

Precise recording of the beginning, the process and the end of the menstrual on a special constructed recording sheet (Appendix 10.3.).

5.3.1.2. Regular documentation of the cycle temperature

The women have to take their temperature immediately after waking up in the morning or had a sleep not shorter than 6 hours (e.g.: when a woman is a nurse and is on night duty).

It is the very first action that happens in the morning also before they go to the toilet.

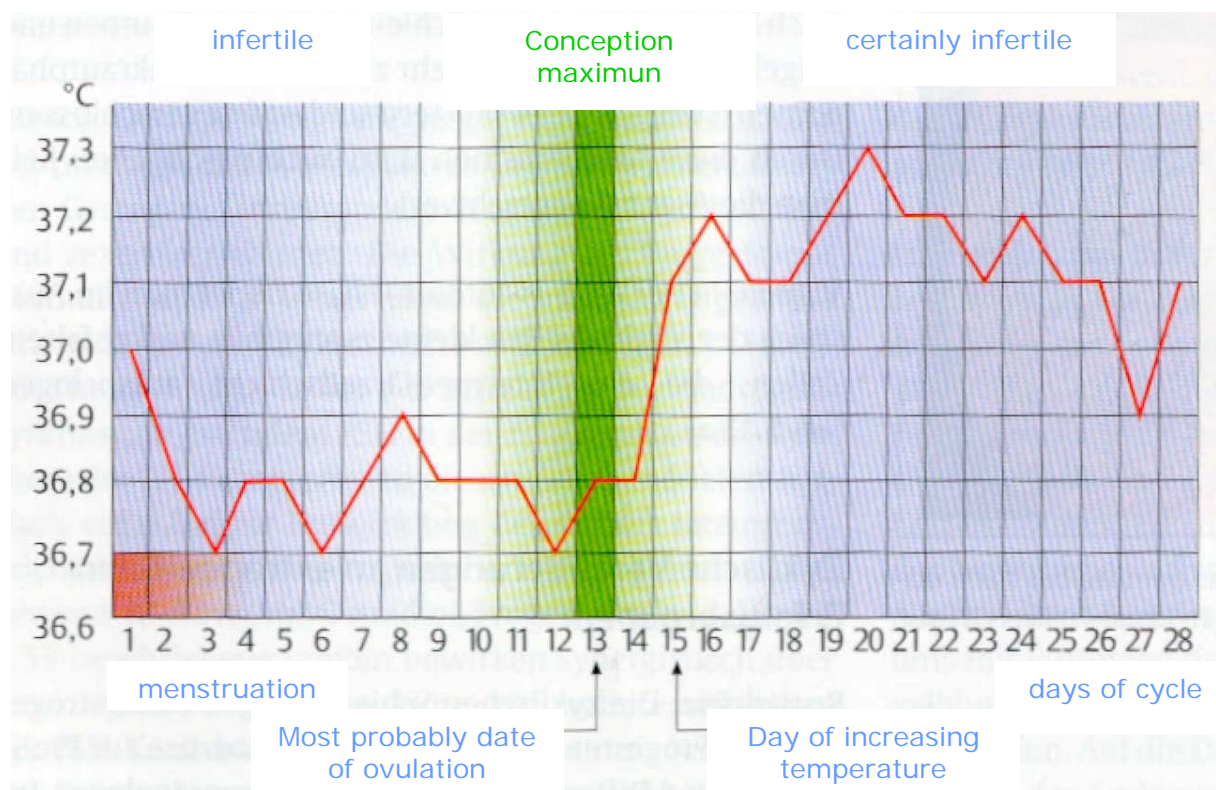
They take the temperature vaginal because this taking is very exact and they use a mercurial thermometer.

The women take their temperature for three months.

The basal body temperature curve takes a characteristic biphasic course:

During the proliferative phase there exists a constant temperature of 36,5°C.

Under the influence of progesterone the basal body temperature increases of 0,4 - 0,6°C. This mostly happens 1 - 2 days after the ovulation.



Picture 11

5.3.1.3. Control of the ovulation with LH-strips

The women use them for six months up from the 10th day of the cycle until the LH-strip is positive.

For this test, the women use a “Just in Time”-LH ovulation test, that proof the luteinizing hormone in the urine. They should do this test always at the same time in the morning.

A packing of this test consists of a pipette and a test-card. Each packing is just for one usage.

Carrying out:

The women take any urine with the pipette and put five drops of it on a special window of the test. They have to wait 5 - 8 minutes for the result. Then they have to compare the intensity of the colour of the test-line (T-line) with that from the control-line (C-line).



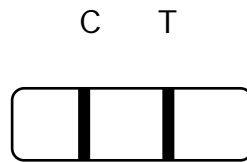
Picture 12

Test result:

The T-line is as strong (or nearly as strong) as the C-line, the increase of the LH happens.



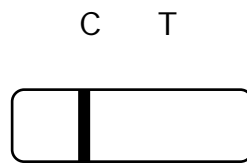
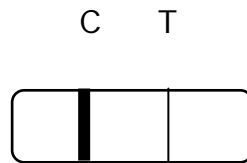
Picture 13



The T-line is weaker as the C-line or even not existing, the LH increase did not happen yet.



Picture 14



5.4. Osteopathic result

5.4.1. First questionnaire

I get the initial and important information from a questionnaire, which is completed at the beginning of the project with the case history.

The first questionnaire consists of 32 questions covering different areas (Appendix 10.1.)

5.4.2. Osteopathic examination

This followed the following procedure on all patients at every consultation:

- Observation
- Palpation
- Structural evaluation
- Visceral evaluation
- Cranial evaluation

I want to mention all that points of my examination which were very important for me:

- Posture in a standing position
- Fascial tension in a standing position (general listening)
- Fascial tension in a supine position (local listening)
- Forward bending test in a standing and sitting position
- Diaphragm: pelvis and urogenitalis, thoracic, thoracic outlet, sellae, subtalare
- Pelvis
- Limbs

- Visceral: Mobility and Motility of the organs in the abdominal and urogenital area
- Connection between: Pubis, urinary bladder, uterus, rectum, sacrum and coccygis
- Cranial:
 - SSB: Compression, adaptation
 - Os sphenoid, Os occiput (+ intraossea)
 - Tentorium, Falx, Dura,
 - Sacrum, Sacrum-Occiput
- Manual thermodiagnostic (MTD)
- Vitality and quality of the tissues

All these information lead me to the osteopathic diagnosis and to the osteopathic treatment.

5.4.3. Completion questionnaire

This questionnaire consists of 11 questions which duplicates 7 of the questions included in the first questionnaire.

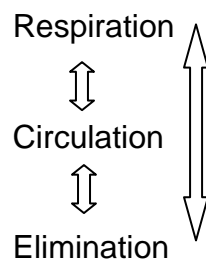
Both questionnaires considered psychosocial and nutritional habits and these aspects are considered in this work.

5.5. Osteopathic treatment

5.5.1. Type of treatment

I act the treatment according to the demand and need of the patient. The problem of infertility is very complex so I did not decide to use only a special technique but decided to do a general osteopathic treatment with the following focus:

- Local stimulation of the pelvic organs:
Mobility-Motility
- Hormonal system:
 - Cranial: SSB, Sphenoid, Selle turcica, Tentorium
 - Thyroid gland: Increasing of the vascularisation with the following focus: C6, A. thyroidea inf. (origin: A. subclavia) and A. thyroidea sup. (origin: A. carotis)
 - Ovary
 - Suprarenal cortex
 - Pituitary
- Respiration – Circulation – Elimination:



- Working on the central midline

I wanted to use Osteopathy in the sense of A. T. Still as a philosophy and treatment that addresses the whole human body with consideration towards the precept of structure governing function.

5.5.2. Effects of manipulation

The effects of manipulation are very complex but nevertheless they lead me to the aim of my study: **The start of pregnancy!** The most important effects are considered below.

Local effects (these are relatively specific):

- Release adhesions and restore a certain degree of elasticity to tissues
- Restore normal physiology of organs
- Improve mobility and sliding of organs
- Promote fluid circulation (arterial, venous, lymphatic and local)
- Free mechanical constraints on nerve fibers
- Reinforce tonus of perineal sphincters
- Restore normal motility and stimulate contractile structures
- Exert a local nervous reflex effect on tubular peristalsis
- Reinforce local muscular tonus
- Free osteoarticular joints
- Ease pelvic pain
- Normalize local glandular secretions

General effects:

Urogenital manipulation has a wide variety of consequences. It can effect:

- The hypothalamic-pituitary axis
- Immunological system
- The general well-being

(Barral, 1993)

Women often suffer from pain in the pelvic. Pain which can be caused by inflammation, scares, traumas, surgery, multiple infections...

Often these causes lead to a changing of the position of the uterus and also effect its attachments and the general well-being.

The most intraperitoneal position changes are not a sickness, but are hinted at important changes in the small pelvic.

With osteopathic examination and treatment it is possible to recognize and influence it.

There is one interesting thing:

Even when I can eliminate or greatly reduce pain symptoms, radiography would show no change in organ position.

Effective osteopathic manipulation typically restores normal mobility of restricted organs or supporting structures and only rarely causes a change in position.

So we can say that pain is caused not by improper position of an organ, but by its restriction.

The difference between radiographic and clinical results comes from the fact that structures rediscover their mobility rather than their position. This fact brings about numerous reactions from the organism.

By all the effects of manipulation it is important to regard the human body as a functioning whole and not imagine that you can treat one part of it in isolation.

The human body is an inter-related functioning unit.

6. Statistical Evaluation and Results

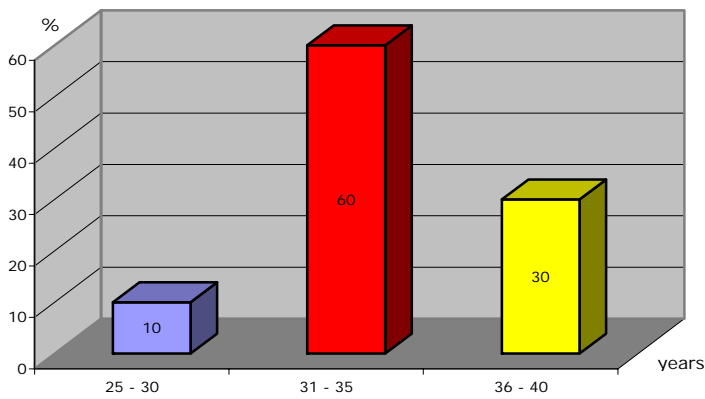
6.1. First Questionnaire

- 60 % of the involved women were between 31 and 35 years old at the time of examination.
- 90 % of them were in a very good or good healthy condition.
- The nicotine, alcohol and coffee consumption and also the nutrition habits did not show any particularity.
- The stress situation in the profession is very marked. 80 % of the women called it strong. In opposition to this 90 % call the private stress situation little to middle.
- 40 % of the women allege that they have problems in different areas, especially circulation, elimination and tiredness.
- 50 % have pain in the cervical and lumbar spine.
- 30 % of the women took vitamin and mineral preparations for a longer period of time in the last five years.
- 90 % of the women had any surgery! They mostly happened in the gynaecological area.
- The average duration of the wish for a child is 3,3 years.
- 90 % of the women had a regular menstrual cycle.
- 40 % of the women had an abortion. 50 % of them had already two abortions.
- 90 % of the women used the pill for contraception. 45 % of them took the pill between 6 and 10 years.
- 10 % of the women had an inflammation of the vagina.
- 90 % of the women had a surgery in the urogenital system and more than the half happened in the uterus.
- 60 % had sexual intercourse twice a week.

- 100 % of the women had investigations concerning their problem of infertility. All of them had an examination to find out if the fallopian tubes are intact.
- Also the husband/partner of all women has been checked.

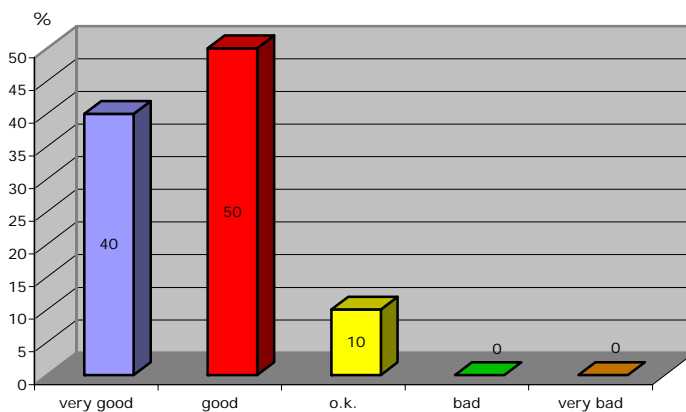
6.1.1. Diagrams First Questionnaire

Age of the participating women:



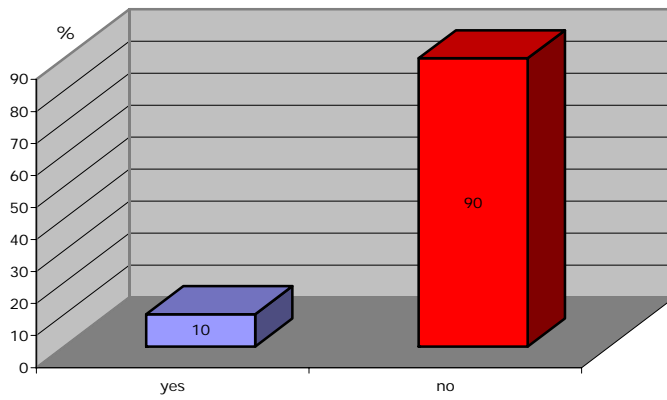
1. How would you describe your general health status?

