

REPRODUCTIVE HEALTH 2005

What to do
so that you have children
when you want to
have them

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(ZSF JU)**

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INTRODUCTION

Besides the excitableness and metabolism, a reproduction of a life is one of the most important principles. This keeps the life in its phylogenetic as well as ontogenetic structures. However, at the same time, it respects changes heading towards always more sophisticated forms. The changes in the reproduction reach a new quality now. As a man begins to understand the reproduction processes, he looks for and also finds the methods and possibilities how to influence next evolution and, what is more important, how to use known information for his best.

The spontaneous, on the human beings' will independent, reproduction is at its end. Nowadays, we are turning towards the planned reproduction which depends not only on mere biological objectives but also on our subjective needs. Now, we take advantage of our experience and knowledge for the reproduction of our life.

The science enabled us to determine new ways to the good-quality reproduction. It exceeded the natural forms and techniques of the reproduction and switched to the artificial ones. While reaching this effort, we meet an array of sometimes unbelievable procedures and phenomena. A success of the new medical procedures brings consequently a need to consider also many other questions and problems from a whole range of disciplines. The ethical, psychological, social and legal aspects are highly important. Many people are badly affected by a denouncement, a critique, an accusation of a profanity and of a disobedient interference into to the God's will. Nevertheless, considering the new medical technologies which enable the birth of a child and hereby the fulfillment of the parents' life, it brings most importantly a lot of joy and delight.

Then, many problems from the social environment, such as school, job, a group of peers etc., come forth. We ought to consider also a different population state in each region, country and continent. They differ depending on the level of the social development. There are two reproduction patterns of the developing and the developed societies. The first one is characterized by the following attributes: a relatively small natality and mortality, a long life expectancy, a low marriage rate and on the contrary a high divorce rate, a high number of unmarried families and children born outside the marriage. The other pattern which is typical of the undeveloped society presents the reversed figures actually. It concerns also the family's comforts, the health level as well as the quality of education. These facts then determine both the quality and the quantity of population, respectively the reproductive health which this publication is engaged in.

A concept for the reproductive health crystallized gradually from the range of terms such as a sexual education, a responsible parenthood's preparation, a planned parenthood etc. When using the term "The Reproductive Health" nowadays, it means to have the ability to fertilize, to get pregnant, to carry a baby to a term and to give birth to a healthy child. In the wider interpretation, it also implies to assure the knowledge of the health and potential disorders during all the times, particularly in the preconceptional and conceptional periods, during pregnancy and birth as well as in the post-partum period. We cannot approach these problems merely from strictly biological point of view. We are supposed to regard the unity of the physical, mental and social welfare of the individual.

In the nature, the health, especially the health of the reproduction, is predominantly immanent fact. Individuals are not able to determine it anyway. On the contrary, in the developed human society, we tend to understand to the actions and procedures of our reproduction and to take care of them. As a matter of fact, it means to strengthen our health and to prevent illnesses and disorders.

This attempt was initiated at the turn of 19th and 20th century. At that time, the physiology and the pathology of the reproductive organs was unraveled. The option of an effective contraception played a major role here. Last few decades, we have been moving from a “negative” attitude, which just aimed to prevent a conception, to a new position. Our new goal is to overcome an impossibility to have a child. The sterility and its cure is what we are currently focused on. Most of that procedures and sadly also related difficulties lie only on women. In this context, we speak about the troubles of an emotional, ethical and social character.

Many women have to cope either with their personal troubles (such as remorse of an undergone abortion, a depression because of an inability to get pregnant, or a conviction that a contraception use is bad or even immoral) or with an unfriendly social situation. On top of it, there is often some pro- or anti-population government policy. Remember only the Nazi Germany with its “Mutterpflicht” or many other examples from the recent as well as from the more distant history.

The multidiscipline cooperation is involved in the issue of the reproductive health. The international scientific as well as the executive activities are very important in this respect. Let's name for instance The European Parliament Resolution from 2002 on the sexual and reproductive rights of each individual. This resolution is a follow-up to the agendas of The International Conference of the Population and Development (1994) and of The Fourth Global Women Convention (2000). The main topic here is the fulfillment of the fundamental human right to the Planned Parenthood. It grants for each man and woman a free decision on the number of children they want to have. That has got a close respect to the right on the related information and education. The objective is that every child will be the wanted one and expected with love.

The educational effort concerns especially the negative phenomena in the reproductive issue with a special emphasis on the unwanted pregnancy, venereal diseases, the contraception, the abortion and the artificial reproduction.

Since 1959, when the Child's Rights Chart was submitted, the care of the mother and the child (including the ones who are not born yet) has been in the background of this effort. The Planned Parenthood is mentioned also in the Child's Rights Chart. The other significant point is biological, psychological and social connection in an early childhood. This period of time is currently regarded as one of the crucial moment in the child's evolution and as the matter of fact it determines all its life.

Although many politicians assume that the conclusions from the above mentioned conferences concern only the developing countries, the true is, and the European Parliament confirmed it, that it concerns also all the European countries. Even in the richest west countries, there are always groups of people outside the major society

who live in the poor conditions. In those cases, the educational, informative and preventive programs are of the high importance. In this respect, United State, Great Britain and France has been so far the best. Eventually, similar activities are launching in the Czech Republic too. The highest stress is put on the very close cooperation of clients and experts, on their reciprocal respect and a deep involvement of all those who are concerned in.

This book is in fact a proof of our effort.

Prof. MUDr. Jiri Dunovsky, DrSc.
Prague, 11th April 2005

FEMALE REPRODUCTIVE HEALTH

Petr Linhart, gynecologist

A reproductive ability and its disorders represent an issue which a medical science has dealt with for a long time. However, only recently a considerable development came about in this respect. Now, we are able to identify much better each individual cause of a fertility disorder. Consequently, we can study them in detail and eventually treat them. A pressure, which led to a rapid development of a reproductive medicine, arose in particular from a finding that a number of couples with the fertility disorder is rising gradually and more importantly, that there is a growing interest in a therapy. Various researches show that about approximately 15 – 20 % of couples are not able to get pregnant unless they contact a medical expert. Apparent reasons for the fertility disorder are not found out by only 5 % of them. A childless marriage presents and has always presented a problem of many aspects, especially a psychological, social, populational, medical and ethical one.

An understanding, a diagnostic as well as the therapy of the fertility disorders work on knowledge of the fundamental physiological processes of the human reproduction. A hypothalamus (a part of a diencephalon), a hypophysis and ovaries create together a system which regulates a female reproductive functioning. The regulations are pursuing thanks to hormones and neurotransmitters. GnRH – gonadoliberin is released from the hypothalamus. It influences the hypophysis and that excretes FSH (follicle stimulating) and LH (luteinizing) hormones. These hormones manage an ovarian activity. The female sexual hormones (estrogen and progesterone) are produced in the ovary. Constituent levels of this cascade are influenced also in a reversed direction. Periodical changes, which are caused by the hormones excreting, present actually a repetitive preparation for a fertilization and pregnancy.

