

Conception and Lifestyle - Integrative Psychosomatics in Ovarian Insufficiency

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Introduction

Lifestyle factors have an impact on fertility. Aside from well-known somatic and genetic factors which may not be influenceable, lifestyle factors can be modified. Thus, to some extent, conception and course of gravidity can be influenced by couples. Those wishing to conceive can make use of counseling and other offers. In the following, two case vignettes will highlight how psychosomatic factors in patients can play a role in fertility issues. Focuses are on primary and secondary ovarian insufficiency, the latter on hyperandrogenemia ovarian insufficiency as it is a syndrome with relatively high prevalence.

For any psychosomatic approach, it is important to see that the so-called somatic self encompasses bodily data including medical illness, juxtaposed with the patient's subjective experience [1]. Of course, subjective experience is not enough, as is not bodily data alone. This holds true as well for patients' reports, since subject autonomy can vary from one patient to another [2]. Treatment requires apt assessment of these issues.

In any case of symptom formation, somatic interaction with psyche plays a role, and vice versa, not only in gynaecology [3]. It is not rare that psychic issues present as somatic phenomena, which have been conceptualized in conversion, or in somatoform disorders such as masked depression, as shown in many overviews [4]. Psychic conflicts can also induce gynaecology-related symptoms as in e.g. Pruritus vulvae, Fluor, Vulvovaginitis, which can be masked sexual disorders [5]. It took a long time for gynaecology to realize such psychosomatic connection, still a lot of etiopathology issues are not quite clear. What Ronald Batt in his history of endometriosis would describe as huge spaces of time elapsing from the beginnings of the pioneering spirit until perspectives have changed, holds true for these issues too [6].

David Hume once stated that one can never satisfactorily demonstrate that one phenomenon is actually the cause of another; instead some modeling of relations is helpful in order to approach reality proper [7]. German pioneer of psychosomatics Arthur Jores once remarked that pathogenesis is often traceable, whereas etiology is not [8]. Therefore it should be helpful to pay attention to what is not obvious in symptom formation; it is the aspect of subjectivity that has to be taken seriously in illness and cure, also for intervention [9,10]. That is why some superordinated re-evaluation of psychosomatic illness might be helpful for further psychosomatic reasoning, which has lately been asked for by several clinicians in the field in order to



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augment the bio-psycho-social model by a fourth mainstay which might be in a humanities-derived concept [11]. The overall aim should be that a 'dispersed patient' will be a thing of the past [12].

Pre-Conception Counseling

Pre-conception counseling in gynaecology and mental health care is increasingly used by couples wishing to conceive. Some basics play an important role in stock-check: illnesses, medication, former pregnancies, malnutrition, cycle irregularities and thyroid function [13]. Further aspects are rule out gingivitis, periodontitis, alcohol, caffeine, and nicotine. Ideally, BMI should be between 18.5 and 25. Moreover, a fundamental behavioral advice for patients is to consider the hangover effect of contraceptives, which in depot gestagens can take months. General nutrition optimizing is essential, including the substitution of folate and iodine for a closing of the neural tube in the fourth gestational week, not only in the first trimester but in pre-conception [14-16]. Generally, after one year of regular intercourse, further advice should be sought [13]. In one-year-plus cases, in males there is often no malfunction diagnosed, so couples often report practicing abstinence time in between intercourse in order to elevate male sperm quantity. This is not useful since quality will decrease the lower the intercourse frequency is [17]. In contrast, the higher the frequency is, the better sperm quality will be [17].

A psychosomatic perspective takes into account such factors. A psychosomatic-interactive perspective also accommodates the interactions of the individual; i.e. individual problems can have interactional function, which can be revealing to diagnostics and to intervention [18]. Systemic aspects in psychic and somatic disorders are obvious [19], in couple functioning and in individual functioning, which can also be seen in females' disorders like sexual functioning disorder [20], or in eating disorder [21]. Pre-conception counseling should thus encompass aspects of the bio-psycho-social kind as basics of intervention strategies of which in the pre- and postnatal context many have been developed [22-24]. The patients' level of

neuroticism has to be taken into account too as e.g. perfectionism can get in the way [25]. Counseling has to consider nutrition and daily routine issues but not too many of orthotherapeutic measures for patients who may tend to orthorexia [26]. An integrative approach like of Kyra Hoffmann and Sascha Kauffmann also takes into account little-known metabolic disorders like cryptopyrroluria, a form of mitochondrial dysfunction that might be related to strain [16]. Stress factors can be causal not only symptomatic.