- very good
 good
 o.k.
 bad
 very bad



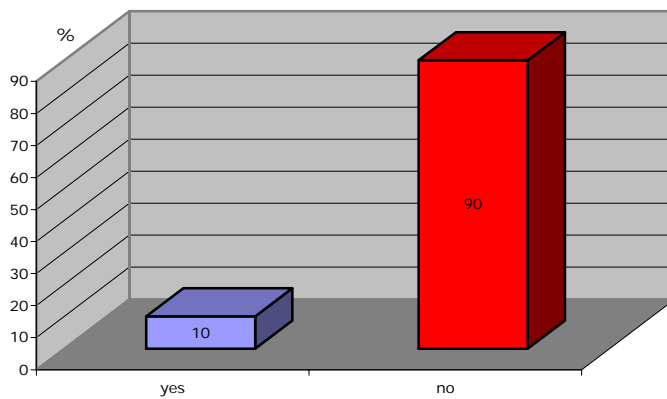
2. Do you smoke?

no yes



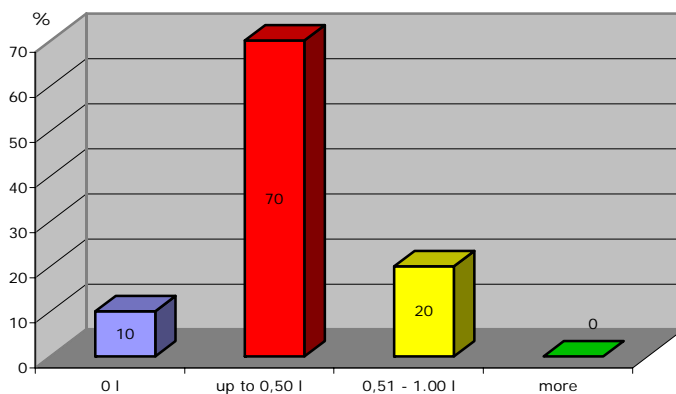
3. Have you ever smoked?

no yes for how long? _____
when did you stop? _____



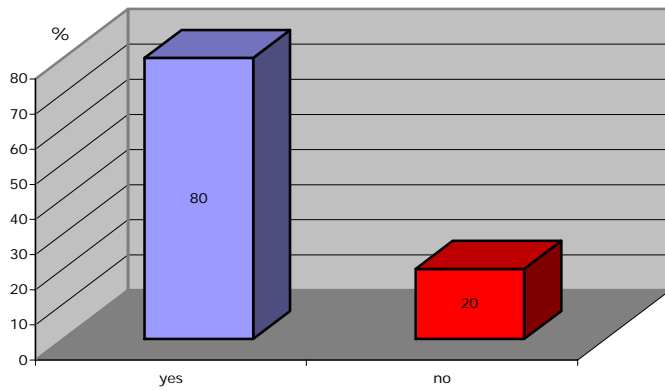
4. How much alcohol do you drink per week?

no yes

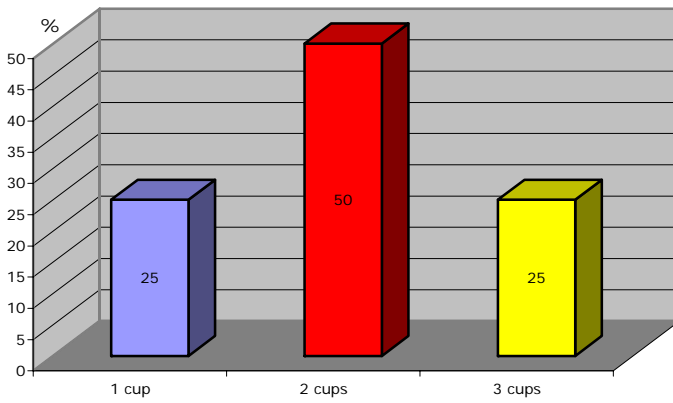


5. Do you drink coffee regularly?

no yes

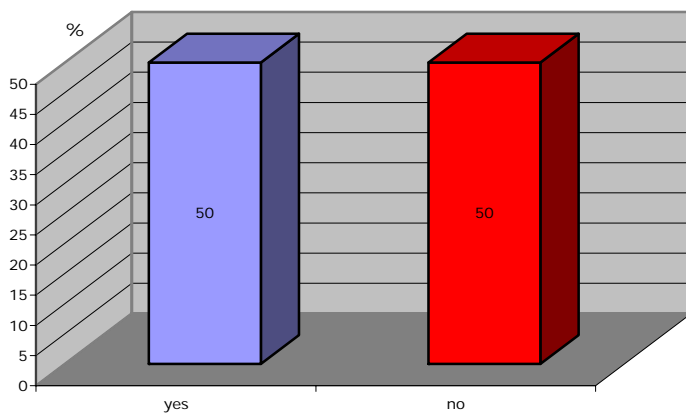


How much per day? _____



6. Is there any food you never eat?

no yes



Which? (multiple naming possible)

milk

meat

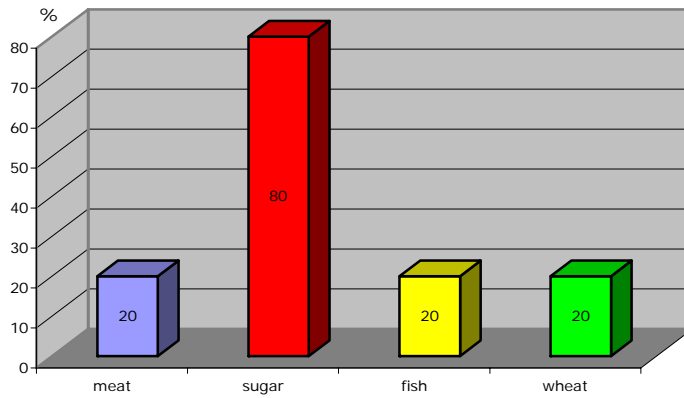
fruit

vegetable

sugar

fish

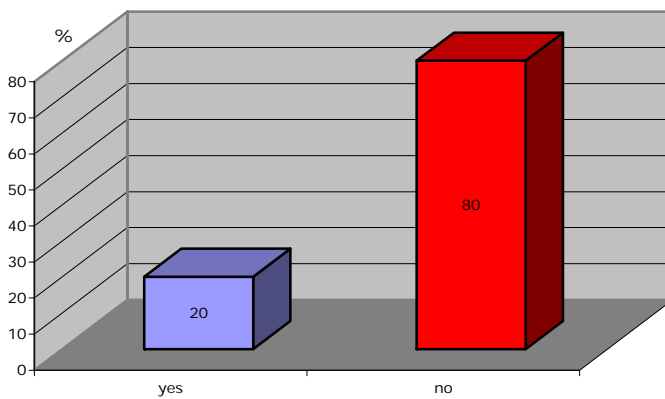
wheat



7. Have you either lost or gained weight very quickly in the last five years?

no

yes

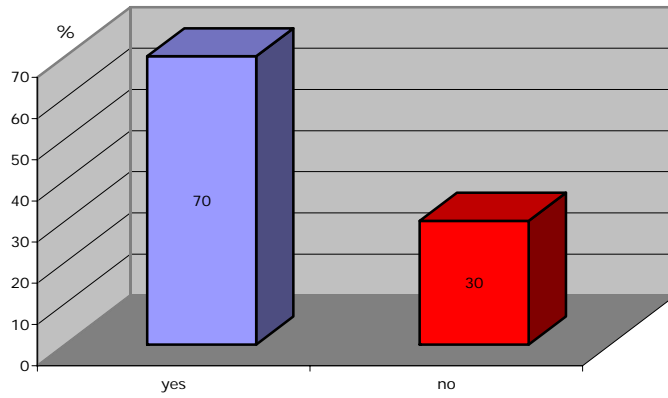


8. Do you practice sports regularly?

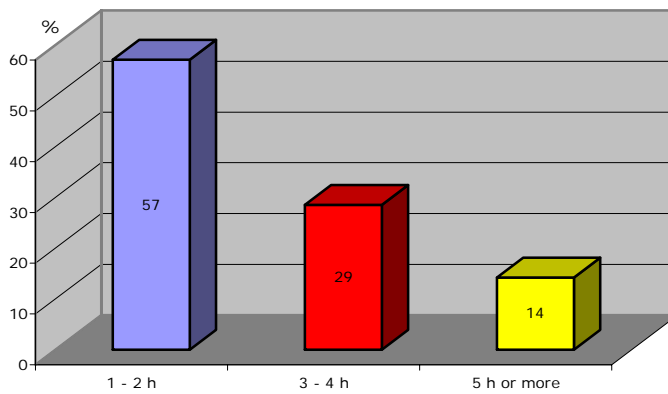
no

yes

which kind of sports? _____



How long per week?



9. How would you describe the stress levels in your work environment?

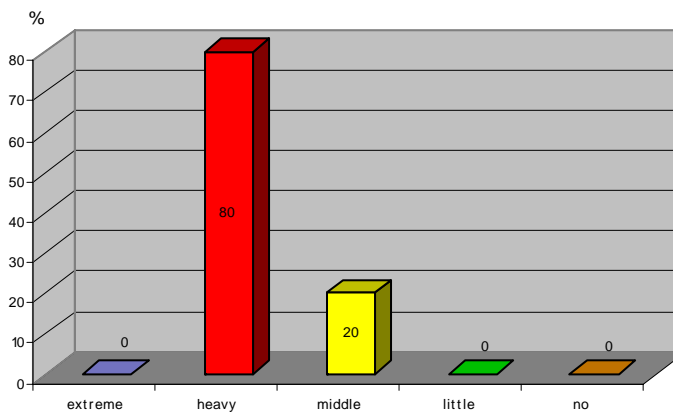
extreme

heavy

middle

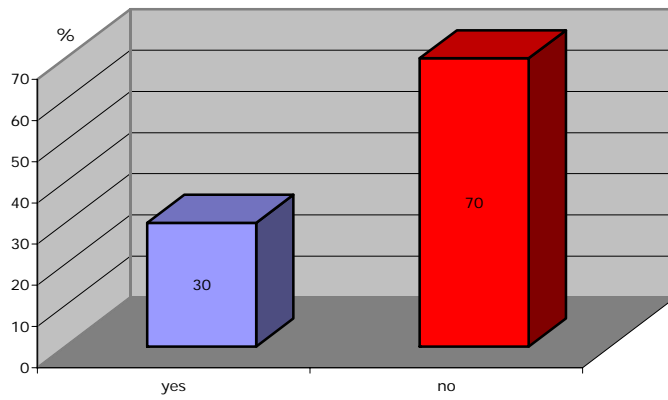
little

no



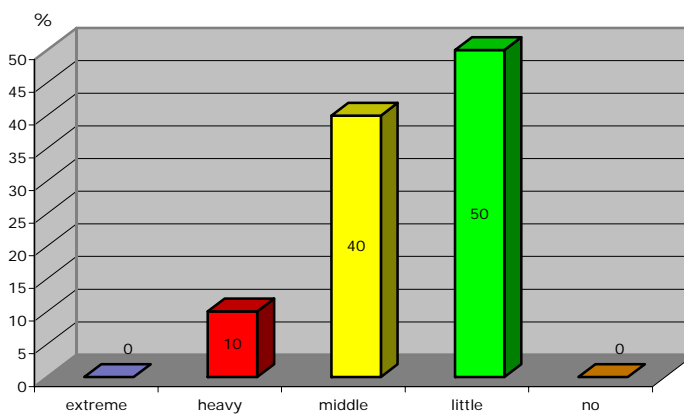
10. How would you describe your work?

sedentary active



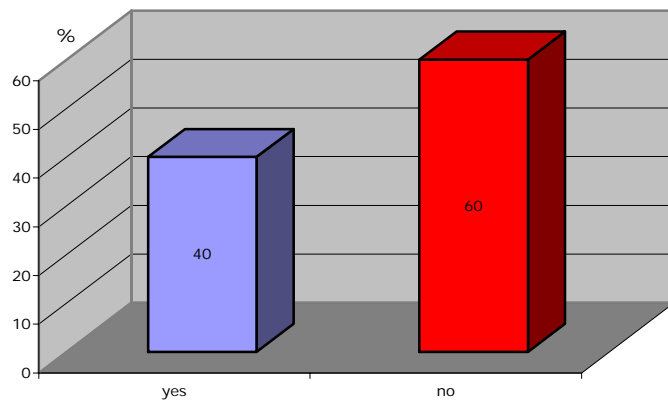
11. How would you describe the stress levels in your private life?

extreme heavy middle little no



12. Are there any problems in the following systems?

yes no



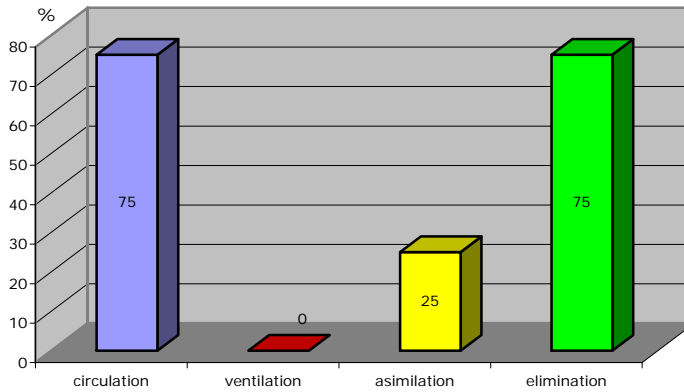
Which? (multiple naming possible)

circulation e.g.: cold hands and feet...

ventilation e.g.: shortness of breath...

assimilation e.g.: flatulence, indigestion...

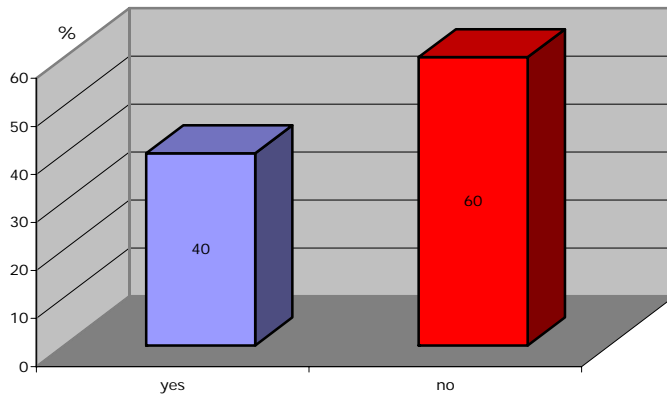
elimination e.g.: obstruction, diarrhoea...