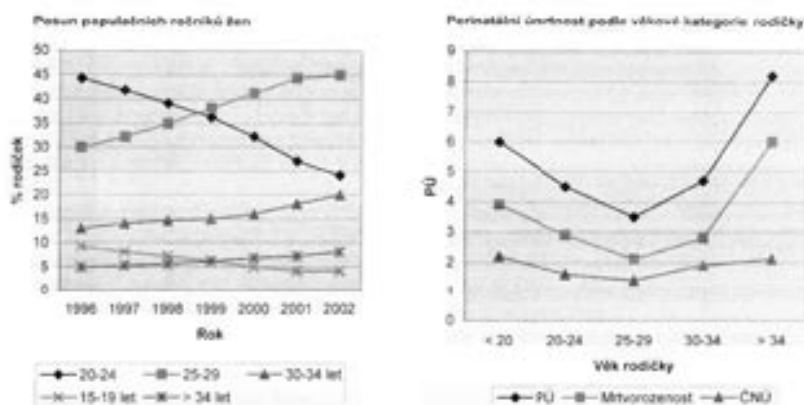
A menstrual cycle is divided into three following phases: a follicular phase, a luteal phase and a menstrual phase. The first, follicular, phase lasts up to 14th day of the cycle. During this period, thanks to FSH and LH, few follicles are being grown and matured on the ovary. Estrogens are being created consequently. Estrogens have got many functions. One of them is to stimulate the growth of an endometrium. Due the LH effect, an ovulation comes up on the 14th day of the cycle. It means that one dominant follicle, so called the Graafian follicle, has snapped. An ovum from this follicle is transported through a fallopian tube to the uterus. It is usually in the fallopian tube where it comes to the fertilization. The ovum is connected with a sperm. After that, the second – luteal phase comes. It lasts from 15th to 26th day. A level of progesterone is rising then. Its main role is a preparation and a preservation of the pregnancy. It also leads to the endometrium maturation so it is able to accept the ovum. A residuum of the Graafian follicle is a basis for a corpus luteum which is the main producer of the estrogens and progesterone in the luteal phase. If there is no fertilization, the corpus luteum atrophies. The level of hormones decreases. It is when the last – menstrual phase begins (between 27th and 28th day of the phase). The endometrium together with the unfertilized ovum is washed away by menstrual blood. Nevertheless, to fertilize the ovum, the sperm has to reach it first. A correct operation and a clearness of the uterus and the fallopian tubes are of a crucial importance here. Consequently, there is no need to highlight the sperm quality. It is truly unquestionable. It is to say, the above described process is much more complicated

in fact. However, even this brief view indicates that one has to count in many different factors and that the disorder on whatever level can cause a fertility limitation or yet the infertility.

The factors influencing the female fertility:

1] **Age.** Age is the most important element influencing female fertility. From the fertility point of view, an optimal age for having a baby is between 20th and 30th year. The best would be about 25th year. A female fertility decreases gradually after the 30th birthday; after the 35th year it even slumps significantly. As women endeavour nowadays to build up a carrier first, to travel and study, they begin to postpone pregnancy into more advanced age. The chart bellow shows how the primiparas' age is changing. It shifts from the age bracket of 15 – 19 and 20 – 24 years to the 25 – 29 years one. We can also observe a slight increase in the age bracket of 30 – 34 and more then 34 years. Sadly, complications associated with female fertility, pile up consequently with the age. The number of menstrual cycles with ovulation decreases. Uterine abnormalities such as myoma, a change of vascular riverbed and endometrial pathology occurs. The sexual activity decreases too. There is a bigger figure of miscarriages as a result of embryo's chromosome disorders. A heightened risk refers not only to the conception but also to the whole course of the pregnancy and especially to the childbearing when perinatal mortality augments (see the second chart). The perinatal mortality (PNM) refers to the number of perinatal deaths per 1,000 total births. Concerning PNM, we distinguish fetal mortality (FM) and early neonatal mortality (ENM). By fetal mortality, we understand the birth of a dead infant whose weight was higher than 1000 kg. ENM refers to a death of a life-born baby within the first seven days of life.

2] **Coital activity.** The minimal necessary rate of a coital activity to get pregnant is at least 2 – 3 times per week. It is conditioned to a limited ovum lifetime which is 24 hours. 22% of the healthy couples are successful already in the first cycle. About 85 - 90% of couples reach the conception within 12 cycles (one year). The fertility disorder is recognized only after one year of a regular unprotected sexual intercourse.



3] **Negative impacts of an external environment** also shape female reproductive ability. Among first, we shall name on this place heavy metal contamination (mercury, cadmium, manganese, lead, chromium), then radiation, smoking and last but not least soft and hard drugs.

4] **Psychological factor** such as stress, psychical overwork, and nervous exhaustion may affect the reproductive health significantly.

5] **Nutrition condition.** The extreme nutrition conditions such as a malnutrition or on the contrary an obesity lead to the fertility disorders. In the malnutrition case, it is about the rescue response of the body considering repetitive loss of blood during a period. On the other hand, it is hormonal imbalance in the case of obesity.

6] **Genetic component** might cause the difficulties with getting pregnant and carrying a baby to a term. It can also cause many serious congenital evolutionary defects.

The following factors cause the female fertility disorder:

1] **Ovarian factor** – Due to malfunction of the hormones, which take part in the regulation of the menstrual cycle, the follicles in the ovaries cannot mature or they do not release which means ovulation does not occur. (Compare PCO syndrome).

2] **Tubal factor** – Fallopian tube assures the relocation of germ cells and of the fertilized ovum to the uterus. Clearness of the fallopian tubes is crucial as well as the correct working of the whole system. The causes of the tube seal are following: evolutionary anomalies, tumors, damage during an examination or operation, endometriosis (see below), appendicitis, after-inflammatory seals (venereal diseases such as gonorrhoea, Chlamydia and mycoplasmatic infections, mixed infections).

3] **Uterine factor** – The follicle nestles in the uterus. Eventually, a new individual develops there. The uterus can suffer from several lesions such as congenital evolutionary defects (aplasia, disorder of uterus evolution, disorder of clearness), uterine myoma, Asherman's syndrome (adhesions within the uterus as a result of an intrauterine medical surgery), and endometrium's polyp.

4] **Cervical factor** – Cervix can be affected by the congenital evolutionary defects. The quality of mucus is also important. Too thick mucus is an obstacle for the sperms.

5] **Endometrioses** – It is a disease caused by the occurrence of the endometrium outside the uterus cavity. This substance is changing in the same way as the endometrium inside the uterus. Thus it causes the adhesions in the abdominal cavity, the fallopian tubes' seals and the disorder of the follicles' evolution for instance.

6] **Immunological factor** – Female immune system is created by antibodies against the sperms or against own germ cells.

7] **Miscarriages** – A woman gets pregnant but she is not able to carry a baby to a term and to give birth to a viable fetus. It is hard to specify the univocal cause though. There might be various reasons. Foetal ovum defects as well as the mother organism alone can play the main role. The impacts of an external environment should be also considered too.

8] **Essential fertility disorder** – It is "diagnosed" in cases when we are not able (after all examinations) to explain the infertility cause.

Female Fertility Disorder Diagnostics

A base for the diagnostics is an anamnesis. While diagnosing, we are supposed to find out the number of up to now born children, a figure of pregnancy, the time for which the couple endeavours for a baby, undergone operations, using of medicaments and drugs and nutrition and hirsutism (an overproduction of men's genital hormones). The gynecologic examine is also very important. From that, we can learn the anatomical anomalies and defects, the vaginitis etc. An ultrasound is

another indispensable examine. It shows follicles growth OK, endometrium's growth as well as the anomalies in the female genitals. The ovulation diagnostics is similarly essential. We are interested especially in the pain in lower abdomen in the middle of menstrual cycle. During the gynecologic examine, we see transparent, rarefied cervical mucus. Thanks to the ultrasound, it is possible to measure the size of follicles and to observe even the corpus luteum after the ovulation. The women themselves are able to find out whether the ovulation occurs. They learn it by measurement of a basal temperature or by means of the ovulatory tests. Some women might detect the ovulation from the uterine mucus quality. The basal temperature is measured in the vagina in the morning right after waking up, still being on the bed and after at least 6 hours of sleep. This temperature increases by approximately 0.3 degrees during the ovulation and the same temperature lasts up to the menstruation (in the case there is no pregnancy). The ovulatory tests diagnose from urine the increase of LH level shortly before the ovulation. These tests are available in pharmacies. They are highly reliable and they are used likewise the pregnancy tests. The other medical examine is the measurement of the progesterin level in the blood, done on the 21st day of the cycle. When suspecting the hormonal disorder, we can examine also the levels of other hormones which participate on the menstrual regulation.