Also, with regard to the advantages of vitamin D like in high-dose application in endometriosis via vitamin D3 progesterone vaginal suppositories treatment, endometriosis and myomas, which are contributed to by low levels of progesterone, should have been treated before conception [27]. In prenatal vitamin D lack there is possibly an increased incidence of obstructive lung disease in children age 3 to 9 [28]. Moreover, in some overviews, vitamin D in PCOS (polycystic ovary syndrome) is reported to be sometimes helpful [29,30]. As in endometriosis, infertility management on the one hand requires an understanding of the pathophysiology of illness and fertility, on the other, in psychosomatics there can be many factors triggering infertility of which allocation can be difficult [31]. Recent findings have shown a huge progress of knowledge of these issues [32-34]. There is also much research linking toxic xenoestrogens, which are environmental chemical-based estrogen mimics known as endocrine disruptors, to hormone disruption. Teaching patients how to detoxify these toxins or eliminate the daily use of them can add immeasurably to the clinical outcome of many approaches.

In our focus on fertility issues in female patients, the following case vignettes will discuss two types of ovarian insufficiency from a psychosomatic perspective.

Primary and Secondary Ovarian Insufficiency

Primary ovarian insufficiency

There is no more maturation of the follicles, low estrogen production, and an increased concentration of gonadotropin. It is about 5 to 10 percent of ovarian insufficiencies, whereas idiopathic sterility, i.e. with unknown cause is about 25 percent. A slight improvement of fertility via vitamin E substitution has been observed [35]. The conventional procedures of assisted reproduction have been well-documented [36].

Case vignette 1: The 30-year-old patient had been sent to psychosomatic counseling since she had not become pregnant in a time period of two years. Her gynaecologist had diagnosed sterility because her anti-mullerian hormone (AMH) level was about zero. Her hormonal status of female hormones, estrogen and gonadotropin would be beyond the normal status for women in reproductive age [37,38]. Her values were equal to women in climacterium, so her reproductive success would be below 5 percent.

There might have been several reasons for this so-called potentially idiopathic sterility without exact details. This is a result of the small prevalence (0.1%) and incidence (at this age 2:100,000) for this kind of ovarian insufficiency, for which only a handful of case studies but several examinations with low case rates exist [39]. In these, the reasons for premature ovarian insufficiency are said to be chromosomal aberration, loss of germplasm as a consequence of

operative intervention, virus infections, chemo- or radiotherapy, or autoimmune illness (in 30% of cases).

In our case, the patient had no pre-existing illness. Her gynaecologist had sent her to a private center for reproductive medicine. She had reportedly been informed that synthetic fertilization methods like intracytoplasmic sperm injection and other *in vitro* fertilization procedures would not be successful.

In practicing Ayurveda there would be alternative methods against sterility. We told her that we might support her ovarian reserve and activate the forces of her body. The patient seemed overworked and stressed. In anamnesis, the patient reported of having had well-being problems for some years, and of migraine with facial visual field loss, and panic attacks. A glucose tolerance test resulted in a pathological glucose tolerance with normal insulin secretion, leading to an advice of balanced nutrition and psychological consultation.