13. Do you have any of the following problems?

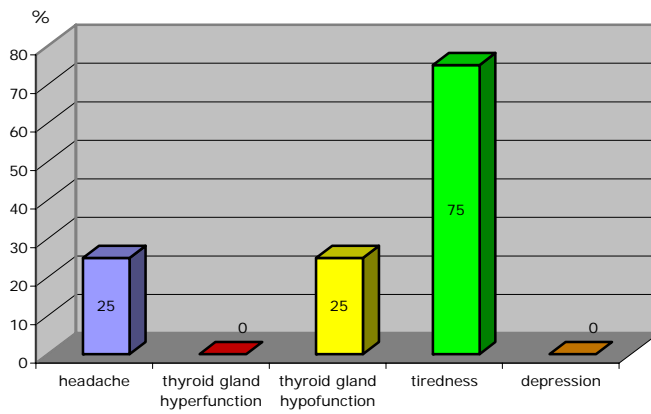
yes

no



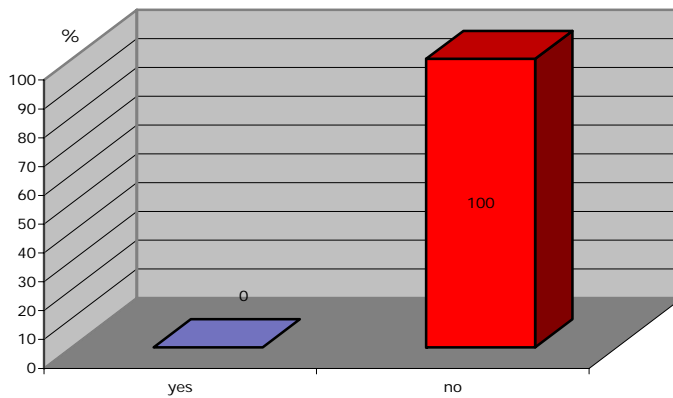
Which? (multiple naming possible)

- headache
- thyroid gland hyperfunction
- thyroid gland hypofunction
- tiredness
- depression



14. Do you have pain in the abdominal area?

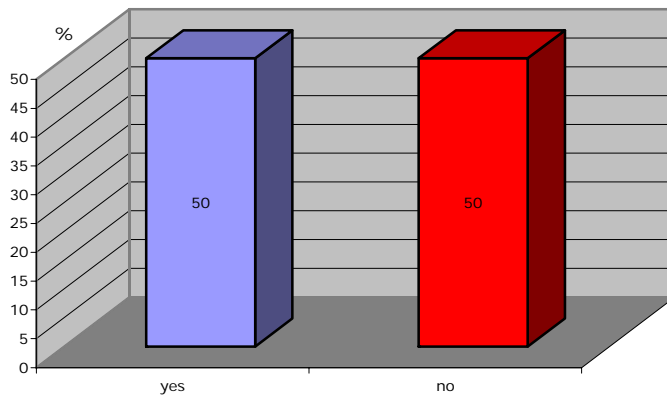
- yes
- no



15. Do you have pain in the dorsal spine?

yes

no

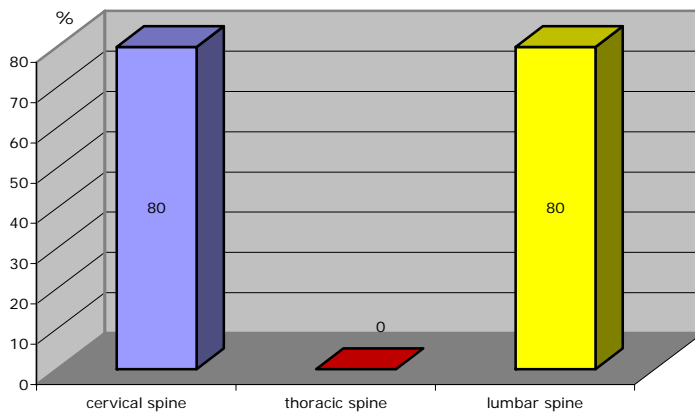


Where? (multiple naming possible)

cervical spine

thoracic spine

lumbar spine

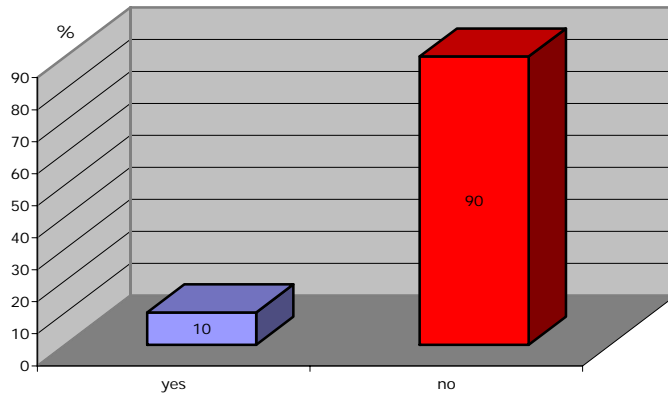


16. Do you have pain musculoskeletal system?

yes

no

where? _____

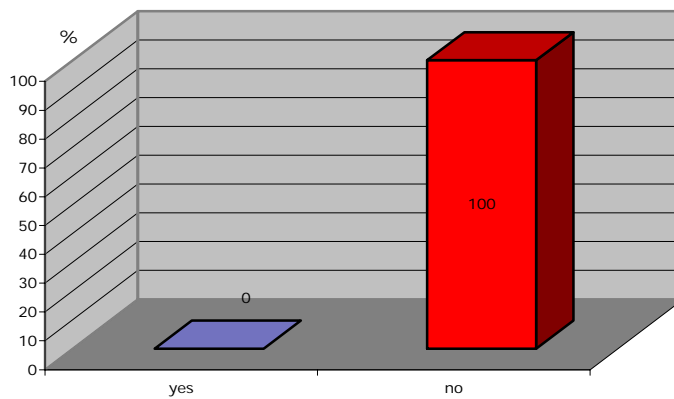


17. Do you take any medication?

no

yes

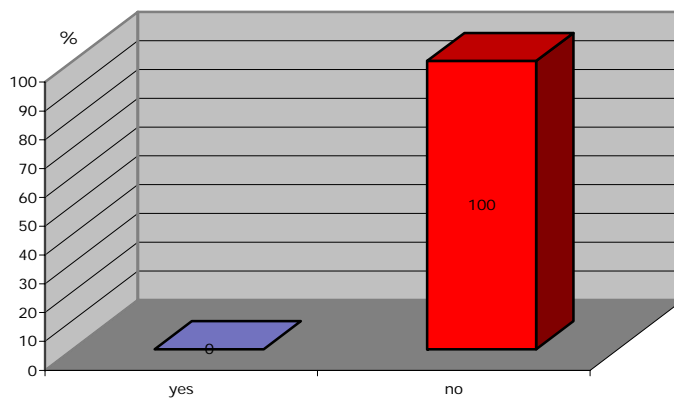
which? _____



18. Have you taken any long courses of drugs over the last five years?

no

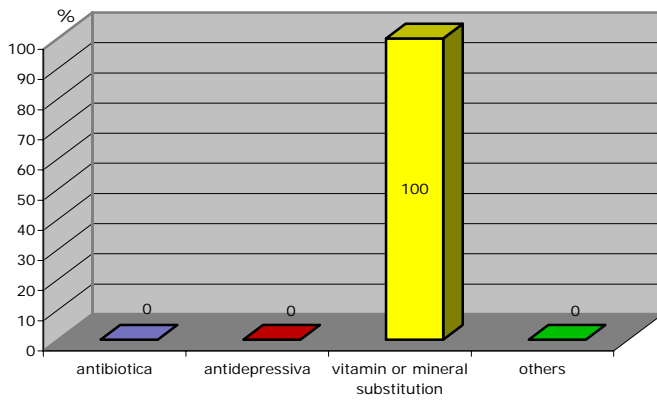
yes



Which? (multiple naming possible)

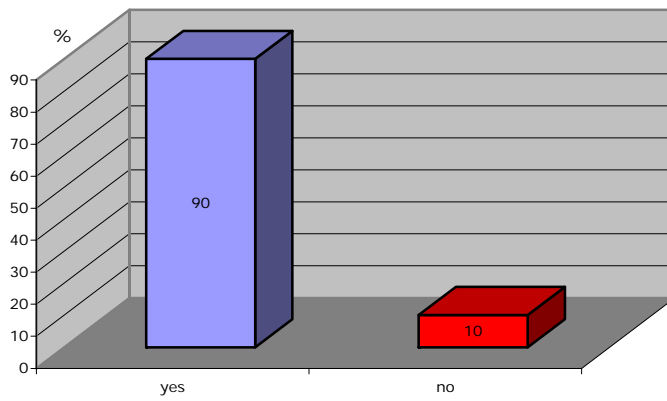
- antibiotica
- antidepressiva
- vitamin or mineral substitution
- others

for how long?

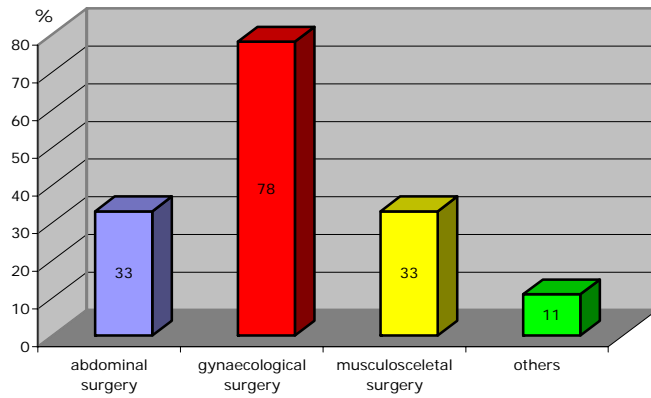


19. Have you had any surgery?

- no
- yes



Please describe the type of surgery and the reasons:
 (multiple naming possible)



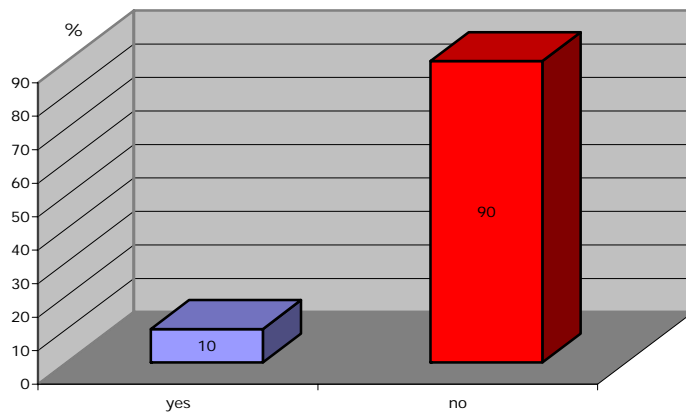
20. Have you had any serious illness?

no

yes

what?

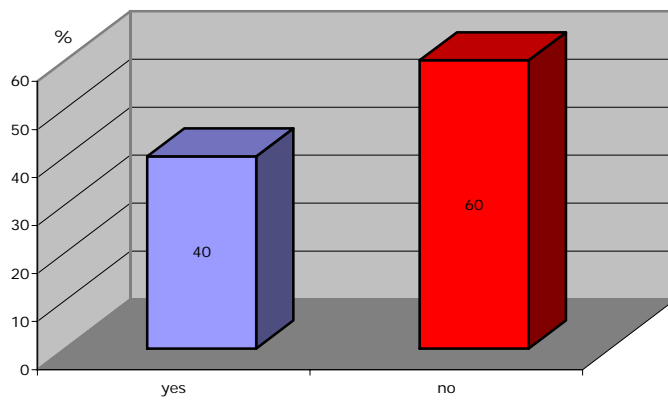
when?



21. Have you had any accidents or injuries?

yes

no



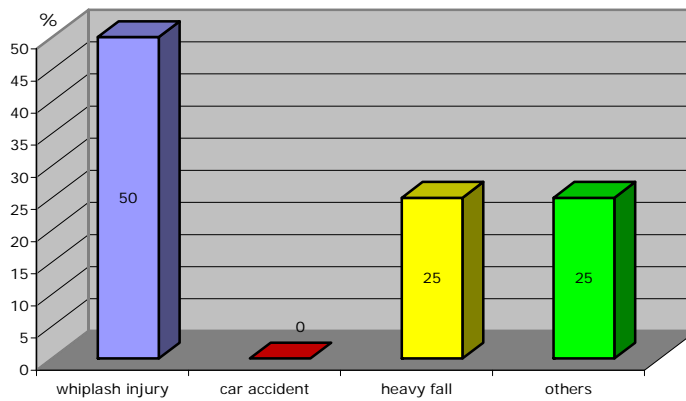
Which? (multiple naming possible)

whiplash injury

car accident

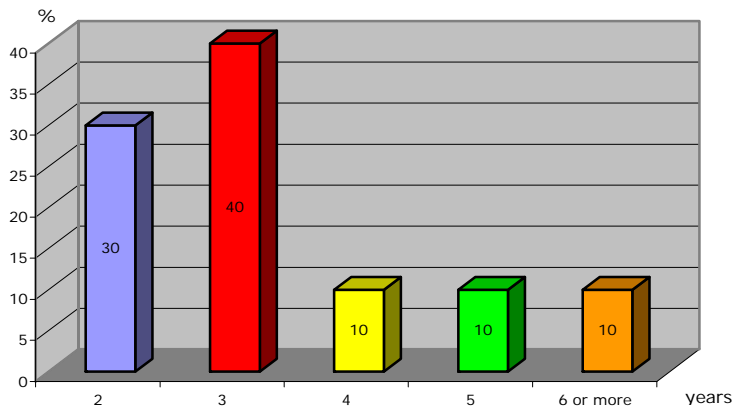
heavy fall

others _____



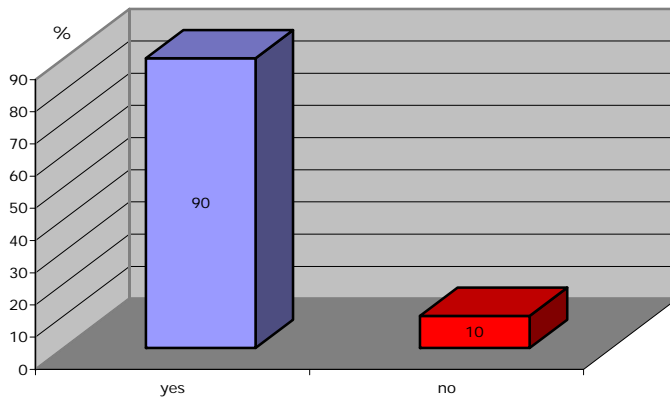
22. How long have you been trying to fall pregnant?