There are many others examines which we can use while diagnosing the female infertility. For instance, there is a microabrasion – the retrieval of an endometrium's sample. Thanks to this we are able to observe the dynamics of the growth of endometrium during the second periodic phase. The examine of the uterus cavity, it is another one. Through the use of the ultrasound or HSG - hysterosalpingography (the contrasting substance is injected into the uterine cavity under the RTG control) we observe the shape of the uterine cavity, its structure and the clearness of fallopian tubes. The hysteroscopy is another examinational technique. Thanks to optics inserted directly in the uterus, we can clearly watch the uterine cavity. An assessment of the clearness of fallopian tubes also helps by the diagnosis. The following are the methods: HSG (see above) and laparoscopy. The optics is inserted directly in the abdominal cavity through a small incision. We assess position and shape of the organs in the abdominal cavity. By the means of the contrasting substance injected directly into the uterus, we can watch a leak of that color substance from mouth of fallopian tubes in the abdominal cavity. An immunoassay is part of the fertility diagnosis too.

Female Fertility Disorders Therapy

If we know the cause of the female infertility, then we are able to treat it. We select a therapeutic tactic logically, beginning with the easiest, less demanding and noninvasive as well as less expensive, moving slowly towards the more exacting ones. However, in case we are not successful with the classical therapy, we are forced to circumvent the causes of disorder by the assisted reproductive technology.

A] Hormonal treatment. There is no ovulation. We stimulate it by various hormonal preparations (antiestrogens, gonadotropins). In the last phase of the ovum maturation we can also use hCG which is a human chorionic gonadotropin. By means of hormones, we can treat the light forms of the endometriosis.

B] Anti-inflammatory treatment. The treatment of both acute and chronic niduses and the relating inflammations is necessary part of the thorough treatment of the fertility disorders.

C] Surgical treatment. It is possible to remove surgically some factors of the fertility disorders. Nowadays, in about 90 % of cases we can apply only minimally invasive surgery – an operating laparoscopy. We use it for instance to cut through the stiffened surfacing layer of the ovary whereby the ovulation is blocked. The laparoscopy plays also a main role by surgery of fallopian tubes, by removing of endometrioses niduses, cysts, myomas or by adhesion eroding. Hysteroscopy might be carry out in some cases too.

D] Immunological therapy. In the case that the sterility is caused by antibodies against sperms, it is recommended to use condom for 6 to 12 months. So the contact between sperms and female immune system will be blocked. The other option is the immunosuppressive therapy which represses the female immune reaction to both hers own and male germ cells.

E] Psychotherapy. Lately, psychotherapy is lately often mentioned treatment in accordance with fertility disorders. A desire for a baby which is not imbued becomes so stressful situation that it does not matter what is the real cause of infertility but the psychological help is highly welcome.

The assisted reproductive technology awaked an interest in 1978 when the first test-tube baby was born. It was a new hope for those couples whom the classical medicine was not able to help and who were then condemned to an involuntary childlessness.

The most often used principle of the assisted reproduction is IVF+ET. It is an in vitro fertilization (ova's conception outside the female sexual system) and an embryo's transfer (inserting of the cultivated embryos back to the uterus). A simplified procedure of this method follows. First, we stimulate ovary so that a few ova are matured at once so we have got a stronger probability to cultivate a viable embryo. After that we take up the ova. The same day we have to take up sperms too. The conception of ova and the cultivation of embryos ensue soon. One, two, max three pieces of the cultivated embryos are inserted back to uterine cavity usually after 2 to 3 days. The rest of embryos get frozen.

By the transfer of one embryo, the conception probability within one IVF cycle is in average 15 %. When transferring two embryos, the probability increases to 25 %. This percentage rate is very similar to probability of spontaneous reproduction within one menstrual cycle. By three embryos, it is already 30 %. The quality of each assisted reproduction centre should be also concerned. In the Czech Republic, the health insurance companies cover three cycles of the treatment by the assisted reproductive technology. After those three cycles, the cumulative probability of the conceiving comes up to 50 %. The couple alone is paying any additional possible cycles. In the same manner as by the spontaneous conceiving, the age has got a significant influence on the success of the treatment. The probability decreases a lot in the age group of 40+.

In conclusion we need to mention that although the branch of knowledge occupied with female reproduction problems is relatively young, it achieved a fundamental development not only in the field of diagnosis and treatment alone but also in the successfulness of the treatment. Nowadays, we are able to help most of the couples. However, there are still some women who will never fulfill their dreams of a baby. The adoptive parenthood is recommended then. Nevertheless, this is beyond the verge of our article. The prevention is very important too. We should use any possible means relating to timely and proper prophylaxis of all diseases (for example, an early treatment of gynecological inflammations and chronic appendicitis) and functional malfunctions causing the fertility disorders. A positively impact of the hormonal contraception was achieved with respect to improvement of the hormonal disorders. The health education concerning drug, nicotine and alcohol abuse and venereal diseases are fundamental. We shall focus especially on lectures at the secondary and high schools and on the regular gynecological examines. The sooner woman becomes aware of her problem and begins to solve it the better she can be cured eventually. It is also necessary to highlight that it is not recommended to postpone the pregnancy in the later age. The risks of the fertility problems as well as endanger of the pregnancy might be decreased then.

Useful links: www.levret.cz, www.gynstart.cz

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MALE REPRODUCTIVE HEALTH

Vladimir Kubicek, andrologist

The medical discipline – andrology – is occupied with a male sexual health and with a general state of health which relates to the function of sexual organs. We are involved especially in the proper testicles' function and a proper hormones' and sperms' production. Regarding conception, the appropriate sperms' production is as important as the ovum production. To lay blame only on women when fertility problems occur, it is a prejudice or a superstition deeply embedded in our society. According to World Health Society (WHO), the infertility caused only by female factor occurs in 25 %. The male factor is responsible for infertility in 33 % cases. In a quite significant percentage whack (20 %), there is some kind of malfunction on both partners. In other 15 %, we do not find out the infertility cause during the fundamental examination. While detail examining this group, the male factor outnumbers then. Thus we can say that the cause of infertility is on the man side in 53 %. Nevertheless, when the couple faces fertility problems, still the first examination is the gynecological one. Consequently, the elemental andrological examination (the examination of the sperm) should be carrying out too. It is common mistake to fail the man's examination when having already a positive gynecological finding. As mentioned above, a parallel fertility disorder of both partners is quite common. Many studies proved a slow yet constant tendency to a quality decreasing of the male sperm within last 40 years. We understand the increased incidence of synthetic estrogens in the environment as well as in the male organism to be the cause.

What is happening during the conception? What is the role of the ovum and the sperm?