The patient's symptoms were treated with methods from natural medicine in gynaecology, and one psychotherapeutic session per week as short-time therapy (25 hours in six months) [40,41]. For physical treatment, we used spagyric healing methods like solunate no. 4, ameliorated with Sunthi (ginger) and Agni (digestion), and did ayurvedic detoxification via a mild Panchakarma cure [42]. We assembled along ayurvedic principles, Kapha-increasing nutrition with nuts, milk products, rice and fresh fruit like mango, fig, red grape juice and pomegranate juice. Furthermore, for the regulation of blood pressure we recommended small snacks with nuts, fruit, and warm meals eaten in a quiet atmosphere. Moreover, we used ayurvedic phytotherapeutic pharmacology [43], Shatavari (*Asparagus*), Dadimadi Ghrita (medical pomegranate ghee), and black sesame with cane sugar. These all have a reconstructive effect on the Shukra dhatu (reproductive weave), the uterine hormonal balance. The psychotherapeutic sessions were one per week with some mental training for stress reduction since physical stress reactions hint at failed regulation of insulin secretion, which might induce premature estrogen deficit. In the psychotherapeutic sessions we focused on coping strategies, and on a new evaluation of daily routines, as well as on relaxation techniques for stress reduction. Furthermore, we treated the panic attacks via defining unconscious conflicts of anxiety. We defined them as blockades and stress factors, and were able to formulate clear aims. With additional elements of art therapy we managed to initiate creative processes as well as uncover and work through some of her unconscious conflicts. After five months the patient informed us about her pregnancy.

Secondary ovarian insufficiency

There is a disrupted maturation of the follicles and of hormonal production. In the case of PCOS the patient shows increased plasma levels of androgens and is often progredient from oligo- to amenorrhea. This has to be examined, taking into account diverse factors of interaction. Again, the conventional procedures of assisted reproduction are well-known [36].

Case vignette 2: The 29-year-old patient had been sent to psychosomatic counseling since she had not become pregnant although having dropped the pill two years ago. The patient had not been diagnosed with PCOS but with some psychosomatic ovary dysfunction, some diffuse secondary insufficiency that could not be

further related to. She appeared not obese, yet a little overweight (BMI 25.5). She reported of meticulously detailed planning of nutrition for several months. Her job as a managing director of a big urban beauty parlor had been stressful. Her partner, a distribution specialist, had two children from an early marriage. The couples' intercourse frequency had been high; after a one-year-period into their relationship she experienced herself urgently wishing for a baby. Her partner had reportedly been fine with that. After one year without conception she went to see her gynaecologist to rule out somatic dysfunction. It seemed anamnestically strange that she had not become pregnant. Her gynaecologist would recognize a psychosomatic factor that might contribute to a seemingly bland ovarian insufficiency, so he commended her to try psychosomatic counseling.

The patient reported of having beauty surgery such as breast augmentation and nose correction, which she had been quite happy with. She also had a correction of the labia minora with a reportedly moderate outcome. Her gynaecologist had told her he found it done well, pointing her to very different outcomes in praxi [44]. Her partner and her sister thought the result was good. It also turned out she had a tendency to eating disorder, and to low caloric intake. All the more, she had a favor for hyaluronic acid products, not exaggerating but overvaluing antioxidant issues. It is true that as a free radical scavenger [45], hyaluronic acid is considered useful, just as micronutrients like selenium and catechins have an antioxidant effect [35]. However, using these one should not overdose; free radicals have to be balanced.

Being an attractive woman though, she reported struggling with her own bodily construction zones, as she called them. There was not only perfectionism with quite a strict color in her doings, but she reported of her undoing sins of eating by strict diet [25]. Such undoing sins of eating have shown a tendency of increasing control over bodily appearance going along with societal tradition, adding to a tendency of increasing anomie in societal structure [26,46]. Such attempt at gaining control over one's body is on the one hand helpful, on the other it hints at personal and societally conflictive tendencies. A tendency from centering to dispersal that personally shows in a shift from identity to fragmentation is clinically noticeable here [47]. A parallel, somewhat crossed and multi-layered societal motion calls for enforcing culturally prescribed body modification; today's eating disorders echo the historical development. From this perspective, anorexia is an exaggeration of modernity, as bulimia is an elegant form of keeping up appearances; both make for a motion from symptom to desire [47]. Therefore, changes of lifestyle in the broad sense of the word often provide the key to well-being when embedded in a psychosomatically apt concept.