- 2 years
- 3 years
- 4 years
- 5 years
- 6 years or more



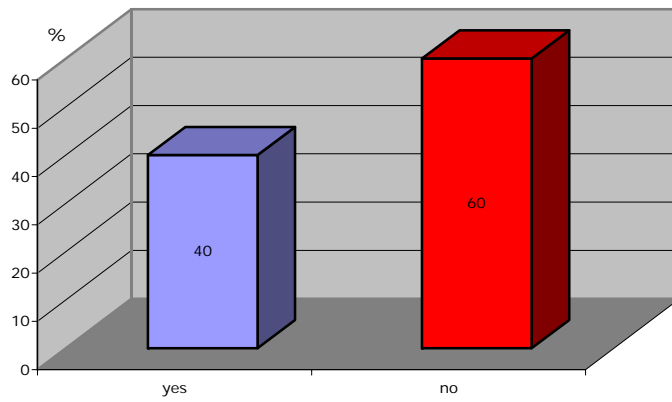
23. Do you have a regular cycle of menstruation between 26 and 32 days?

- yes
- no

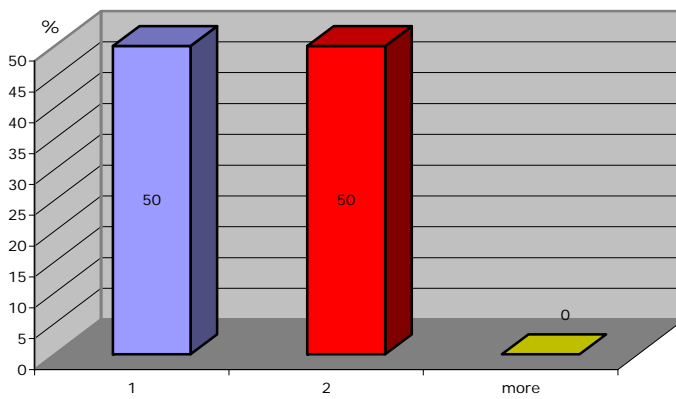


24. Have you ever had an abortion?

no yes



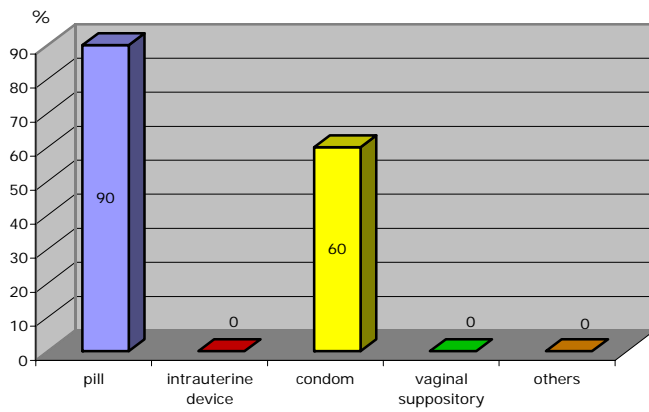
How many? 1
 2
 more



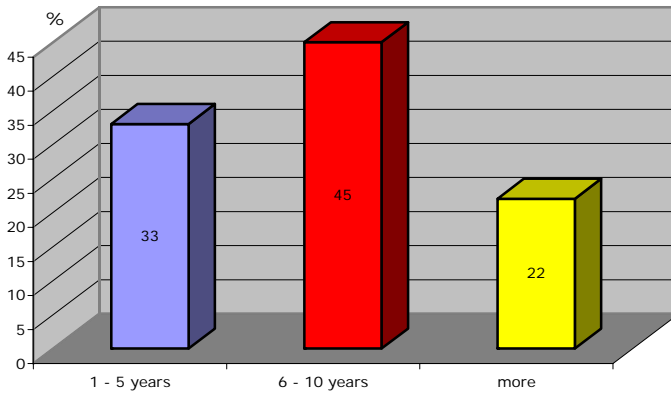
25. Which kind of contraception did you use?

(multiple naming possible)

- pill
- intrauterine device
- condom
- vaginal suppository
- others _____



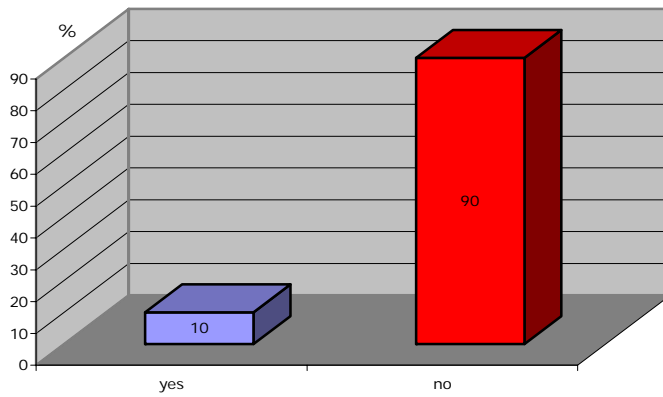
For how long?



26. Have you had any inflammation in the urogenital system?

yes

no



Which? (multiple naming possible)

ovary

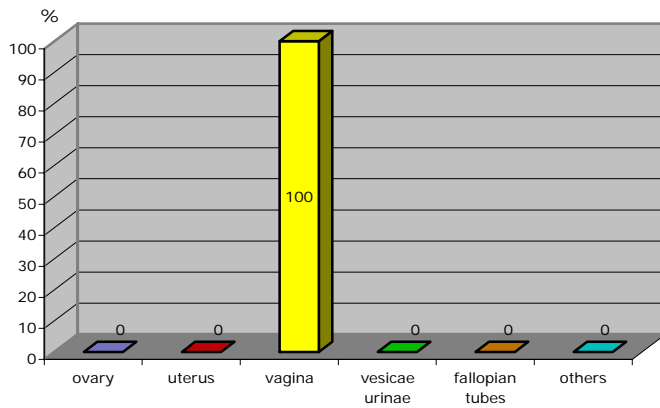
vesicae urinae

uterus

fallopian tubes

vagina

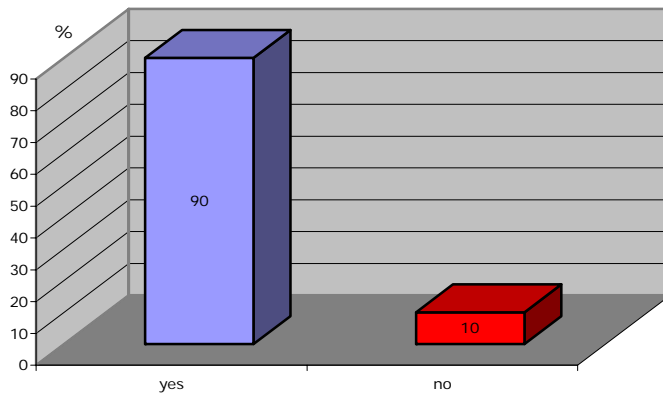
others _____



27. Have you ever had any surgery in the urogenital system?

yes

no



Which? (multiple naming possible)

ovary

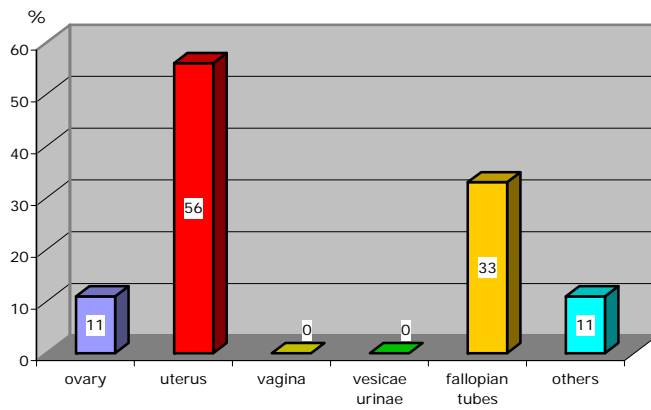
uterus

vagina

vesicae urinae

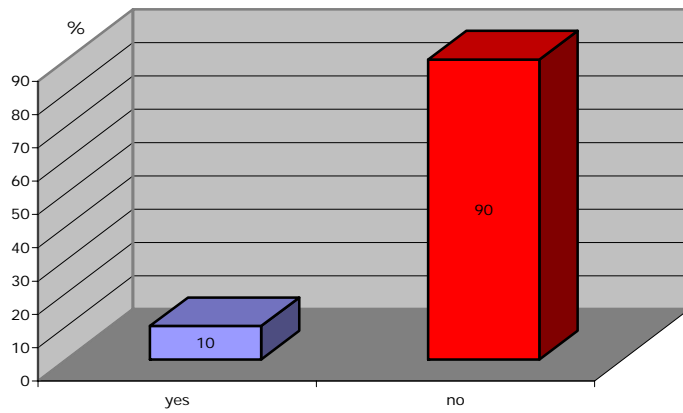
fallopian tubes

others _____



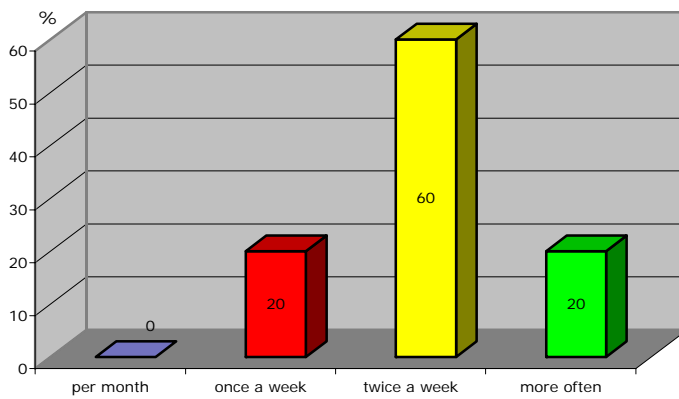
28. Do / Did you have any abnormal discharge?

- yes no



29. How often do you have sexual intercourse ?

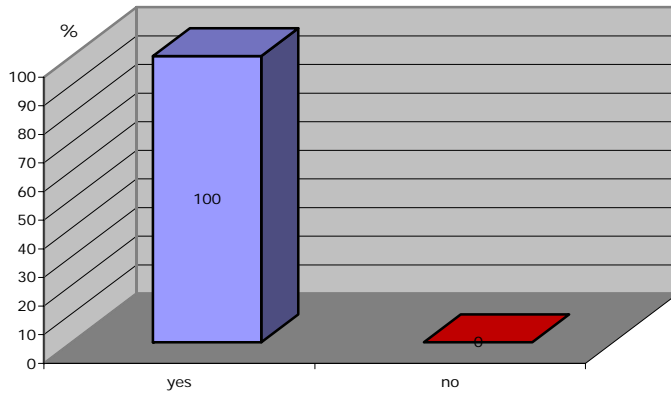
- per month
 once a week
 twice a week
 more often



30. Did you do any investigations to find out why you had not been able to conceive?

yes

no



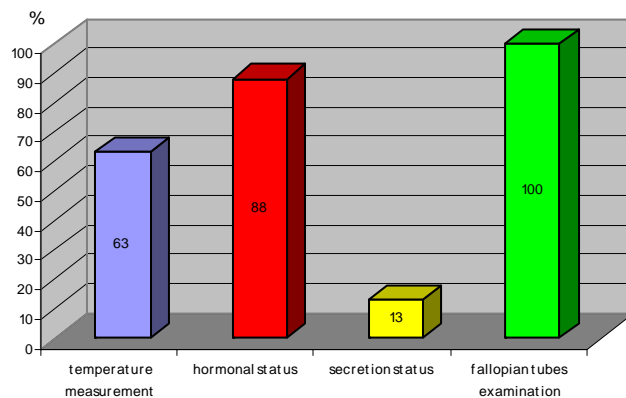
Which? (multiple naming possible)

temperature measurement

hormonal status

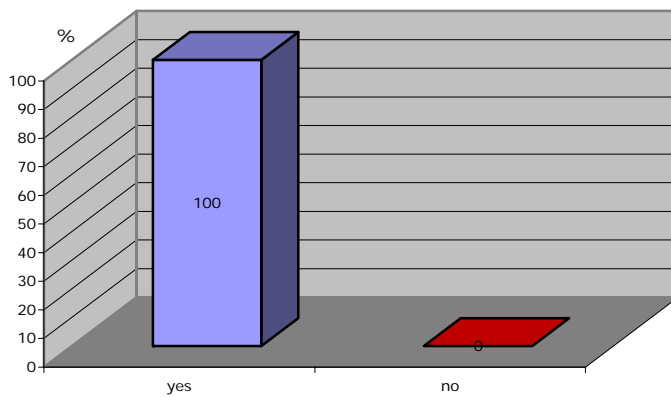
secretion status

examination if the fallopian tubes are intact



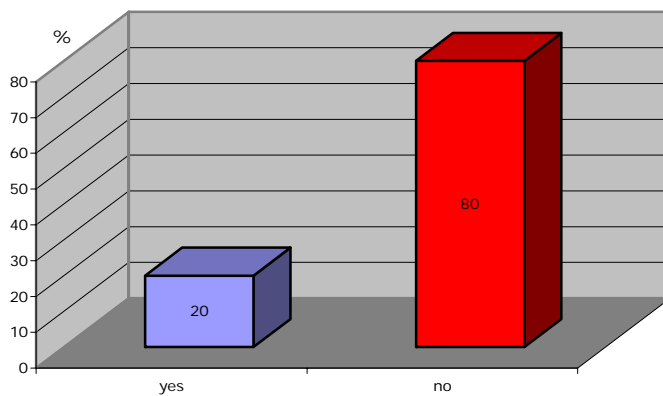
31. Has your husband / partner been checked?

yes no



32. Do you see any other special reason, why you cannot get pregnant?

yes no



6.2. Completion Questionnaire

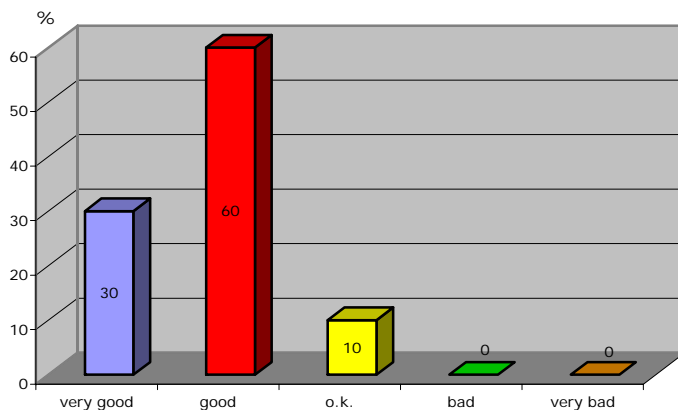
- The general health status was very good to good on 90 % of the women.
- 40 % called their stress situation in the profession strong. The private stress is called strong at 30 %, middle at 30 % and little also at 30 %.
- At the question if there exist problems in the different areas, 30 % stated that they have problems and the focal point was the elimination.