Only one ovum penetrates a depleted wall of an ovary every 14th day of the menstrual cycle and it is drifted through fallopian tube towards the uterus where it is awaiting the sperm. The conception has to be done within 24 hours after ovulation. The sperms are able to live in female sexual ways up to 72 hours. Hundreds of million of sperms enter vagina during a single ejaculate usually. If a sexual intercourse happens in the same time as the ovulation, part of them heads towards the ovum. However, only one can actually enter it and fertilize it. It is not an easy way for the sperm. It has to go from vagina to uterus and via fallopian tube up to the ovum. This distance has to be made within few hours. On top of it, the sperm has to be resistant to spermicidal effect of the acid vaginal environment. It also has to float against the streams of "liquid" which heads from the uterus and fallopian tubes downward an out. Therefore, it is not surprising that the sperms' mortality is hugely high. The amount of sperms is crucial also for another reason yet. To enter the ovum, the sperm need sufficient quantity of enzyme obtained from the sperms heads – acrozone. Only about 50 000 sperms, which reach the ovum, provide the sufficient quantity of this enzyme.

What is the successful sperm like?

The unambiguous answer should be: the best. Crucial is the proper structure of the sperm. In each ejaculate, there is a huge amount of sperms with the abnormal

structure. The normal sperm has got regular, oval head, then the middle part (we call it "neck" without widening or fraction. The last part contains of a long slim straight flagellum. As a normal ejaculate, we consider the one with 30 % and more sperms of normal structure. It follows the successful course of fertilization depended on a "team" work. The sperms are just a small part of the ejaculate content. Thus we cannot consider the man's fertility from the quantity of ejaculate. Sperms comprise only 5 to 15 % of the ejaculate content. The rest is formed by liquid produced in prostate, seminal vesicle and in Cowper's glands. These glands and their secretion are a very important source of liquid environment for the sperms. That environment has got an optimal level of the basicity contrary to the acid vaginal secretion. The above mentioned glands are also the source of minerals (zinc, for instance) and energy (fructose) which sperms need necessarily for the life and for their active motion towards the ovum. The excessive quantity of ejaculate means "dilution" for sperms and consequently the risk of leaving the vagina too fast. The optimal ejaculate's content is 2 – 5 ml.

How does the proper seed look like?

The normal seed has got pearl to grayish opalescent color. It is homogenous and after the ejaculation it coagulates within tens of seconds. Within few minutes (max of 1 hour at a room temperature), it liquidizes again. Some gel grains can be present there though. They do not liquidize. The seed should not be transparent, roily nor brownish and reddish. In the case there has been a longer time-lag since last ejaculation, the color might be light yellow too. The scent of ejaculate ought to remind us of a chestnut blossom. The motion ability of the sperms is highly important. The sperms which move fastest (fast and straight like an arrow) have got the biggest chance to reach the ovum first and to fertilize it. About 25 % of sperms should move in this way, we call them level A. Sperms of level B move a bit slower reminding us of a snake. They keep the direction and they are nimble. However their motion is meandering. Thus they are slower, yet they spend more energy. There is supposed to be also at least 25 % of this type of the sperms in the ejaculate. The A and B level's sperms are considered as sperms with progressive motion. Although the C level's sperms are moving there is no progress. It means they do not head towards any direction. The last group of sperm is called level D. It seems they do not move at all. It is also to say, the individual sperms should not form clumps. It hampers to move. The agglutinating activity of 10 or more per cent of sperms indicates the immune disorder, the present of anti-spermatic antibodies. Regarding the amount of sperms, we assume the concentration of 20 million per milliliter and total number of the sperms in the ejaculate exceeding 40 million to be normal. There are also cells, released from epithelium of male efferent genital ways, and white blood cells present in each ejaculate. If there are more than one million of the white blood cells per milliliter it is necessary to check the possibility of an infection.

Spermatic examination

By the spermatic examination, first we find out whether the ejaculate and sperms are all right. Then we learn the above mentioned sperms' attributes. If there is any inconsistency, another more detailed examination is necessary. There is a need of continence about 4 to 5 days prior to the examination. The sperm's sample should be gained by masturbation, not by coitus interruptus. It is not desirable to use normal

condoms for sampling. They contain substances which kill the sperms. It is best when we can process the ejaculate immediately. It means the sample should be taken in lab. However, if the man is not able to reach the ejaculation in the lab room, he is advised to do it home. Nevertheless, it is highly important to transport the ejaculate to the lab within 60 minutes in the container without a light access and keep it in body temperature. By male fertility disorders, repeated examinations are necessary.

Spermiogram, the fundamental examination of the seed i.e. a volume appraisal, pH, the number and percentage of the moving sperms, is conducted by labs in the hospitals and health centre. The more detailed examination of sperms with the assessment of the moving level (A – D), the sperm structure and the functional test is carried out in the specialized andrological facilities, the reproductive medicine lab or in a research institute. The reproductive medicine labs examine sperms usually only according to a suitable usage of the given assisted reproduction's technique. The right procedure should embrace a complete spermiatic examination in accord with the regulation of WHO. The andrological facilities which are specialized for the examination of the male genitals are provided by accurate analyzers and, more importantly, also by rich experience. The examination can be done either on a man's request or on the recommendation of partner's gynecologist. The fundamental examination is covered by the insurance companies. The more specialized one would pay the patient alone. The prices are comparable with the ones in west Europe.

The causes of male fertility disorders

We basically recognized 4 main causes leading to the male fertility disorder. They are as follows:

- sperms' production disorder
- sperms' transport disorder
- sexual functions disorder
- compound disorders

In the past, it was quite common to suffer from an unclarity of the efferent genital ways what was caused by repeated inflammations. As antibiotics now treat them the unclarity occurs rarely. The problem lies most often in the production of the sperms. It might be due the malfunction of the blood circulation while suffering from varicose veins scrotum (varicocele). It can also occur after the operation, the inflammation or descent of the testicles, by the disorder of hormonal unbalance in testicles or finally as the result of some medicinal drugs. For effective treatment, it is crucial to name the proper cause. The testicles have got two main purposes: the production of sperms and the production of hormones. These two functions are connected closely. Besides the fertility, the testicles are also very important for the general male health. Apart from a sexual function, many other organs need the male sexual hormones: muscles, brain tissue, tissue producing antibody against the infection, red blood cells etc. In addition, there the problems with prostate, urination and osteoporosis in the later lifetime might occur.

Risk Factors of the Male Fertility Disorders' Origin and their Prevention

Besides smoking, high temperature and chemical substances, the physical load such as a sport and other physical activity, burdening excessively the abdominal muscles,

may play a significant role. The extra burdening of these muscles worsens an outflow of venous blood from pelvic organs. Likewise the sports such as a long or cross-country bike rides or a horse riding when one burdens excessively a perineum region. The prevention in a childhood related to the proper evolution of the genitals is the important task for the pediatricist as well as for mothers alone.

How much does the age matter? It is quite common question asked by men who tent to be father after his 45th birthday or later. Very often, it is a case when a man has already brought up one generation of children and now with a new partner he would love to have another baby. Regarding men, the age alone is not important. However, it is true the older the man is the bigger health problems might face. If the man is fine there is no reason why he could not have children even in his 60's.

The fundamental male examination is always the sperms examination. Then the examination concerning hormones comes. After that the patient undergoes the special examination done by an expert according to the results of a previous set of tests. Every man who comes here with the fertility problems is instructed that there are two ways how to solve his problem:

1. To restore his fertility and a proper function of his genitals. That is an optimal solution; sadly we are not successful with all patients.
2. To use the techniques of the assisted reproduction. However, the success is not 100% sure though. The success depends on the general health of both partners, on their response to the treatment and also on the experience of the particular medical lab.