In this case, only after intensive verbal reframing, accompanied by intensive acupuncture treatment, the patient would reconsider some irrational beliefs of her own image and then experience herself as feeling calmer. The verbally therapeutic process took about almost one year and would be accompanied by a gynaecology-specialized acupuncturist. It took her one more year until she became pregnant.

While in this case quite a bland type of secondary ovarian insufficiency was at work, in PCOS patients there has to be an approach of integrating bio-psycho-social factors even more.

Findings on hyperandrogenemic ovarian insufficiency:

Polycystic ovary syndrome (PCOS): PCOS is a spectrum disorder of hyperandrogenemic ovarian insufficiency. It is an inflammatory phenomenon with no consistent symptom formation and no consistent etiology and pathophysiology but a heterologous occurrence with phenomenologically resembling symptoms [35]. The three main pathophysiology theories are the central hypothesis, the genetic hypothesis, and the metabolic hypothesis. These are theoretical constructions, as mixed types are often the case. In metabolic pathophysiology, increased androgen secretion leads to hyperandrogenization [48]. Generally, although off-label in Germany, metformin often leads to a decrease of high androgen concentration, to an increased rate of ovulations, and to a higher rate of gravidity [49].

PCOS as one of the most common endocrine disorders of women in reproductive age [50], aside from the main symptoms of polycystic ovaries, shows androgenization, oligo- or anovulation, and cycle disorders; accompanying symptoms are often depression and fatigue. The latter have mainly been classified in terms of somatic etiology of genetic, ovarian, hypothalamic and metabolic causes. A typically increased testosterone level is considered responsible for increased sympathetic nerve activity.

Psychosomatic etiology has been discussed recently in form of intrauterine imprint through androgens via fetal programming, which might play a role for developing of PCOS [48]. As to exposure of the fetus to androgens in utero, some correlations have been confirmed [51]. Other findings include correlations between hypersexuality and premenstrual syndrome (PMS) [51]. Other endocrine factors are not clear yet. Even a connection of pesticides and PCOS has been discussed [52]. PCOS patients not wishing to conceive are mostly treated with anti-androgenic contraceptives, although there is a relatively unknown percentage of cardiovascular risk. However, patients pursuing to become pregnant have to be offered something different.

A small study from Swedish Karolinska Institute investigated the effectiveness of electro-acupuncture and physical exercise on sympathetic nerve activity in women with PCOS [53]. In search of an effective treatment without any side effects, the research team conducted a randomized controlled trial consisting of 20 women with PCOS, average age 30 years, building three groups: nine women were treated with low-frequency electro-acupuncture, five women had to do physical exercise, six women served as untreated control only receiving nutritional advice during sixteen weeks. The acupuncture group received fourteen units of treatment-knee, abdominal and ovarian points were stimulated. The results were surprising: at the end of the study, waist size in the acupuncture group had decreased while BMI and weight had not. In the exercise group, BMI and weight had decreased, while waist size had not. In both groups, contrary to control, there was a decrease in sympathetic nerve activity, suggesting an alternative non-pharmacological approach in treatment of PCOS. However, only in the acupuncture group, women reported of a reduction of cycle irregularities, and only in this group there was a significant drop of testosterone levels. As testosterone levels are considered independent predictors of high sympathetic nerve activity, this phenomenon can be seen as significant in terms of an integrative psychosomatic approach.

From this very viewpoint, it is striking to see cycle irregularities be reduced only in the acupuncture group. This fact seems to be relevant as to the functional, regulatory aspects in PCOS. Of course, the small sample of the study leaves further demand for research, just as much as in psychosomatic aspects such as fatigue and depression. Mood outcome was not published, something that in such a study is highly regrettable but not rare [54,55]. At least, the often strong effects of acupuncture on cycle irregularities hint at an integrative approach to be useful [56,57].