- 60 % had the problem of tiredness.
- The question if they became pregnant in the last nine months was answered with YES by 70 % of the women!
 - 43 % became pregnant within one month after treatment
 - 43 % after 1 to 3 months after beginning treatment
 - 14 % after 3 to 6 months after beginning treatment
- All of the women who did not become pregnant had a regular menstrual cycle.
- 100 % of the women felt benefit from having osteopathic treatment. They saw the main reason for that in the comfortable kind of treatment.
- 100 % of the women would recommend osteopathy to a friend who is trying to conceive.

6.2.1. Diagrams Completion Questionnaire

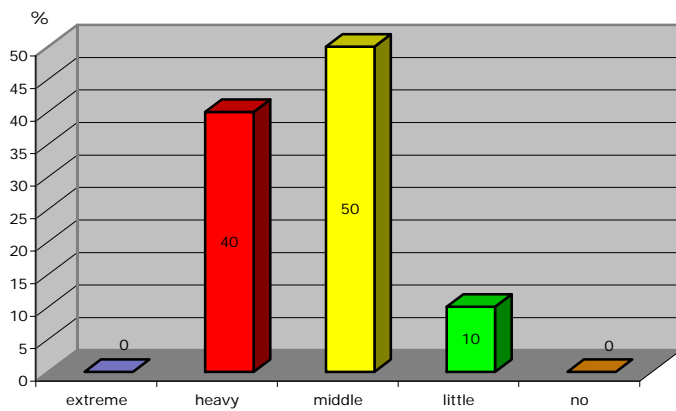
1. How would you describe your general health status?

very good good o.k. bad very bad



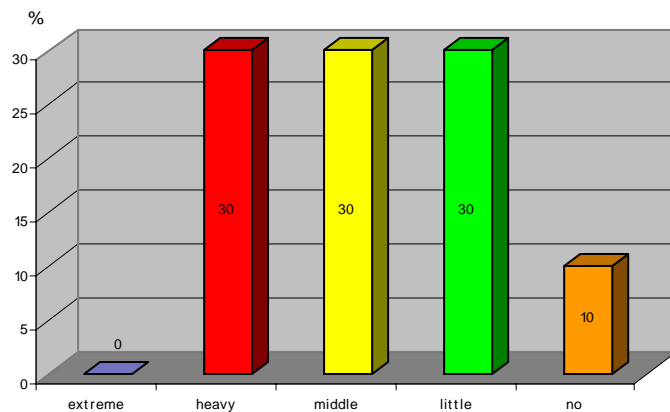
2. How would you describe the stress levels in your work environment?

extreme heavy middle little no



3. How would you describe the stress levels in your private life?

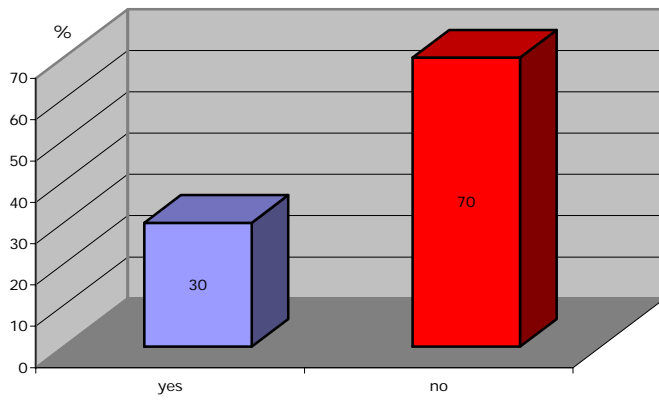
extreme heavy middle little no



4. Are there any problems in the following systems?

yes

no



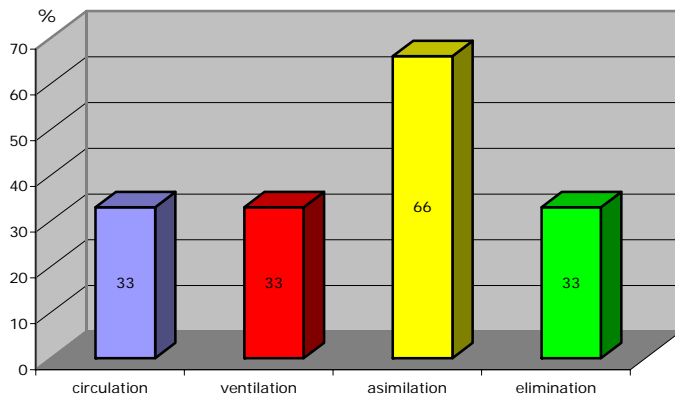
Which? (multiple naming possible)

Circulation e.g.: cold hand and feet ...

Ventilation e.g.: shortness of breath ...

Asimilation e.g.: flatulence, indigestion

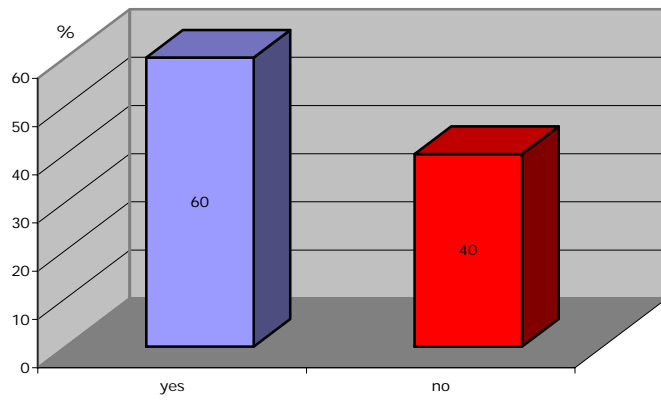
Elimination e.g.: obstruction, diarrhoea



5. Do you have any of the following problems?

yes

no



Which? (multiple naming possible)

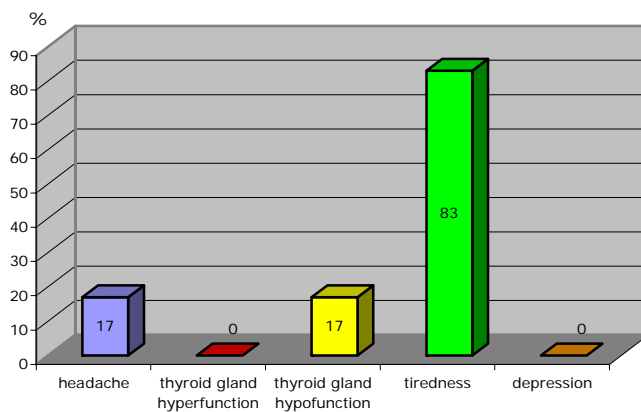
headache

thyroid gland hyperfunction

thyroid gland hypofunction

tiredness

depression

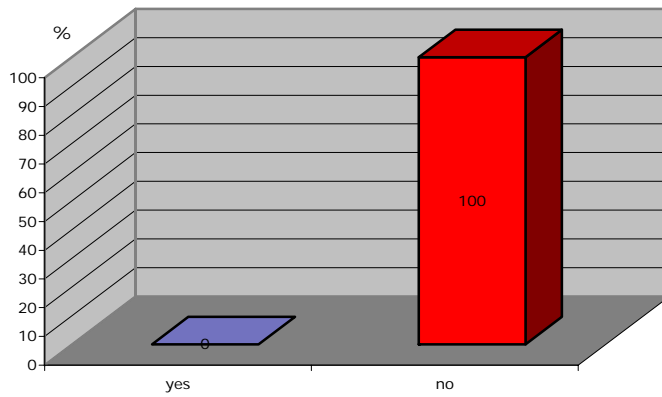


6. Do you take any medication?

no

yes

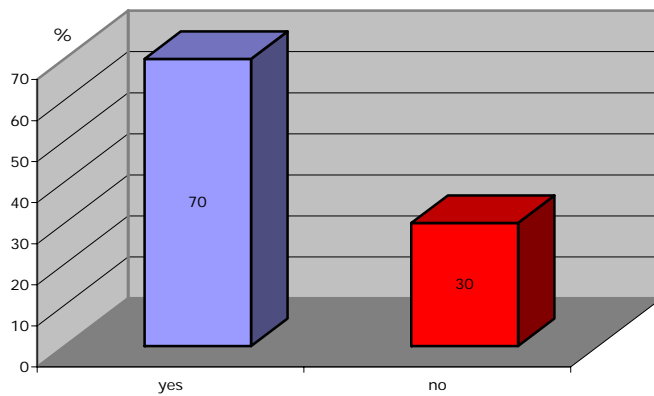
which? _____



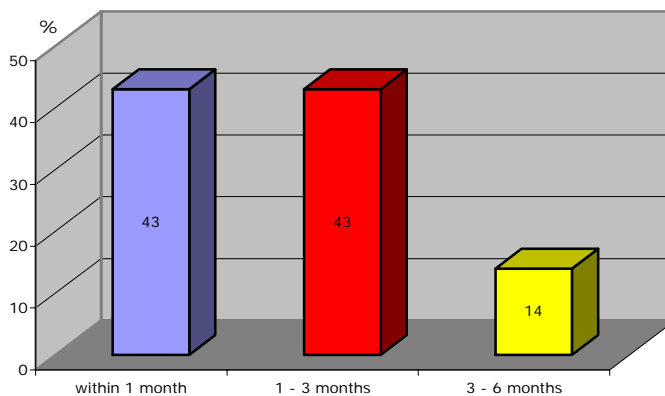
7. Have you conceived within the last 9 months?

yes

no



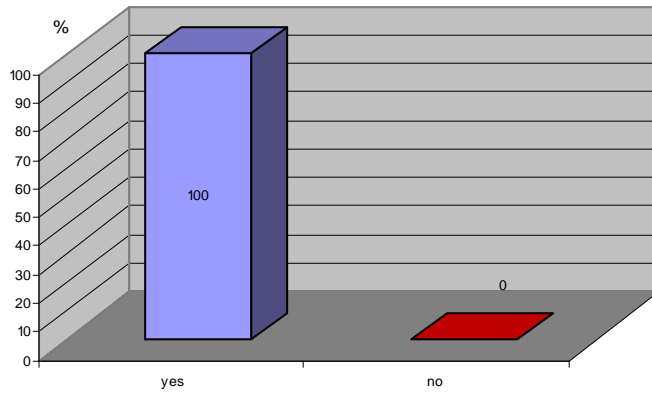
8. How long after osteopathic treatments did you conceive?