Before the treatment, the couple should be aware of all possible ways and their probability that the treatment would be successful. They would be helped with the judgment of all the pros and cons including the time and financial factors.

The new technology is very helpful in the male infertility treating. Thanks to microsurgical operations, we can clear again the once closed male spermatic ways. By the help of special micro-cameras, it is even possible to take up the samples of sperms directly from testicles' tissue. And then, we are able to inject these sperms through an ultra-light injection into the ovum (IVF – ICSI). After all, the last word is to be said by a man and his common sense. He should also consider the health of the yet unborn children and the genetic consequences. An array of problems is inherited. As the matter of fact, it might be that we will be faced with the existence of “the lord of creation” alone.

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There is a free anonymous advisory centre regarding the fertility and infertility on www.neplodnost.cz.

THE REHABILITATIVE MOJZIS-METHOD AS THE PREVENTION AS WELL AS THERAPY IN THE REPRODUCTIVE MEDICINE

Hana Volejnikova, physiotherapist

Generally speaking, a skeletal and muscular system of the European-American population is not good. An age limit of people suffering from backache is tapering off constantly. It is an exception when we find single one without these problems among the age bracket of 50's. There is no doubt the main reason is an unhealthy lifestyle, wrong eating habits, a lack of move or an unsuitable move. However, it is not widely known nor considered that the state of skeletal and muscular apparatus affects also the other systems of organs and their functions, a reproductive function for instance. How to avoid these ailments or to reduce a risk at least? Apart from commonly known recommendations regarding the healthy lifestyle it is necessary to integrate the move in a daily programme. We should pay a high attention to choosing the right and suitable sport. There are also the danger sports, when spills on the backs or buttocks can occur, such as skating, judo, skiing, cross-country bike riding or horse riding, especially without a saddle. If there are already some problems, women after 30 should avoid sports where hard landing might apply.

The rehabilitative method of Ludmila Mojziso娃 proved here as a suitable therapy of these problems. Ms Mojziso娃 worked at the Faculty of Physical Education and Sport in Prague. In 80's, she was renowned among our top sportsmen. Her own rehabilitative procedures were very effective for the complaints with a backbone. The time proved that her methods have got surprising "side effects". Many patients, who once suffered from painful menstruation or from pain during a sexual intercourse, did not have those problems any more. There were even women who got pregnant after a long-lasting treatment of the infertility. After the method was scientifically proved, it obtained a certificate from the Ministry of Health Care in 1990. All health insurance companies cover the treatment.

What is the heart of the matter? The Mojzis-Method is a physiotherapeutic, reflexive method belonging to the so-called soft techniques. It takes an advantage of the knowledge of reciprocal influences between genitals functioning and a state of particular parts of a spine and a tonus of the pelvic region's muscles. If there are problems with the backbone, the complaints regarding respective organs might occur and vice versa. A long-term and excessive nerve fibres' stimulus causes an escalated tension (spasms) of the muscles around the backbone. The escalated tension in the pelvic region arises through an injury, repeated mini-traumas, inflammatory processes in pelvis, disorders in vertebrae's set and the civilizational diseases, especially the psychological stress. Patient seeks us usually on the recommendation of her GP. She is examined. She is taught all the rules of the treatment, in particular how to do a home physical exercise and the upright posture. The patient should also follow a regimen for drinking and avoid some sports and moves. The patient himself does the loosening-up and toning exercises two times a day for about 20 minutes. Then in the next phase, the physiotherapist does a pelvic muscles' relaxation and a backbone's mobilization. This intervention is crucial. Here we should highlight one thing. Although it is often spoken only about the Mojzis' exercises the exercises alone are not enough. The intervention of physiotherapist is

the most important part of the treatment. The regular exercise and the mobilization remove the undesirable tension of the muscles along the backbone as well as of the muscles in the pelvic region. It also improves a promotion of the blood circulation in pelvis. In addition, it removes the changes of the tension in the genitals too. The length of the treatment depends on a diagnosis and varies up to 6 months.

The method is proved for the following disorders:

- some kinds of the functional female sterility
- some kinds of infertility (the inability to carry a baby to a term)
- some kinds of dysmenorrhea (the painful menstruation)
- some kinds of dyspareunia (the painful intercourse)
- some kinds of constipation
- some kinds of retention and incontinence (the inability to urinate and the inability to hold an urine)
- coccygodinia (the pain in coccyx)
- the pelvis' pain of an unclear origin
- a child scoliosis and the most of the vertebrogenic diseases (the backbone's complaints).

The successfulness of this method depends on the type of diagnosis, on the age of the patient, of course on the physiotherapist's skills and on the patient's willingness to participate in the treatment. To mention the percentage, regarding the sterility, it is about 30 % and while treating the dysmenorrhea we are successful in 75 %.

The method is neither aggressive nor invasive. It does never damage a patient. It is quite cheap compared with the other therapies used in the reproductive medicine. It only demands a physician who is willing to use this method and an instructed therapist. It is advantageous to use it immediately after the ailments' finding. By those women who the treatment is suitable for, it will have been effective within a few months. By the others, who will not get pregnant, it might help to get over the long time of looking for their infertility's causes. One feels helpless and gets depressed. As our method has got significant psychotherapeutic effects as well, it is always of great profit to use it in that time.

However, there is a risk when the therapists who are not appropriately instructed use the method. First, the therapy effectiveness might be reduced or not effective at all. More importantly, it can possibly cause health damage when it is not done properly. Therefore, a fundamental condition is to be treated by the professionally instructed physiotherapists who are the physiotherapists instructed by Ludmila Mojzisoava alone or the physiotherapists who were instructed in special courses organized by the Mojzis' students and have got the certificate to teach this method. The National Care Centre of Non-medical Health Branches in Brno organizes these courses, among others. The full database of the certified physiotherapist is available in The Maternal Hope's Foundation (Address: Ke Džbanu 17/385, Praha; tel.: 00420 235 364 682; email: info@materska-nadeje.cz). This foundation will provide you by the name of the physiotherapist who works the closest to your home.

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A RISKY PARENTS' BEHAVIOUR IN THE COURSE OF PREGNANCY AND AFTER THE CHILD IS BORN

Lubomir Kukla, paediatrician
(Co-authors: D. Hrubá, M. Tyrlik)

Smoking is considered to be the most dangerous factor damaging our health and shortening our lives. An array of the health side-effects of smoking affects both men and women similarly. There is especially an increased chance of following diseases: lung cancer, cardio-vascular diseases, lung emphysema, chronic bronchitis and cerebral-vascular accident. Women are more susceptible to the numerous other diseases and damages. Smoking decreases a level of estrogens, which implies a higher chance of osteoporosis, cardio-vascular diseases and cervix cancer. It is also a significant infertility factor, and it is one of the causes in ectopic pregnancies, miscarriages, premature births, growing retardation of an embryo, some congenital developmental defects, sudden infant death syndrome (SIDS) and others.

SIDS is the most often cause of the death in the age from two weeks to one year. It represents 30 % of all death in this age group. The incidence of SIDS is worldwide and affects mostly the children between 2 to 4 months. It increases in colder months, by lower social-economical status, by premature children and by those who went through the period of apnoeas and needed resuscitation, by children from the families where SIDS was diagnosed formerly and also by infants whose mothers were smoking during the course of pregnancy.