As to conventional therapy, a University of Siena, Italy study found the syndrome related to abnormal adrenal steroidogenesis [58]. The researchers measured the adrenal androgen responses to adrenocorticotropin (ACTH) before and after treatment with metformin. The results of this study showed a significant reduction in basal concentrations of free testosterone and a significant increase in concentrations of sex hormone-binding globulin. The administration of metformin was associated with a significant reduction in the response of 17 α -hydroxyprogesterone, testosterone, free testosterone, and androstenedione to ACTH. The ratio of 17 α -hydroxyprogesterone to progesterone, which indicates 17 α -hydroxylase activity, and the ratio of androstenedione to 17 α -hydroxyprogesterone which indicates 17,20-lyase activity, were significantly lower after a month of metformin treatment, indicating a reduction in the activities of these enzymes. The conclusion of this study was that the administration of metformin to PCOS patients clearly led to a reduction in the adrenal steroidogenesis response to ACTH, supporting the hypothesis that high insulin levels associated with PCOS might cause an increase in plasma levels of adrenal androgens. In this case, adrenal and pancreatic support with metformin offers an effective clinical option for patients. Other findings support adrenal involvement in PCOS; the abnormal expression of adrenal steroidogenesis was also reported [59-61]. Recently, chlomiphene has shown strong potential to elicit ovulation [48].

As can be seen, PCOS is a difficult-to-treat challenge requiring precise diagnostics as well as varying purposeful approaches in therapeutic measures in order to have a successful outcome. As to the Karolinska Institute study, it is valid but still not strong enough to make a case solely for acupuncture intervention. This was confirmed by the latest findings that acupuncture solely is not superior to chlomiphene [62]. It might be the combination is most effective.

The findings on PCOS as common disorder is one thing, subclinical cases with no pathology found are another.

Lifestyle, Personal, and Social Issues

Personal lifestyle and society-related issues leave their imprint on subjective psychosomatic experience. Recent developments of technical feasibility allow for some progress but also have disadvantages. Some disadvantages even seem to arise from technical feasibility itself, sometimes even producing the problems they are supposed to be solving. Even when often individually helpful, further abolition of nature in reproduction issues seems no good an idea [63]. As there are some human developmental stages to be taken seriously, one must bear in mind that human nature may not be capable of everything technically feasible [64].

Generally, the high rate of childlessness and of late childbearing in the western world can be said to be caused by increasing opportunities

with regard to work, to leisure, and to relationships. Fragile employment adds to it too, just like unreliable relationships make for fragile subjective experience [65]. Leisure, i.e. culturally-related opportunities, seems to be a highly crucial issue as it is shaped by many factors of increased freedom, so that many choices have become possible of which symptom formation can be a part of. Impotence can be put in such a context. In their Lacan-inspired paradoxical prescription for “a (misguided) life in times of hard-fought rights getting rolled back,” Critchley and Webster ironically recommend impotence (which might be the hidden consequence of seemingly total sexual freedom) and internet pornography as best methods of contraception [66]. Such an ironic advice may reveal aspects of personal choice in symptom formation. The psychohistorian Dan Dervin in his findings focuses not solely on the disappearance of children in the west but identifies quite a fragile and contested state of childhood in which children are more and more susceptible to unprecedented cultural changes [67]. It is fair to say that such personal experience can lead adults to at least think twice about offspring. Social aspects cannot be underestimated [46], and general tendencies in society are closely related to personal, psychosomatic issues [3]. In other words, energy, or lust for birth giving and related issues might be on the decline in many aspects [68]. The choice of reproduction must be viewed in social context. Aside from the patient’s personal image of femininity, which plays quite a role for her experiencing of somatic issues [30], the social dimension must be taken into account as must hormones and psyche, i.e. mood aspects [69].

Lifestyle, social and personal aspects go together in psychosomatics. The understanding of patients’ being part of a bio-psycho-social structure supplies the force behind integrative psychosomatics. Nutrition issues are part of it, too. In its extreme form, sterility can be inferred from sexual disorders or from eating disorders with hardly any clinical conspicuousness. “The growing prevalence of eating disorders among young women in the West has the unacknowledged though intended consequence of sterility, adding to the ever-declining birthrates. The fixation on androgynous pre-pubescent bodies, exercise, low caloric intake -i.e. total control over one’s body-also leads to the draining of the libido” [66]. Again, the consequences must be an integrative approach, including not too many of orthotherapeutic measures [26]. A sexual disorder was neither the case in vignette 1 nor in vignette 2, yet in the latter the patient’s tendency of working on bodily construction zones is quite obvious, hinting at the western world’s motion from a bodily-violent society of discipline to a seemingly non-violent, albeit no less strict mental self-disciplining [70,11]. Self-optimizing can be more painful than helpful, and going to extremes can suspend Eros and thus grossly be inefficient since in opposition to lust for birthingiving.