9. If you have not conceived, is your menstruation cycle regular (between 26 – 32 days)?

yes

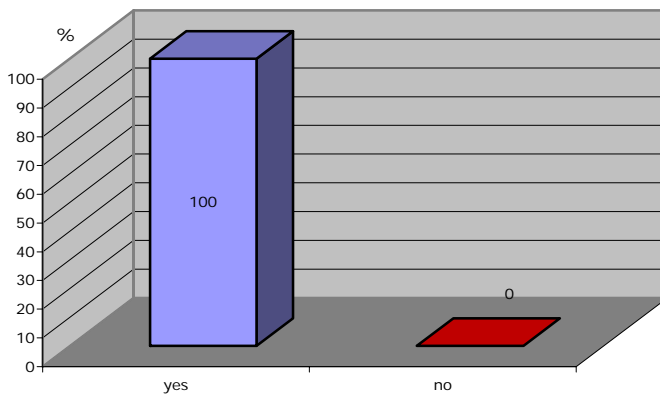
no



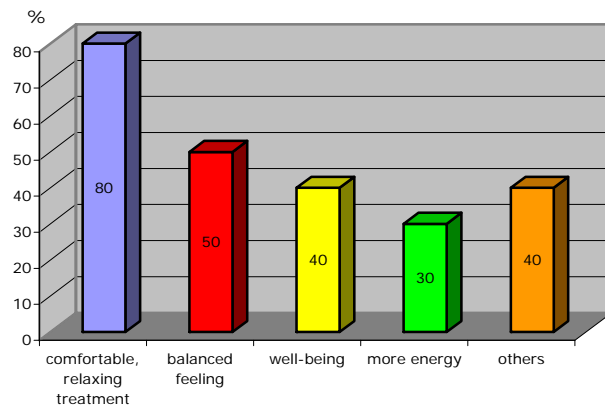
10. Did you feel benefit from having osteopathic treatments?

yes

no



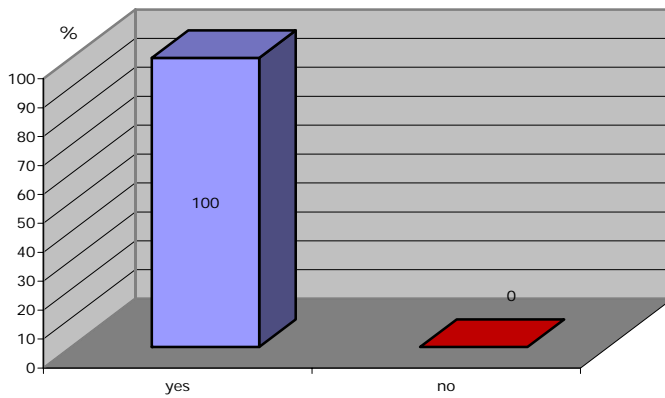
Please comment on the changes / benefits you feel:
(multiple naming possible)



11. Would you recommend osteopathy to a friend who is try to conceive?

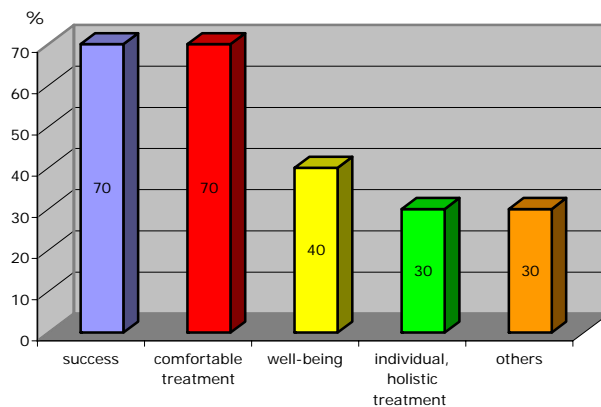
yes

no



Why: _____

(multiple naming possible)



6.3. Comparison First Questionnaire and Completion Questionnaire

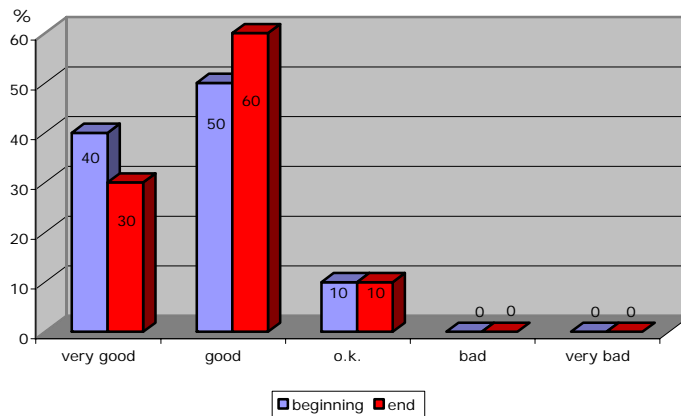
- 90 % of the women called their general health status at the beginning and at the end of the treatment as very good or good.
- It is interesting to see the change of the maximum of stress:
80 % called their stress in the profession strong, 40 % called it strong at the end of the treatment.
- A change in the private stress situation is also recognizable:
50 % called the private stress little at the beginning and only 10 % strong. At the completion questionnaire 30 % called the private stress situation strong, 30 % middle and 30 % little. It is necessary to have in mind that 70 % became pregnant.
- The problems in the area of circulation, assimilation and elimination have been reduced from 30 % to 10 %. The focus point changed. The main problem was the elimination and some women had a problem with the ventilation.

- At the beginning 40 % of the women stated to have problems in different areas. Compared to the end of the treatment 60 % of the women had problems there. The tiredness is dominating. The headache and the thyroid hypofunction were reduced.

6.3.1. Diagrams

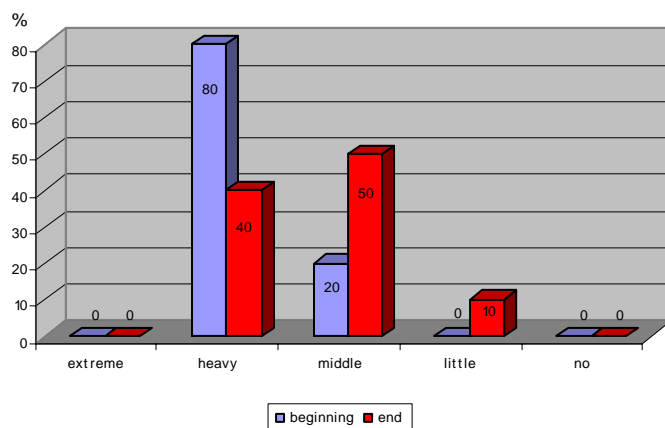
1. How would you describe your general health status?

very good good o.k. bad very bad



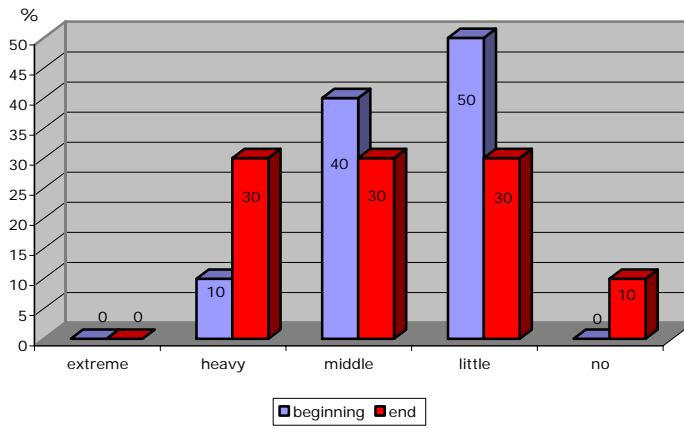
2. How would you describe the stress levels in your work environment?

extreme heavy middle little no



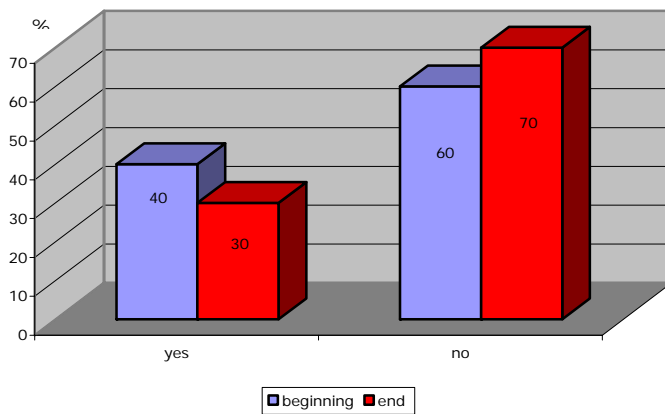
3. How would you describe the stress levels in your private life?

extreme heavy middle little no



4. Are there any problems in the following systems?

yes no



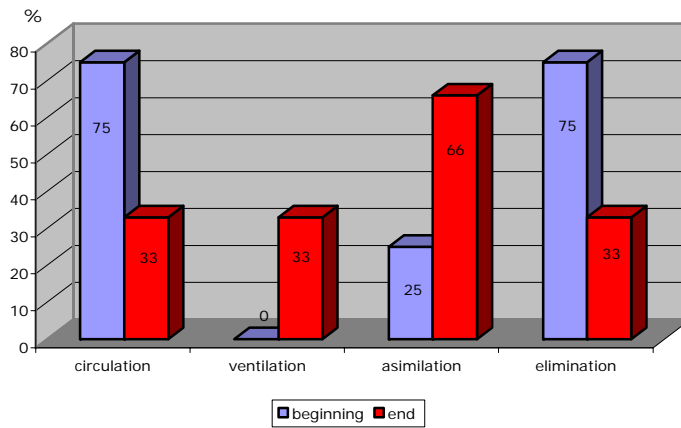
Which? (multiple naming possible)

Circulation e.g.: cold hand and feet ...

Ventilation e.g.: shortness of breath ...

Asimilation e.g.: flatulence, indigestion

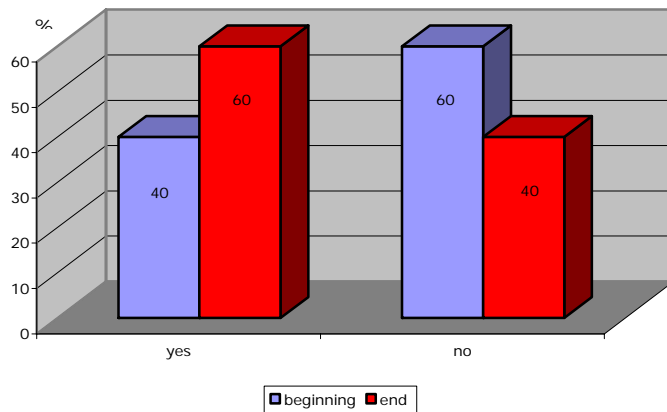
Elimination e.g.: obstruction, diarrhoea



5. Do you have any of the following problems?

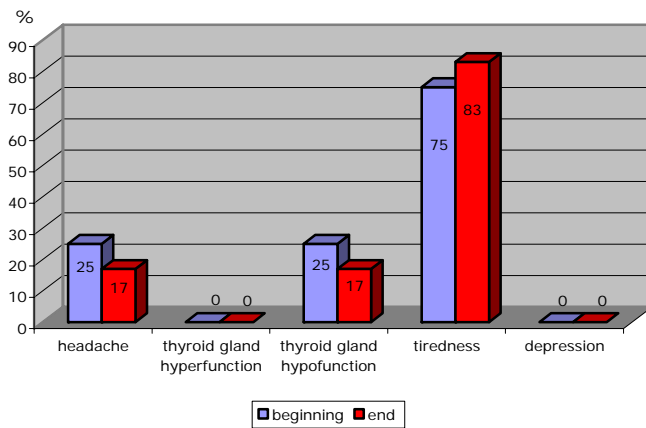
yes

no



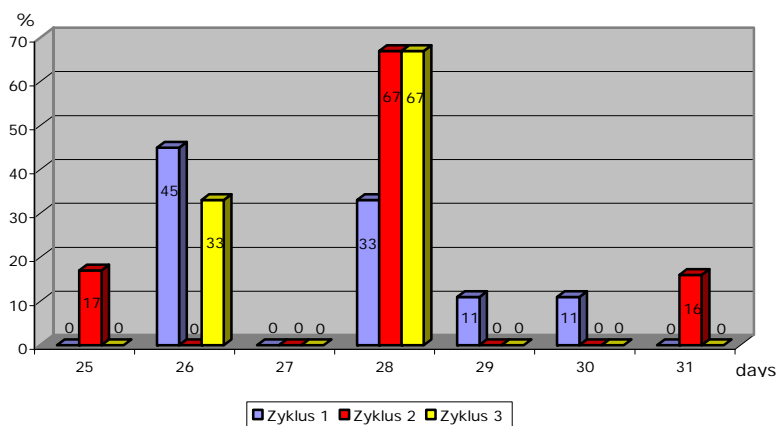
Which? (multiple naming possible)

- headache
- thyroid gland hyperfunction
- thyroid gland hypofunction
- tiredness
- depression



6.4. Duration of the menstrual cycle

It is interesting to see that the second and third cycle lasted 28 days at 67 % of the women.



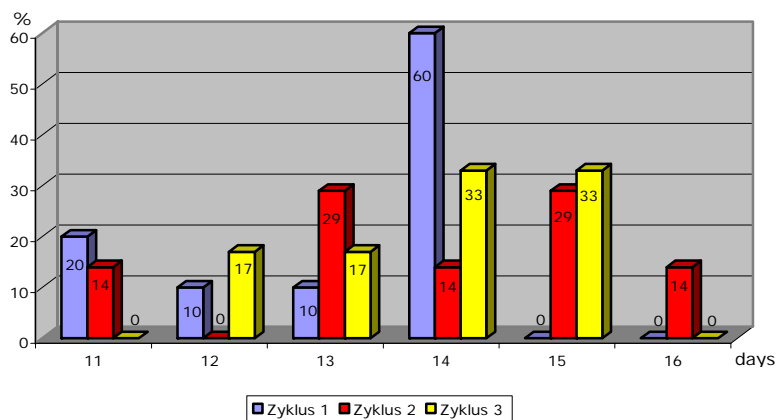
6.5. LH-Test

Based on the fact that 86 % of the women became pregnant in the first three months I only evaluated the LH-Tests for the first three months:

100 % of the women had an increase of LH in the first three months respectively till they became pregnant.

Between the 13th and the 15th day of the cycle the LH-test was positive at:

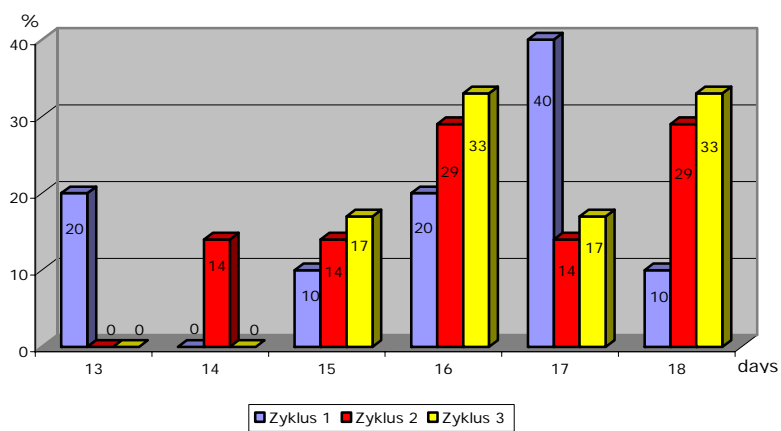
- 70 % of the women in the first cycle
- 43 % of all women who did not become pregnant till this time, in the second cycle
- 50 % of all women who did not become pregnant in the first two months, in the third cycle



6.6. Increase of the body basal temperature

100 % of the women had an increase of the body basal temperature in the first three months.