The slow physical development affects not only the skeletal and muscular systems but also a development and function of lung and brain. Comparing a proportion of a brain to a body weight, the infants of the smoking mothers have got smaller brain weight by 1.6 to 2.6 g. On top of it, infants from mothers who are smoking have got more frequently particular kinds of congenital developmental defects, such as defects of an abdominal wall and upper extremities, heart diseases, harelip and cleft palate, valgus and bowed legs and mongolism. A frequency of the incidence of these defects depends on the number of cigarettes the mother smokes. The upper bound is said to be 5 cigarettes a day. More cigarettes a day increase the risk. The risk is multiplied when using an oral contraception prior to a conception. The notice has been made recently about the affect of an exposition to the cigarette smoke in pregnancy. It is assumed that it affects badly the development of hearing and speech and it might be also one of cause of problem behaviour of children (such as hyperactivity, impulsiveness, disobedience, defect of an ability to be focused and aggression) and even the higher crime rate of the adolescents and adults.

Similarly, alcohol is deemed a proved risky element regarding the human reproduction. Its negative effect is called a foetal alcoholic syndrome. (Consumption of alcohol is often combined with smoking.) This syndrome is usually diagnosed by the newborns from mothers who are chronic alcoholics. Already dangerous volume is more than 1 beer, 2 dl of wine or one small shot of a spirit a day. We are not sure when precisely in the course of the pregnancy the embryo might be most damaged by alcohol. Thus the pregnant women are recommended to drink alcoholic beverages abstemiously or not at all.

A father who smokes is also a negative factor affecting the newborns' health. There are studies, which have proved that children conceived by fathers – smokers suffer more often from smaller and even serious congenital defects. A treatise delivered by the Oxford scientist proved a statistically significant positive trend between a smoking intensity of the fathers and a chance of child tumours. Both ways of child damages by means of the fathers' smoking are explicable biologically: the cigarette smoke contains high concentrates of oxidizing agents which initiate the changes in DNA with subsequent various clinical manifestations. More frequent oxidative defects of sperm's DNA and decreased level of antioxidants in the ejaculate of smokers were proved repetitively. Contrary, a share of the alcohol on the higher incidence of child tumours was excluded.

Nicotine, which the embryos are exposed to, goes easily through a placental wall. Its concentration in an embryo's blood plasma is only slightly lower than in its mother's blood. A biological half-life of nicotine is 2.6 hours by the adult smoker; in the case of the newborns, it is three to four times longer. Whereas the half-life of a cotine is by the both age group similar. Alcohol and cigarettes have got provable teratogenic effect on the human embryo. The foetal alcoholic syndrome and the foetal tobacco syndrome are recognized and the most often diagnosed clinical repercussion of the prenatal exposition to alcohol and tobacco. The most serious effect of the mother's alcoholism is the mental defect. Besides, these newborns have got often multiple malformations such as microcephaly (a small head), short eyelid's gaps, a smaller middle part of a face, abnormal palm lines, heart diseases etc.

Thus the anti-smoking and anti-alcohol education of the women and men in their reproductive age as well as a strict teetotalism in the course of the pregnancy and a breast-feeding belongs to the basic rules of the healthy regime. In addition, some negative effects of the passive smoking were found out. On that account the influence on mothers-to-be partners is highly advisable too. Needless to say, the pregnant women should avoid all the rooms and spaces filled with smoke. Certainly, the doctors speak to women about the negative effects of smoking. But it seems that it is not insistent enough and the mothers-to-be play it down. According to the ELSPAC study, more than one third of women smoking during all their pregnancy gave it up after the birth. Norwegian scientist came to a similar finding. For the anti-smoking campaign, that time (after the birth) is therefore of the same importance as the pregnancy alone. The mothers' motivation is then very strong. Strictly speaking, the sooner the woman stops smoking the better. The most of the anthropometric indicators (with the exception of the length), which we use to assess the physical development by birth, was same by the children of the non-smokers and smokers who gave it prior to 32nd week of the pregnancy. The authors explain it: the fastest linear growth of embryo is within first 15 weeks whereas a fast growth of a muscular mass continues also in the 3rd trimester.

The smoking fathers are an issue, which is often omitted, it should not be though. We have already mentioned above how the smoking father might determine the incidence of malignant tumours in the childhood and congenital defects. Furthermore, he threatens pregnant or breast-feeding woman as well as the embryo or baby by the afterburning products. More over, if the father stops smoking, he gives a moral boost to her partner who gave up smoking recently.

This article works on the outcomes of the international ELSPAC study (European Longitudinal Study of Pregnancy and Childhood).

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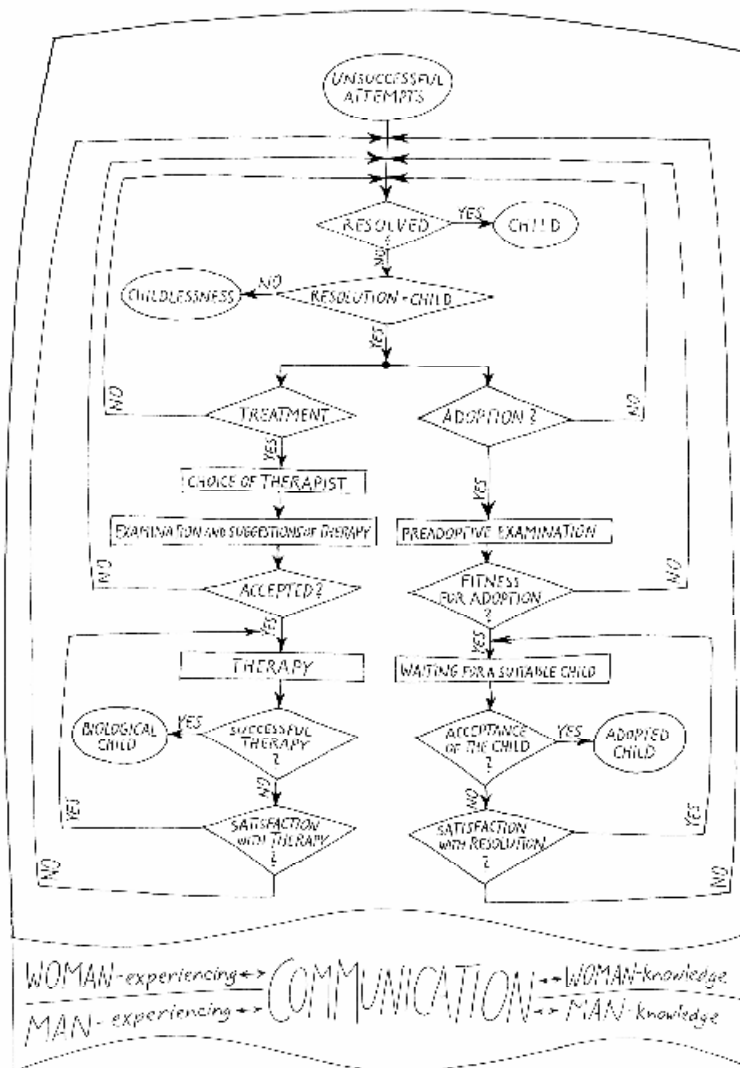
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PROBLEMS WITH BECOMING PREGNANT - A STRESSFUL SITUATION

Hana Konecna, psychologist

This article is not supposed to threaten women and men thinking about to have children at a more matured age. Even young women paying attention to the prevention might finally face the infertility problems. Thus as important as to know what to do to have a baby when I actually want to have one, it is to have a conception of how to tackle a situation if things become complicated. Whatever subjective strain, a desire for a baby which has not being accomplished included, it is always more bearable when we can envisage it to some extent and consequently have some chance to control the situation. To speak in metaphors: it is reasonable to have a map when we set out for a journey to a baby. It means we should be aware where paths and ways, hills, deep woods and scarps are, which roads are suitable for us. The main source of information is our physician of course. However, it is always useful to have the information from other sources too such as therapists, psychologists, some organization involved in this issue, internet, magazines and last but not least the experience of present and former patients. The map may look similarly as the one bellow.

