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The Biopsychosocial Structures and Mechanisms of Gynecological and Obstetric Disorders and the Importance of Interdisciplinary Research

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ABSTRACT

Despite the acknowledged effect of our emotional health on our physical health and the impact of physical illness on our emotional well-being, the cooperation between the mental health care workers and physicians treating physical conditions is minimal. Physical disorders in Obs-Gynecology and emotional well-being are more closely interrelated and entwined than in most other fields of medicine. An experienced Obstetrician-Gynecologist conducted five years of collaborative, interdisciplinary research with two experienced psychotherapists, exploring the domain where their fields overlap- psycho-gynecology.

The possible emotional etiology of a large number of gynecological and obstetric disorders, the emotional consequences of others and prevalent disorders which involve interdisciplinary features, were investigated. The necessity for empathic and efficient communication between Gynecologist and patient was also a focus of this research. Workshops were produced for the transfer of practical skills to other practitioners. Further research in psycho-gynecology is necessary in order to develop practically applicable skills for physicians treating disorders with interdisciplinary features, improve patient care and develop frameworks for interdisciplinary reflective practice, professional supervision and emotional support for physicians.

Keywords

Emotional and Physical Health, Bio psychosocial etiology, Obstetrics-Gynecology; Psychotherapy, Interdisciplinary Research, Psycho-Gynecology, Physician-Patient Communication, Reflective Practice, Emotional Support for Physicians.

Introduction

For centuries, people have acknowledged the relationship between mind and body, the impact of our emotional health on our physical health and how physical illness or disabilities can affect our emotional well-being [1]. Despite these well recognized observations, apart from the field of psychiatry, in my twenty-five years of professional medical experience in Israel, it is rare today for doctors and psychologists-psychotherapists to interact, for the purpose of treating patients together. It is also rare for them to engage in collaborative and reflective practice and to conduct collaborative interdisciplinary research of practice. In some medical specialties, like breast surgery or In Vitro Fertilization, the department employs psychologists, psychotherapists or social workers to provide psycho-social support for patients suffering from physical illnesses. However, in my experience as a physician, the cooperation between the mental health care workers and the treating physician is minimal, and the treatment of the individual patient's physical illness and emotional support occur in parallel but separate domains. This approach remains the norm despite the fact that today a huge number of disorders are described as having bio psychosociological etiologies [2].

I am a physician, specializing in Obstetrics and Gynecology, and adolescent gynecology. The 25 years of my professional experience has led me to conclude that the physical disorders in my specialty and emotional well-being are more closely related and entwined than most other fields of medicine. Over the past five years, I have been fortunate and privileged to interact extensively

with two experienced psychotherapists, Ofer Erez and Anat Ben Salmon. Based on our dialogue, we conducted research related to practice in our field and training of practice. This has enabled me to explore and develop the domain in which our professions overlap which we term psycho-gynecology. This includes many disorders which gynecologists and psychotherapists encounter in their daily practice and subjects related to our approach to practice in general, such as gynecologist-patient communication.

The relationship between physical and emotional well-being in gynecology and obstetrics can be illustrated by all of the following. The hypothalamus-hypophysis-ovary axis leads to the secretion of sex hormones which fluctuate during the menstrual cycle, during pregnancy, post-partum and during menopause, having a huge impact on women's mood and emotional well-being [3]. All disorders related to the uterus and the menstrual cycle affect the woman's emotional well-being due to pain, loss of blood, causing anemia and associated symptoms of weakness, fatigue and dizziness [4]. When women suffer from infections and other disorders of the vagina and vulva, this will have an impact on their sexual functioning and emotional health as a result [5]. The changes in the physical shape of the body during pregnancy and the common, difficult symptoms of pregnancy such as hyperemesis, heartburn and pelvic pain, pose a significant emotional challenge to some women [6]. Most importantly, when gynecological disorders cause infertility or miscarriages, the psychological impact can affect the woman for many years, even beyond the child-bearing period [7]. The anxiety involved in the stressful experiences of infertility treatments, recurrent miscarriages or premature deliveries is almost inevitably projected onto the woman's later functioning as a mother and can lead her to be an over-anxious parent [8]. In most psychological approaches, the quality of the relationship between the infant and the mother during the first years of life is considered to be crucially important to the child's emotional wellbeing later in his/her life [9]. In my experience, physicians treating women during these highly stressful periods, are focused on the patients physical well-being and the successful pregnancy outcome. This leads them to neglect to consider the long-term emotional well-being of the patient and the transgenerational psychological impact on the offspring.