- 82 % had an increase at the 16th day of the first menstrual cycle.
- 71 % had an increase at the 17th day of the second menstrual cycle.
- 72 % had an increase at the 18th day of the third menstrual cycle.



7. Osteopathic treatments and results

7.1. Treatments

Case history: I just mention the most important information.

Osteopathic diagnosis: that is the information that I wrote down when I saw the woman the first time.

Osteopathic treatment: Summary of all techniques and treatments during the time of treating a woman.

7.1.1. Woman I, U., Age: 36

Case history: failed to conceive after 2 years; high stress level in her profession; obstipation for many years; suffers under tiredness and bad sleep also for many years; sometimes lower back pain located on the right side; two years ago she had an abortion and a curettage.

Osteopathic diagnosis:

- Posterior type
- D12 in rotation right
- Strong tension in the pelvic floor
- Fixed cecum
- Restricted mesenteric root
- Spasm of the ileocecal junction
- Strong tension on the spinal dura
- The MRP (primary respiratory mechanism) is existing but on very low amplitude and low rhythm

Osteopathic treatment:

- Suboccipital traction monitoring till I felt improved occipital/vertebral distensibility and an impression of interspinal release.
- Anterior-Posterior handhold to affect the MRP
- Release of the ileocecal junction and the mesenteric root
- Mobilisation of the fixed cecum with the cecum rolling technique to release the posteriolateral attachments
- General mobilisation of the intestine with the “big maneuver” technique
- Manipulation of D12 rotated right
- Occiput-Sacrum traction to release the spinal dura mata

Result:

After the first treatment U. had a better sleep and did not wake up during the night. She in general felt better.

After the second treatment her evacuation began to normalizing but was not already ok.

Four weeks after starting treatment she became pregnant.

7.1.2. Woman II, E., Age: 27

Case history: failed to conceive after 2 years; high stress level in her profession; used the pill for 8 years without any interruption; lost 24 kg of her body weight in the last 3 years – wanted; strong neck pain especially suboccipital; problems to relax herself; irregularly menstrual cycle after stopping using the pill – it is now regular for one year.

Osteopathic diagnosis:

- Fascial tension to the uterus
- Adhesion of the right broad ligament
- Uterus in sidebending right
- Sacrum in flexion
- High tension in the short neck muscles
- Extension of D4
- 1. rib superior right
- CSS: strain lat. Right
- Humerus anterior right

Osteopathic treatment:

- Release of the muscle tension in the upper cervical spine
- Correction of the first rib right
- Manipulation of D4
- Occipul-Sacrum technique to stretch both ends of the spinal dura mater
- Correction of the strain lateral right
- Stretching of the right broad ligament
- Myofascial work on the vertical and transversal axis of the body to give orientation to the tissues
- Release of the lamina SRGP (Sacro-Recto-Genito-Pubial) with the pumping technique

Result:

After the first treatment E. felt more comfortable in her body. The neck pain is better but not already gone.

After the second treatment the neck pain did not exist anymore

Four weeks after starting treatment E. became pregnant.

7.1.3. Woman III, C. Age: 32

Case history: Failed to conceive after 3 years, she had bulimia from age 20-30, Between the age of 25-27 she had no menstruation it is regularly now for one year, high stress level in her profession, tiredness, always cold feet, pain in neck and cervical spine, whiplash injury 8 years ago, sinusitis 2 times a year, headache coming from the neck up to the eyes.

Osteopathic diagnosis:

- Compression of the SSB
- Fixation of the liver
- Ptosis of the left kidney
- D5 in extension
- Restriction of the dura occipitalis
- No central midline
- MTD: warm zone on the left kidney and left parietal
- Emotional listening showed fear to live at the age of 20

Osteopathic treatment:

- Release of the tension between C0-C1
- Decompression of the SSB
- Emotional listening: release the restriction on the right parietal
- Midline
- Working on the hormonal axis:
Pituitary-hypothalamus-thyroid and suprarenal gland-ovary
- Release diaphragm thoracic (crus) and urogenitale
- Mobilisation of the liver
- Treatment of the left kidney

Result:

After the first treatment the woman felt more stabilized.

After the second treatment the neck pain and the pain in the cervical spine was gone.

Two months after starting treatment the woman became pregnant.

7.1.4. Woman IV, M., Age: 34

Case history: failed to conceive after 3 years, high stress level in her profession, obstipation for years, cold hands and feet, pain in the cervical and lumbar spine, five years ago she had a heavy whiplash injury, no regular menstrual cycle, she has often a cold.

Osteopathic diagnosis:

- Compression SSB, very “hard” cranium
- Strong tension in the upper neck muscles
- MTD: hypertherm on the uterus/bladder
- Tension on the thoracic outlet
- L3 posterior right
- Fixed sternum
- Femur in IR left
- D3-D4 in extension and in bad mobility

Osteopathic treatment:

- Decompression SSB
- Balance of falx and tentorium
- Release of the deep and middle cervical fascia
- Correction of D3 and D4
- Balance between sternum-thorax-dorsal spine
- Midline

Result:

After the first treatment she had a feeling like her head lost weight.

After the second treatment the pain in the cervical spine was gone and the pain in the lumbar spine only appears after a longer period of standing.

Four weeks after starting treatment the woman became pregnant.

7.1.5. Woman V, DC, Age 32

Case history: failed to conceive after 3 years; vegetarian for 10 years; she had a very strong accident with her bicycle at the age of 10-cerebral concussion; pain in the lumbar spine.

Osteopathic diagnosis:

- Fascial tension to the uterus
- Uterus anterior
- Hyperlordosis of the lumbar spine
- Compression of the symphysis pubis
- Tension on the left lig. inguinale
- Sacrum in sidebending-rotation left
- SSB: laterall strain left
- MTD: hypertherm on the right ovary
- Psoas on boths sides very short

Osteopathic treatment:

- Correction of the lateral strain left
- Balance of the tentorium
- Stretching of the psoas
- Decompression of the symphysis
- Mobilisation of the uterus
- Uterosacral induction to normalize the utero-sacral motion
- Lumbogenital induction to effect the suspensory ligament of the ovary right

Result:

After the first treatment this woman did not feel any change.

After the second treatment the pain in the lumbar spine reduced and got more mobile. She just felt sometimes tension on the sacrum.

After the fourth treatment the pain is gone.

Three months after starting treatment she became pregnant.

7.1.6. Woman VI, ME., Age: 36

Case history: failed to conceive after 6 years, luxation of both hips as she was a baby-surgery on both sides; 10 years pill without any interruption; she had 3 laparoscopy in the urogenital system because of her unfulfilled wish for a child; pain in the cervical and lumbar spine; flatulence; sprained ankle right; stomach-ache after dinner.

Osteopathic diagnosis:

- SSB: sidebedning-rotation right
- Ilium anterior right
- Femur on both sides in IR
- Compressed zone between D11 and L2
- Fascial system is pulling to the scars on both sides of the hips
- Hard abdomen full of gas
- Restriction of the mesenteric root
- Spasm of the sphincter odi
- Fixed bladder
- Fixed naviculare right
- Tension on the psoas on the right
- MTD: gall bladder

Osteopathic treatment:

- Correction of the SBR right
- Treatment of the sutura petro-jugularis right
- Traction of the profound cervical fascia
- Myofascial release of the sacrum
- Occiput-Sacrum stretching both ends of the spinal dura
- Mideline
- Release the tension on both crus of the diaphragm thoracis
- Release the spasm of the sphincter odi and mesenterial root
- Ecoute on the gall bladder
- Treatment of the duodenum second part
- Stretching of the omentum majus
- Treatment of the proas (local triggerpoint on the right side)
- Release of the restricted lig. pubovesicale and lig. umbilicale and mobilisation of the bladder

Result:

After two treatments the pain in the lumbar spine was gone. The neck pain only appeared after a hard day full of work.

After the fourth treatment the abdomen felt softer and the patient did not have flatulence only when she eats too much sugar and fat.

After three months the woman became pregnant.

7.1.7. Woman VII, C., Age: 39

Case history: failed to conceive after three years, high stress level in her profession, took the pill 15 years without any interruption, 3 surgeries on the ovaries (at the age of 18: cystectomy right, at the age of 19 and 23: cystectomy left); flatulence; sometimes pain in the scare which is horizontal on the uterus; pain in the neck and thoracolumbal region.

Osteopathic diagnosis:

- SSB: sidebending rotation lesion right
- Emotional listening: fear at the age of 20
- MTD: hypertherm on the right parietal
- Ilium anterior right
- Strong fascial tension to the uterus
- No midline
- M. piriformis short on both sides
- M. psoas had an painful triggerpoint left
- Kidney in ptosis left
- Tension on the left crus on the diaphragm thoracis
- Tension on the membrane obturatoria

Osteopathic treatment:

- Emotional listening: fear! In this woman fear was dominating the whole tissues. These 3 surgeries were very traumatical for her. Release the restriction on the right parietal
- Treatment of the SSB sidebinding rotation lesion right
- Increase of the MRP with ant. Post. Handhold
- Myofascial working on the central midline to give orientation and stillness to the tissues
- Release the hard adhesions of the scar
- Release all diaphragm to increase circulation
- Stretching of the piriformis right and left
- Release the tension on the psoas left
- Mobilisation of the kidney on the left side
- Stretching of the fascia thoracolumbalis

Result:

After the first and second treatment the woman felt more and more relaxed. She was able to relax during the treatment and enjoy the treatment.

After the third and fourth treatment the neck pain disappeared.

After the fifth treatment she told me that there is no pain in the scar anymore and the pain in the back is also gone.

After seven treatments she said that she lost her fear of physicians and she can visit a hospital now without fear.

This woman did not become pregnant till nine months after start of the treatment.

7.1.8. Woman VIII, CV, Age: 31

Case history: failed to conceive after 4 years; she feels very well; polyposis-surgery at the age of 20- polyposis is genetic;laparoscopy on the right ovary – cystectomy; problems with her husband; sometimes stomach-ache; three years ago there was the presumption diagnosis hypothyreosis and she got medication- since one year everything is all right. She told me that she is an unwanted child and grew up at her grandmother.

Osteopathic diagnosis:

- Type posterior
- Fascial tension to the umbilicus
- SSB: strain lateral right
- Strong tension on the dura, cranial and spinal
- Left kidney in restriction
- MTD: right parietal
- Emotional listening: shock at the age of 15
- Adhesions on the scar
- Cecum restricted
- Tension on the mesenteric roots
- Lesion of the duodenum part two

Osteopathic treatment:

- Emotional listening: release of the restriction on the right parietal
- Suboccipital traction
- Sacrum-Occiput, to stretch the spinal dura
- Treatment of the lateral strain right
- Release the adhesions on the scar
- Midline!!! Was very important on her
- Mobilisation of the left kidney
- Release of the duodenum
- Cecum mobilisation to release the posteriolateral attachments

Result:

After the first treatment she told me that she felt old pain in her body for a short time.

After the next treatment she felt more self-confident and said that she enjoys this kind of treatment.

During the next treatments she recognized that her posture changed.

This woman did not become pregnant. A reason for that may be that she was divorced from her husband a few weeks after finishing the treatment.

7.1.9. Woman IX, EH, Age: 37

Case history: failed to conceive after 5 years; she had 2 abortions and 2 curettages; she is very sportive, she said to be a very healthy woman without any problems, very cautious and correct.

Osteopathic diagnosis:

- SSB: lateral strain right
- Sacrum in compression
- Anterior type
- Strong cranial and spinal tension of the dura
- MTD: left ovary
- Facial tension to the left ovary
- Compression between D10 and L3
- Uterus sidebending left
- No central midline
- MTD: umbilicus

Osteopathic treatment:

- Suboccipital traction monitoring
- Treatment of the lateral strain right
- Occiput-Sacrum traction for the spinal dura mata
- Working on the midline
- Uterosacral induction
- Lumbogenital induction
- Ecoute on the left ovary and release the tension to the lumbar spine
- Uterus mobilisation
- Treatment of the sacrum

Result:

This woman enjoyed the treatments and was always looking forward to . She said that she feels relaxed and comfortable. After this period of treatments she told me that in former times she sometimes had headache during the menstruation and pain in the lumbar spine. She does not feel these problems any more.

She did not become pregnant till the end of the treatment after nine months.

7.1.10. Woman X, A., Age : 34

Case history: failed to conceive after 2 years, high stress level in her profession, pain in the cervical spine that is coming up from the dorsal spine, pain in the middle of the sacrum, she had 2 abortions and two curettages, she took the pill for 15 years, three years ago she had a painful accident with the snowboard on her coccyges, sinusitis 1-3 times a year since she was a child.

Osteopathic diagnosis:

- SSB: compression
- Cranial dura tension
- Suboccipital muscle tension
- Sacrum in sidebending rotation right
- Left kidney in ptose
- ATM: in compression left
- Fascial tension to the left ovary
- Coccyges in flexion
- MTD: heat band-like zone above the orbita cavity on the right and below the orbita cavity right

Osteopathic treatment:

- Decompression SSB
- Suboccipital traction
- Occiput-Sphenoid-Ethmoid
- Maxilla-Frontale
- Release of the ATM left
- Drainage of the sinus
- Correction of the coccygis
- Occiput-Sacrum working on the spinal dura
- Induction left ovary-lumbar spine, especially L3
- Release on the foramen obturatoria

Result:

After the first treatment this woman felt very comfortable and relaxed.

After the second treatment the neck pain was reduced and only sometimes present.

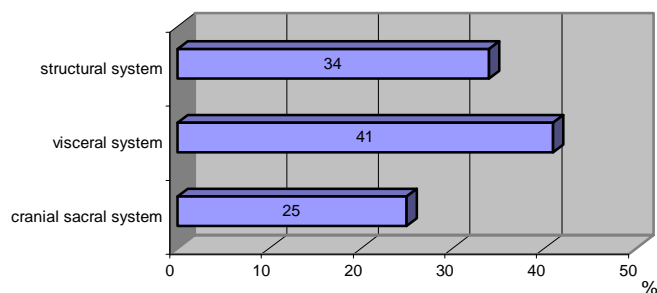
After the fourth treatment the pain in the lumbar spine and in the neck disappeared.