A recent case study points out how the agony of Eros has similarities to symptoms of psychotic dimension: a personal conclusion can be in symptom formation or in a withdrawal from relatedness, of which both can be said, when Eros leaves, Narcissus comes knocking [71]. The other way round, it is abandoning Narcissus that leaves room for Eros, which is not only essential for conception but for parenting [46]. Societally underappreciated, motherhood is as fragile as is childhood. A societal renewal seems to come from eastern regions: Stanka Stepanovic from the University of East Sarajevo, Republic of Serbia, advocates for new appreciation, for what she calls elevated

motherhood. Such is mirrored in findings on some ancient concepts of the beginnings of life [72]. Her concept seems to wed to the old-fashioned concept of republican motherhood in eighteenth-century America [73], which went along with special appreciation for women. Seemingly anachronistic, it is exactly that kind of appreciation which is, adding to well-known everyday obstacles, often socially missing. As a matter of course, this is not to confine the role of women to motherhood but a chance of rearranging role models, fitting them out with appreciation status. Conception as an act of elevation merges motherhood into society [74].

Integrative Psychosomatics of Conception

Psychosomatics and nutrition issues have led to dozens of practical overviews, the same with stress factors [75,76]. Of course, many psychosomatic factors are very personal since they deal with biographic issues. These are therapeutically influenceable. Still, there are topics that emerge regularly as most patients are confronted with these more or less. Although there seem to be very different personal motives as to symptom formation-e.g. nutrition issues may begin as compensatory self-supply, or they begin on grounds of lack of impulse control-each shows radical self-control and its failing [26].

The psychosomatics of conception will require intervention that fits the patient's needs and respects their capabilities. Quite often, female patients have to undergo emotionally intensive therapeutic conversation on their image of femininity and image of future pregnancy [30,68]. The language of dreams often tells about that [68]. There may also be other topics of which many have clinically been described in the early years of psychodynamic theory [77]. Reactivating of bodily resources plays a further role, as can be achieved through short-term psychotherapy, which can focus on coping strategies as to both bodily and psychic disorders. This can be done within weekly short-term psychotherapy sessions with elements of art therapy [78]. It could be shown that several modes and ways of psychotherapy will help patients with psychosomatic issues, also in gynaecological psychosomatics [32,34], aiming at a decrease of unconscious conflicts and irrational beliefs from childhood [78]. Quite often, a systemic view, i.e. of families' or couples' levels of regression will lead to suitable intervention [79,80].

In female patients, an important aspect can be in virilization, literally as a somatic process of androgenization, and in a possible trend of female identity issues, as is a loss, or lack of rituals in society and personal development [81-83]. In some females there might be too much of masculine identity, which goes along with overall personality masculinization [81,30]. This can be viewed as psychosomatic virilization, as a masculinization of psyche and sometimes the body, when put in context of a trend of cultural androgynization which can be correlated to the influence of third-wave feminism in the western world. The big picture shows a societal trend of disruption in women, of which some are in accordance with femininity, the others struggling with it. Familiar to many health care practitioners, identity masculinization might be explicable by early findings on the female sexual cycle regarding the organization of psychosexual functioning. Two phases before and after ovulation, i.e. follicular phase and luteal phase, determine two subsequent psychic stages: the first contains a tendency of activity, the second a tendency of passivity. Bio-psychologically, activity in the follicular phase aims at ensuring the

sexual act, whereas the passive, receptive-retentive tendency in the luteal phase ensures gestational functioning [69]. Sometimes the bio-psychological dimension seems to be suppressed by an overall societal disesteem of psychosexual activity stemming from the follicular phase.