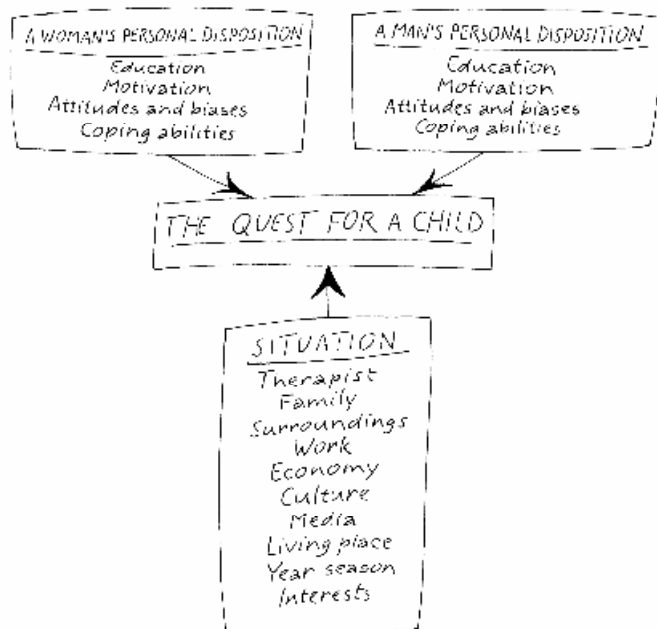


What we can read in it? Let's begin with the aims. There are 3 different aims: a biologically own child, adopted child or childlessness as my own choice. Not one from the above aims is inferior. The sooner one realizes that, the better. It does not mean that you give up a fight to have an own biological child. Still, it is necessary to think about all the options you have got. You have to be strong and do not give up, do not lose a hope, to fight with all your strength. And to be able to be so strong you need to think in advance and to be conscious that the problem has got also other good solution. A possible failure of the treatment does not hurt so much then.

The way to a child is almost always a way of two people who have got a different immersion and different concepts and also information about the problem. It does not matter whether the cause of the failure is found out in a man or a woman; they both would suffer the consequences (which is to say involuntary childlessness). To be able to reach a right decision, it is highly necessary to communicate properly. When the partners do not talk about the problem, it is still a communication but it can hardly solve anything. The presence of both partners is greatly recommended at the diagnostic and therapeutic consultations and even by some surgical interventions.

The fertility disorder does not have any apparent symptoms. It is not perceived as a disease. There is neither improvement nor remission. It is a bare "either or". The worst of all is a sense of impotence and endless waiting. Therefore, it is crucial to take matters into own hands, to choose a direction we will follow which is: to choose the aim, the proper therapist and psychotherapist, a suitable method of the treatment, keep looking for the information and follow a healthy lifestyle. One feels better when she/he has got an impression of keeping a tight grip on the issue. It is important to be confident to say: "I have done all what I could".

To continue in the metaphor about the map, the previous picture represented a tourist map with the roads and intersections and even with contour lines according which we were able to assess the effortfulness of the route. Nevertheless, our ability to finish the journey depends on many other extraneous and intrinsic influences; let's call them climate conditions and the fitness of the wanderers. See the picture below.



Individual people are affected in different measure. The financial aspect does not bother you when you go through a rehabilitation treatment, but it becomes a significant factor while undergoing the treatment by the methods of assisted reproduction. A culture environment and personal attitude determine the ethical acceptability of a chosen solution. We cannot really change these influences but it is good to know about them. The journey we are talking about in this article is a journey of two people (sometimes just one) but no more. Only these two wanderers can pick out their way. It is only their journey.

A diagnostics and the fertility disorders' treatment, a process of adoption possibly, is not a sprint where you can clearly see all the way and the finishing line is within a reach. On the contrary, it is a strenuous long march. It is totally necessary to accept that fact and to adapt to those conditions. It means we have to plan our strengths. It might restrict the other activities of the couple, woman especially. Although, it is important to do all one can, it is not reasonable to sacrifice all, to give up hobbies and joys. Ironically, they would be a psychological support we need in the bad times.

The fact, we are not able to have a child, does not necessary mean that our life is useless. Even the time we have spent on fighting for a baby would not be lost. It might bring new experiences and better knowledge of your partner. It would probably intensify your relationship. This journey is sometimes wrongly perceived as inappropriate. We are prejudiced that if the child does not come naturally, the one is inferior. Then she/he feels ashamed and isolated. In that case, we should not stay alone with our troubles. We need to speak with somebody, to express our feelings and doubts. It is a part of psycho-hygiene. Besides partner, who is the most important one, it is worthy to have somebody else whom we can trust fully. It is recommended to share your feelings and doubts with somebody who has got the same problems. The psychologist is truly the one who would always stand up for you.

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FAMILIES SERVICES AS A CONTRIBUTION TO THE HEALTHY REPRODUCTIVE BEHAVIOUR

Ing. Bc. Vit Janku, andrologist

(Co-author: Hana Konecna, psychologist)

According many studies, amiable social-economical conditions such as a good standard of living, a reasonably high welfare and tax allowances are crucial for a decision whether to have a child. However, despite the always better economical conditions, there is a constantly lower birth rate. In addition, less and less couples are getting married. Thus, it is necessary to find out other incentives which could persuade and encourage young people to have children and create a family. Establishing or improving a family friendly environment in a society might be one of them. The families would have got an access to the services which ought to make the parenthood easier. These services would offer and allow a mother or a father a personal development which would be different from the parental one. Hence I actually lead one of those family friendly organizations I would love to share my experiences with you.

Let's ask ourselves: What do the young people gain when they finally decide to have a baby? Will they have more money? Will be they more respected in the society? Will they have more time for their personal development, education etc.? Will they get a better position in their job? Will they have less trouble? Not at all! Quite the contrary!

The other question follows. Can we afford to judge these people as selfish, conformed in individualism? As a matter of fact, we would better consider their objections. The child has never in the history had such a value (a position) as it has got now. It is proven by the Convention on the Rights of the Child. Consequently, it has probably never been so difficult and demanding to be a good parent. There is no reason to wonder neither to denounce the people who after considering all their skills and opportunities will decide not to have a child. A psychologist West claims: "It becomes a heroic deed to devote oneself for parenthood or even to find a balance between being a good parent and still being successful in the professional life."

According to many scholars, a reproductive behaviour of a young generation is a bare reflection of how the parenthood is perceived by the society and what family-friendly environment the main society can actually offer. With a reference to the psychologist Mr. Zeman, only the quality family-friendly environment will increase the probability that the young couples will agree to have a baby. The wish to have a contented family with children is still highly ranked anyway.

What will the next parents face up to?

- They have to fit themselves in the parent's role, to accept the change of a social status.
- They have to accept a personal responsibility for establishing of the optimal conditions for healthy child's development.
- They have to match up the professional and parent's role.
- They have to match up the parent and partner's role.

What is the aim of the family-friendly organizations regarding the above mentioned points?

Our experiences show that even though there is a huge quantity of literature dealing with that topic, the young parents are greatly insecure while expecting their first child and during the time after the birth. Once, thanks to multiply families it used to be easier. The younger children ordinarily witnessed the pregnancy, birth and parenthood of their older siblings and them again of their mother (parents).