During this six months of treatment she had never a cold or a sinusitis.

After six months she became pregnant.

7.2. Conclusion

During the first examination of these 10 women I found the osteopathic lesions in the following relation:

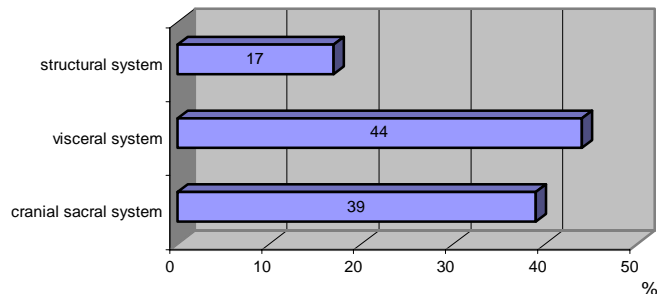


34 % of all diagnosticated lesions were found in the structural system.

41 % of all diagnosticated lesions were found in the visceral system.

25 % of all diagnosticated lesions were found in the cranial system.

The most treatments happened in the visceral system, followed by the cranial and structural system:



This diagram shows that:

- 17 % of all treated lesions were in the structural system.
- 44 % of all treated lesions were in the visceral system.
- 39 % of all treated lesions were in the cranial system.

After treating 10 women under special conditions with the problem of infertility I found out that:

- The main diagnosed lesions were found in the visceral system
- The most treated lesions until the end of this study were in the visceral system
- Half of the lesions in the structural system (17%) need not to be treated after treating the cranial and visceral system
→ in these women lesions in the structural system are often caused by cranial and visceral lesions

8. Discussion

Despite of new medicamentous and medical-technical treatment possibilities, the number of pregnant women with the wish for a child did not increase in the last years (Reproduktionsmedizin, 2002). Against that the iatrogenic side effects as well as the psychical stress increases because of the invasive possibilities of treatment. The question for the efficiency of a therapy is becoming more important.

8.1. Therapy possibilities and their efficiency in comparison

8.1.1. Hormonal treatment

A hormonal treatment under medical control leads in nearly 40 % to success (Reproduktionsmedizin, 2002).

8.1.2. Homological Insemination

There the sperms are setting in the uterus in an artificial way and not under normal intercourse.

This method is mostly used, when the sperm of the man did not have the necessary quantity and/or the mobility for a normal conception.

The success is about 5 -10 % (Reproduktionsmedizin, 2002).

8.1.3. Heterological Insemination

If the fertility of the man is not sufficient, it is possible to bring the sperm of another man into the uterus in an artificial way. The success rate is about 20 % (Reproduktionsmedizin, 2002).

8.1.4. In Vitro Fertilization (IVF)

At the In Vitro Fertilization some egg-cells were taken through the vagina under the control of ultrasound and get fertilized with the semen out of the woman`s body. The conception is doing by the spermatic cell by itself and wouldn`t be injected into the egg-cell like by an ICSI (Intra-Cystic-Sperm-Injection). Two days after the conception, the conceived egg-cell is implanted in the uterus. The IVF is mostly used when the passage through the fallopian tubes is affected.

The success rate is about 15 to 30 %.

The success of a IVF depends on the cause of infertility, the age of the woman, the time period of the unintentional childlessness and also if the woman was pregnant once a time (Reproduktionsmedizin, 2002).

8.1.5. ICSI (Intra-Cycstic-Sperma-Injection)

At the ICSI there are taken egg-cells through the vagina like at the IVF under the control of ultrasound. But the semen cell is directly injected into the cytoplasm of the egg-cell with the help of a micro pipette. The conceived cells are implanted in the uterus after two days. This method is mostly used, if the quality and the mobility of the sperm are reduced.

Concerning the latest data the success rate of this method is reaching about 40 % (Reproduktionsmedizin, 2002).

8.1.6. Homeopathy

I want to mention a study which was carried out from May 1991 to May 1993 at the university of Heidelberg about the treatment of sterility and infertility compare general medicine and homeopathy (Blätter der klassischen Homöopathie, 2000). This study was made with 42 women and the criterions are mostly the same as in my study.

The result was that 29 % of the women became pregnant with homeopathic treatment.

8.1.7. Osteopathy

On principal it can established that an osteopathic treatment (see 5.5.1), at women with an unfulfilled wish for a child (see 5.1.) represent a very efficient method of treatment. This is considered in this study with a success of 70 % in an impressive way.

The result of my study has to be regarded under the following restrictive conditions:

- It is a small study (10 patients)
- There is no control group (the reason why is explained in 5.1.)
- Inaccuracies at medical examinations, for example the spermogram, cannot be excluded

Nevertheless it is a small study, the signification and the efficiency of osteopathy in the area of the problem of sterility and infertility is clearly recognizable.

9. Summary

In the last few years I recognized more and more that many women have the problem of becoming pregnant. I saw how stressful and time consuming some of these therapies had been and finally failed.

In this time I attended a seminar from Renzo Molinari who talked about the problems of infertility and his experiences.

The idea of this work was hatched and did not get out of my head. From the beginning I knew that the problem of infertility is a very sensible area and started this work with modesty and the conviction that with osteopathic treatment I can only influence a part – but mostly a very important one – in this complex system.

The purpose of this study is to prove that women with the problem of infertility who receive osteopathic treatment have a higher chance of becoming pregnant either during or after a course of treatment and that osteopathic intervention is an important support mechanism for them during that time. The aim is the start of pregnancy!

I decided to use a “within subject design“, as special form of „repeated measure design“.

I treated 10 women at the age of 25 to 40 years, who have failed to conceive after a minimum of 16 month during which intercourse has been frequent and unprotected. They are expected to demonstrate special conditions. I treated the women in a period of 6 months. There was no treatment, either osteopathic or otherwise, in the following three months.

I got the initial and important information from the first questionnaire which was completed at the beginning of the project with the case history. After nine months the women got the completion questionnaire.

During the time of treatment the women did some clinical controls. They used LH-strips and made precise recording of the menstrual cycle and the cycle temperature.

At these women the most osteopathic lesions were found in the visceral and structural system.

The lesions I had to treat most were in the visceral and cranial system in the time until the end of the 6th months of treatment or till the women became pregnant. Half of the lesions in the structural system need not to be treated after treating the cranial and visceral system. This leads me to the conclusion that in these women lesions in the structural system are often caused by cranial and visceral lesions.

The result of this study shows that 70 % of the women became pregnant within nine months after the beginning of the treatment.

43 % of them got pregnant within one month after the start of treatment, 43 % after 1 to 3 months after the start of treatment and 14 % after 3 to 6 months after the start of treatment.

100 % of the women felt benefit from osteopathic treatment and would recommend osteopathy to another woman who is trying to conceive.

“Only the tissues know.” (Rolling Becker)

During the whole work this was a very important sentence for me. I made the experience that many things about the problem of infertility rest unspoken. When I listened to the tissues I got much information which was very essential in treating these women.

Another interesting experience for me was to recognize the great importance of emotions and how they can influence and change the whole system.

Relaxation and the ability to relax were an important aim in treating these women.

Even this is a small study of 10 women, the efficiency of the treatment is clearly recognizable. 70 % of the treated women became pregnant. This leads me to the confirmation of my thesis, that a woman receiving osteopathic treatment has through this kind of therapy an increased chance of becoming pregnant.

10. Gratitude

One can gain no aim in life alone!

Also for this diploma work permanent encouragements, advices and the help of other people were necessary.

First of all many thanks to Sarah Wallace D.O. for her helpful support from the beginning till the end of this work. She always got me back to the “right way” and presented to me much of her costly spare time.

I want to thank Dr. Trixi Urbanek and Renzo Molinari D.O. for their numerous conversations at the beginning of this work. They helped me to word my ideas.

Many thanks to all women who agreed to be confided in my treatment for a period of nine months.

I want to thank Dr. Doris John and Dr. Wolfgang Plakolm for their interest in osteopathy and that they sent women who are interested in this study to me.

Thanks to Debby Rahofer who agrees spontaneously to help me with the translation of this study.

Many thanks to some friends, who have shown me through their openness how stressful an unfulfilled wish for a child can be and confirmed me in the realization of my ideas.

Especially I want to thank Martin who did not spend his spare time in the mountains but with me behind the computer. Thank you for your help and your patience.

11. Appendix

11.1. First Questionnaire

Date: _____

Name: _____

Age: _____

Profession: _____

1. How would you describe your general health status?

very good good o.k. bad very bad

2. Do you smoke?

no yes

3. Have you ever smoked?

no yes for how long? _____
when did you stop? _____

4. How much alcohol do you drink per week?

no yes

5. Do you drink coffee regularly?

no yes how much per day? _____

6. Is there any food you never eat?

no yes

Which?

milk meat fruit vegetable
 sugar fish wheat

7. Have you either lost or gained weight very quickly in the last five years?

no yes

8. Do you practice sports regularly?

no yes which kind of sports? _____

9. How would you describe the stress levels in your work environment?

extreme heavy middle little no

10. How would you describe your work?

sedentary active

11. How would you describe the stress levels in your private life?

extreme heavy middle little no

12. Are there any problems in the following systems?

yes no

Which?

circulation e.g.: cold hands and feet... _____
 ventilation e.g.: shortness of breath... _____
 asimilation e.g.: flatulence, indigestion... _____
 elimination e.g.: obstruction, diarrhoea... _____

13. Do you have any of the following problems?

yes no

Which?

headache
 thyroid gland hyperfunction
 thyroid gland hypofunction
 tiredness
 depression

14. Do you have pain in the abdominal area?

yes

no

15. Do you have pain in the dorsal spine?

yes

no

Where?

cervical spine

thoracic spine

lumbar spine

16. Do you have pain musculoskeletal system?

yes

no

where? _____

17. Do you take any medication?

no

yes

which? _____

18. Have you taken any long courses of drugs over the last five years?

no

yes

which?

antibiotica

antidepressiva

vitamin or mineral substitution

others

how long?

19. Have you had any surgery?

no

yes

Please describe the type of surgery and the reasons:

20. Have you had any serious illness?

no

yes

what?

when?

21. Have you had any accidents or injuries?

yes no

Which?

whiplash injury
 car accident
 heavy fall
 others _____

22. How long have you been trying to fall pregnant?

2 years
 3 years
 4 years
 5 years
 6 years or more

23. Do you have a regular cycle of menstruation between 26 and 32 days?

yes no

24. Have you ever had an abortion?

no yes

how many?

1
 2
 more

25. Which kind of contraception did you use?

How long?

pill
 intrauterine device
 condom
 vaginal suppository
 others _____

26. Have you had any inflammation in the urogenital system?

yes

no

Which?

ovary

vesicae urinae

uterus

fallopian tubes

vagina

others _____

27. Have you ever had any surgery in the urogenital system?

yes

no

Which?

ovary

uterus

vagina

vesicae urinae

fallopian tubes

others _____

28. Do / Did you have any abnormal discharge?

yes

no

29. How often do you have sexual intercourse?

per month

once a week

twice a week

more often

30. Did you do any investigations to find out why you had not been able to conceive?

yes

no

Which?

temperature measurement

hormonal status

secretion status

examination if the fallopian tubes are intact

31. Has your husband / partner been checked?

yes

no

32. Do you see any other special reason, why you cannot get pregnant?

yes

no

Which?

11.2. Completion Questionnaire

1. How would you describe your general health status?

- very good good o.k. bad very bad

2. How would you describe the stress levels in your work environment?

- extreme heavy middle little no

3. How would you describe the stress levels in your private life?

- extreme heavy middle little no

4. Are there any problems in the following systems?

- yes no

Which?

Circulation e.g.: cold hand and feet ... _____

Ventilation e.g.: shortness of breath ... _____

Asimilation e.g.: flatulence, indigestion _____

Elimination e.g.: obstruction, diarrhoea _____

5. Do you have any of the following problems?

- yes no

Which?

- headache
 thyroid gland hyperfunction
 thyroid gland hypofunction
 tiredness
 depression

6. Do you take any medication?

no

yes

which? _____

7. Have you conceived within the last 9 months?

yes

no

8. How long after osteopathic treatments did you conceive?

9. If you have not conceived, is your menstruation cycle regular
(between 26 – 32 days)?

yes

no

10. Did you feel benefit from having osteopathic treatments?

yes

no

Please comment on the changes / benefits you feel:

11. Would you recommend osteopathy to a friend who is try to
conceive?

yes

no

Why: _____

Thank you very much for your cooperation and good luck!

Monika Kirchmayr

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14. Abstract

A woman with the problem of infertility receiving osteopathic treatment has an increased chance of becoming pregnant.

Objectives: Since the end of the century the number of childless marriages in industrial countries is continuously climbing. Nearly every 7th couple stays unintentionally childless.

Through the variety of treatment possibilities the question for the efficiency of the treatment is becoming more important.

The purpose of this study is to prove that these women, who receive osteopathic treatment have a higher chance of becoming pregnant either during or after a course of treatment and that osteopathic intervention is an important support mechanism for them during that time.

Design: A “within subject design“ was decided to use as special form of “repeated measure design”.

Methods: Treatment of 10 women between the ages of 25 - 40 years who have failed to conceive after a minimum of 16 months. These women, who are expected to demonstrate special conditions, got osteopathic treatment for six months. There was no treatment, either osteopathic or otherwise, for the next three months.

Results: 70 % of the women became pregnant within a period of nine months after the beginning treatment.

Conclusion: Even it is a small study of 10 women, the efficiency of the treatment is clearly recognizable. 70 % of the treated women became pregnant. Further all of the women allege that the osteopathic treatment was very comfortable and would recommend this kind of therapy to other people who also have the problem of an unfulfilled wish for a child.

This leads me to the confirmation of my thesis, that a woman receiving osteopathic treatment has through this kind of therapy an increased chance of becoming pregnant.

Key words: osteopathic treatment, infertility, pregnancy

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