Analogous to masculinization in females, males can also undergo feminization. Aside from social influence, male impotence can psychodynamically be functional sterility. While such impotence psychodynamically stems from the stage of castration anxiety when the male child discovers the anatomical differences of the sexes, in ejaculatio retardata not castration anxiety but a passive-retentive tendency has been observed [69]. This means, not true functional sterility is at work but a passive tendency in males is too powerful. It may be related to well-known male feminization issues, adding to issues of testosterone levels, and to the influence of estrogens in a decrease of sperm count [84,85]. In the case of a male patient seeking fertility counseling, the patient who took selenium for sperm motility, was only able to ejaculate more often after his activity-passivity issues had been worked through. Aside from letting go, which was something he had to learn slowly, his image of psychosexual activity had to be biographically rearranged. It was not about sperm motility-for which selenium can actually be helpful-but about the patient's overall activity which would influence his pseudo-sterility [29]. This also confirms some of the findings about intercourse frequency and sperm quality [17]. These findings are in accordance with psychosomatic observations about a retentive psychosexual attitude which is seldom useful, neither for better sperm quality nor for reasons of psychic hygiene.

We must not forget that from conception on, pregnancy is often subjectively experienced by women a crack in what is called 'psychic armor', hinting at the beginning of a transformation process [81,74]. Via anxiety and pain, reformatting of psychosomatic identity will take place. Such transformation, again, carries an aspect of ritual, of which has been observed a lack in girls, too [83]; many are not used to experiencing processes natural in character any more. Such transformation, in the narrow sense of the word, can be quite a difficult issue for mothers-to-be as it touches subjective feelings of authenticity [86]. This might also have added to the trend of less birthing in the western world more than ever before.

From a dynamic morphology perspective, Israel-based prenatal researcher Grigori Brekhman in his 'electromagnetic wave theory' has described human cell structure as molecules of water, proteins and DNA, which exchange information; ovum and spermatozoa communicate with each other, and the zygote becomes new resonant mass [74]. Morphogenetically, when looking at the phenomenology of ovum in the abdominal cavity, it can be described as hot, internally active, and self-sufficient. For sperm, it is the other polarity of cool, externally active, and dependent. According to this view, both ovum and sperm carry organic and non-organic information in the sense of epigenetics. They have a history and have a present at which they will have to be in resonance in order to enable conception. Following prenatal researchers Olga Gouni, Jon Turner and Troya Turner, due to the fact of fast regeneration of sperm cells in contrast to the determinate number of female ova, sperm rather "carry short-lived experiences of the father, information free from the heavy

weights and traumatic experiences of the past (...)” [74], whereas in the female ovum long-lived aspects of the female’s experiences are processed. From such a perspective past experiences will have to be resolved in males and in females. Yet, there might be a tendency for males to benefit from short-lived regeneration processes, whereas females’ experiences might be susceptible to expanded bodily memory. Such experiences have occasionally been described in regression therapy settings [87]. However, at the time of conception, and for the process of conception to happen respectively, the dynamics of ovum and sperm have to be in some kind of harmony. In the case of vignettes 1 and 2, resonance might have been disturbed. It should be taken into account two to three months before conception it is for males to especially be predisposed to experience. Since males can never be sure when conception will take place this might bio-psychologically explain some of the often-reported strange behavior in males when it comes to reproduction issues in a relationship. Psychosomatic resonance on a micro-level, however, means that in firsthand pre-conception phase, chemotaxis means sending out information of attraction. Such signal exchange enables conception, accentuating the bio-psychological dimension of sexual relationship. That is why both partners have some interest in fertility issues, which does not make things easier but can tell about psychodynamics. From this perspective, conception can indeed be viewed as an act of elevation [74].

Detoxification, ayurvedic and acupuncture aspects

Many findings like those in Marianne Kruell hint at earliest imprints of prenatal influences, just like in fetal programming for PCOS [48,88,89]. There have been many overviews on research findings of pre- and perinatal influences and therapeutic consequences [90,91]. Again, in many illnesses, not only postnatal but pre- and perinatal factors tell about many psychosomatic findings, also of PCOS, as is discussed in endometriosis [92].