From our observations, taken in birth preparatory courses as well as in the various classes before and after the birth, we know that not only proper information is greatly useful. More importantly, the opportunity to share both the good and bad experiences and feelings is highly welcoming. In spite of living in the time of the communications technology, ironically, one is more and more isolated in fact. The young mother or father are puzzled by the amount of information and advises how to be the best parent. But unfortunately, they are not aware that there are young parents next door they have to cope with the same problems. The young parents need to identify with this community, to know that the others face the same troubles and obstacles. Especially for the parents of disabled children and for lonely parents, meeting with other mothers and fathers in the similar situation is very much needful.

This “self-confirmation” is of the same importance as the professional information. And we can observe it in each stage, from pregnancy, through the birth, the infant and toddler’s age, up to the pre-school and even school period. Very useful are for example so called “self-helping” groups of mothers, weeklong stays for the whole family, educational classes etc. The famous Australian psychologist Steve Biddulph claims: “It is necessary to keep in mind that the families need to belong somewhere. Whatever helps to connect families together and establish strong local communities, it will eventually save a lot of money and troubles and will lead into a society in which individual people would rely on each other.” The Czech author Matousek (1997) adds: “The ability of the family to bring up children and to struggle with difficulties depends on the whole social web which the family is a part of.” He describes this web as a coalition of families. They depend on each other. They include the immediate family, friends, acquaintances, professionals in the special organizations etc. The aim is not to create isolated ghettos. In the contrary, we would like to set up the “self-helping” groups in which the participants may stay how long they need and help each other.

Another huge problem is how to combine the professional and parental role. In the public awareness, there is a deeply rooted picture of a contented mother enjoying her maternity leave. She is just babbling with her child and for her territory, she picked a sandpit. She accepted humbly an economical dependence on a husband and resigned from any other individual development. It goes without saying; it is just a bare illusion. Sadly, the reality is completely different.

Unfortunately, the state through its provisions demonstrates that the above-mentioned picture is the only correct one. This status quo is confirmed also by a long-lasting unsuccessful fight for the possibility to enroll the child into a kindergarten for a shorter period without losing the parental benefit paid by the government. Similarly,

there is no willingness to allow the mothers (and/or the fathers) staying with their children at home to earn unlimitedly.

Thanks to many organizations and their activities, the situation of women is being improved noticeably. Some of them even do not need to interrupt their career. There are more and more companies which are amiable to families. These firms accommodate women through part-time job, so the women (and men) do not lose contact with their professions during the maternity leave. There are even some professional organizations who dispense consultancy to those women who have decided to set up their own business. There are offered retraining programs and some other associations deal with the companies and firms directly to convince them that the mother with children is as good and reliable worker too. The aim of all these activities is to enable women to have a contented motherhood without any worries about their professional continuity and individual development.

Strengthening of fathers' role

More and more fathers want or must participate in upbringing. The role of father, consequently the role of the whole family, has been changed. But there are missing models whereby they could act. It seems the fathers' participation on the upbringing is necessary already from the beginning. In some countries, there is even so called fatherly or paternal leave. Ironically, nowadays mothers, because of their own doubts, often keep the fathers from being active independently. The weekends and other events for fathers and their children might be helpful for those cases. The number of fathers who are able to take on a part of the care of housework and the children is constantly increasing. Moreover, there are men who truly enjoy the contact with their children. Although the development in this issue is obvious, some women might find it too slow anyway.

How to prepare yourself for the above mentioned psycho – social problems?

- The choice of partner is crucial. It is important to behave like a partner in the true sense of the word.
- It is also fundamental to know what are the conditions and benefits for parents with children provided by the current employer, or to deal about it possibly.
- To check up what family-friendly activities are offered in the place of living.

In conclusion, I would like to add that I am very well aware that many parents often experience a total exhaustion. They are at the end of their physical as well as mental tether. In spite of that they do not need to panic. In this frame of mind, they are more open for their personality development. With the co-author of this article we both insist on a contention: In spite of all the effort and worries, it is definitely worth to have children.

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A DAY FOR THE REPRODUCTIVE HEALTH, A WORLD INFERTILITY MONTH

Tomas Marik, a sponsor's representative

The American Fertility Association (AFA*) announced June to be the world infertility month (WIM). In 2005 it was already forth times. This tradition represents a resolution to support the million of people who struggle to have a baby. It also reflects an effort to confront an unfavourable vital statistics in the most countries of the so-called western world. About 15 % of the couples in their fertile age face this problem. Formerly, it was viewed as a female issue. Recently, it was learned that the percentage of a male factor is the same at least. The most complicated case is then when the cause of the infertility is on the both sides or contrary, when in spit of all modern diagnostic methods it is not clear where the cause of the problem lies.

Last 50 years we have witnessed a rapid development of medicine approaches and means for the infertility's treatment. Nowadays, there are many methods which are able to help the most of the couples. The new discoveries of medicaments and methods enable even the once totally sterile couples to conceive and to give a birth to an own child.

A birth of Louise Brown was a real turning point. She was born in the Great Britain in 1978. Her birth will be linked forever with pioneers of an assisted reproduction J. Edwards and P. Steptoe. An original indication for IVF was an unclearness of the fallopian tubes (so called tubal factor). The range of cases when we use the methods of the assisted reproduction widened significantly in the course of time. The successfulness of the treatment by the assisted reproduction's methods is now bigger than successfulness of conception when the "normal" fertile couple tries to conceive spontaneously.

The methods of manipulation with single gametes (micromanipulation) facilitated fatherhood to those men who were before perceived as infertile. It seems, that from the view of a genetic disposition of the future generation the risk is not bigger than by the spontaneous conception. The methods of pre-implanted genetic diagnostics (PGD) work here as a kind of insurance. Thanks to PGD, only embryos, which were examined on the most often genetic contagious abnormalities, are transferred eventually into uterus.

The Czech Republic was never much behind with the world development. Our first test-tube baby was born in 1982. Thanks to political changes on the beginning of 90's, our specialists obtained an access to all the modern medical means and devices. They also got the opportunities to discuss their experience with colleagues from the western world. A raw of new medicaments appeared on the Czech pharmaceutical market. A familiarity of the possibilities in the current reproductive medicine spread into a public. The internet plays a significant role in dispensing of the medical information. In addition, the couples come to the specialist in more mature age after they have solved their economical needs and have settled down. Then they realized they needed a child to be a contended and happy family.

Hence the strong generation, born in the middle of 70's, is now turning 30's birthdays, and begins only now to think about the parenthood, the high quality of the assisted reproduction is important. In the last ten years we have witnessed an unprecedented

fall of nativity. If the trend is going on, the dying out of Czech nation will become closer. Already now, more than 2000 children are born thanks to IVF every year. It is worth to consider that the IVF method is the last one. Much more children (approximately 8 – 10 %) are born after not so demanding treatments.

The group of sponsors umbrellas the activities connected with “The Month of the Reproductive Health”. In addition, those sponsors take a part also in the progress of the reproductive medicine. Their aim is to establish an ambiance of the awareness and good communication and to show the affected couples that they are not alone. The company Organon is worldwide a platinum sponsor. It is the honour for its long-lasting effort in research and production of the effective medicaments for ovarian stimulation (gonadotropin). This medicament (Puregon-recombinant follicle stimulating hormone) is currently the most widespread one over the world. Besides the distribution of the infertility’s medicaments such as Puregon, Orgalutran, Pregnyl, the Organon Company run the internet site: www.neplodnost.cz, which belongs to the most visited in that field. It is a compliment for us to stand behind the principal activities, including this booklet, within the Czech Month of the Reproductive Health.

* www.theafa.org/wim

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