That is why a combination of psychosomatic reasoning, nutrition and hormonal therapy provides the integrative approach. A removal of xenoestrogens can have strong effects. Xenoestrogens have been proven to disrupt the balance between androgens, i.e. testosterone, and estrogen [52,93,94]. By removing toxic xenoestrogen stressors, the adrenals are able to balance hormones naturally without any side effects or continuous need for symptomatic treatment. Regulatory aspects have proven useful, as have approaches of integrating verbal and pharmacological interventions [34]. Aside from acupuncture, a combination of psychotherapy and alternative measures, like phytotherapy and ayurvedic medicine have often shown to be helpful [78].

In ayurvedic medicine, according to Burkhard, healthy reproductive tissue (Shukra dhatu) is indispensable to fertility [95]. In the Shukra tissue, female ovum and male spermatozoa are generated. Infertility is mostly viewed in connection to malfunctioning of Apana Vata which is the third ayurvedic phase of the menstrual cycle. The so-called downward-flowing energy moves the menstrum downward, deflating the uterus. That is why enemas serve as intervention, as well as a regulation of the menstrual cycle in general: fluids such as soup, milk, and grapes induce ovulation, which makes the approach basically a regulation therapy. The intensity of such Panchakarma cure is varied to fit the patient’s needs [78].

Ayurvedic herbs for females, like Kumari (aloe vera) are viewed as cleansing and as regulating menstruation. For males, Aswagandha

(*Withania somnifera*) is applied: the co-treatment of males is to increase rigidity in erection, increase sperm count, and increase motility in sperm. Additionally, as generally in western integrative medicine, training of the female pelvic floor in contraction and relaxation can be helpful, something which is often neglected.

In acupuncture, it makes sense to make the usual approach first: spleen Qi deficiency, kidney Qi deficiency, kidney Yang deficiency, liver Qi stagnation, liver blood deficiency, uterine cold. A rather cycle-oriented intervention should refer to the respective phases: at menstruation, that would be move blood and avoid stagnation via e.g. LV3, SP8, SP10. In follicular phase, that would be nourish via e.g. REN5 (conception vessel), REN6, LV8. At ovulation, that would be move, purge and transformation support via e.g. Four Gates, i.e. LV3 bilateral and LI4 bilateral. In luteal phase, that would be support Qi and Yang via e.g. KD7, DU4 (governing vessel) [56,57]. From a desire-relevant perspective, in auricular acupuncture the antitragus seems to be connected to many of these issues [56].

Conclusion

The idea of treating the symptoms and not the cause leaves the patient dependent on treatment for repetitive relief. While this approach may work to give temporary relief, it leaves the underlying core issues untreated. A focus solely on acupuncture or physical exercise and not other critical clinical factors may not be enough to provide long-lasting relief, as confirmed by latest findings which instead postulate combinations to be effective. Patients will mostly benefit from an integrative psychosomatic approach since not only understanding of specifically female, or male, issues will have a strong impact on the subsiding of symptoms. Taking thoroughly into account psychic, somatic and social interaction is essential. From a future perspective, appreciation of motherhood will be an indispensable basis for successful dealing with these issues.

As to PCOS, an integrative treatment will look to remove xenoestrogen stressors and look closely at lifestyle, stress levels and the environment of the patient. The fact is that many treatments have correlated hormone imbalances to psychic factors and issues like anxiety, depression and mood swings that often clear up with adrenal hormones balanced out. Non-compliant patients who will not follow psychosomatically appropriate nutrition, or change their lifestyle to improve their hormonal status might be offered psychotherapy, acupuncture, and physical exercise as a viable non-pharmacological intervention. It should not be viewed as a stand-alone treatment in integrative medicine. However, since psychosomatic resonance seems to be a precondition for conception, it will be useful to examine the lifestyles and psychodynamics of the couple wishing to conceive. What is called ovarian stimulation can have many paths to access.

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