The emotional impact of all these stressful gynecological-obstetric disorders will have a significant effect on the woman's behavior, her decision to involve herself in intimate relationships, her choice of partner and even her career choices. Needless to say, physical and sexual abuse during childhood has an enormous impact on women's sexual and emotional health in adulthood. Eating disorders such as anorexia nervosa and Bulimia are emotional disorders that are more prevalent in women. Due to the symptom of menstrual irregularity, gynecologists are frequently the first professionals to make these diagnoses. Unfortunately, during professional training, specialists in Obs-Gyn do not receive any instruction regarding the emotional aspects of the disorders within their specialty, nor the importance of this in their everyday practice. Therefore, I have observed that many of my colleagues appear either to avoid these issues due to lack of skills to approach them, or lack of time during patient visits. Some believe that these emotional aspects are unrelated to the physical illness, and if they are related, this aspect of the patient's care is not the physician's responsibility, and many physicians feel that the patient should seek emotional support independently, elsewhere. However, during the twenty years of practice in my field, I have made a decisive effort to approach these emotional aspects of my patients' conditions, feeling that they were inseparable from their physical condition. With no formal training, I used basic empathy to do this, and over the years my intuition led me to invest more and more attention in this direction. My accumulated experience led me to believe that this approach may have had a positive effect on my patient's well-being.

As a result of the collaborative interdisciplinary research process which I undertook, I have developed personally and professionally. I have acquired useful professional skills, have produced practical knowledge relevant to practitioners of medicine and mental health and have developed workshops for the communication of some of these understandings to colleagues. In light of the potential benefits for patients resulting from the process which we undertook, as well for health care professionals themselves, and in order to demonstrate the necessity for the development of the Psycho-gynecology domain, I will present some of the topics which we researched.

As part of our interdisciplinary research we have considered the possible emotional etiology of a large number of gynecological and obstetric disorders, the emotional consequences of others and prevalent disorders which involve interdisciplinary features such as Premenstrual Syndrome and Postpartum Depression [10]. Our understandings of all these disorders is beyond the scope of this paper, but I will discuss two such disorders here in order to demonstrate the necessity for further research in the interdisciplinary domain, to meet the requirements for improvement of care for patients with these disorders.

One such disorder which I encounter frequently in my practice is symphysiolysis or pelvic girdle pain during pregnancy. According to Kanakaris, Roberts, and Giannoudis (2011) the etiology and mechanisms that lead to the development of pregnancy related pelvic girdle pain remain unclear, and there is a lack of agreement regarding the incidence, clinical manifestations, and treatment protocols for the condition. The authors stated that a variety of etiologies have been proposed including hormonal, biomechanical, traumatic, metabolic, genetic and degenerative, but accumulated evidence advocates that pelvic girdle pain during pregnancy and postpartum is a multifactorial condition. From my experience, the phenomenon is common, frequently both emotionally and physically debilitating for the sufferer, and challenges health care professionals with regard to both time and resources.

According to Kanakaris, Roberts, and Giannoudis, the phenomenon is related to the effect of pregnancy related hormones on the joints of the pelvis [11]. However, Hansen, Jensen, Larsen Wilken-Jensen and Kjeld Petersen did not find that women suffering from

the disorder had higher levels of hormones such as relaxin [12]. Furthermore, Kanakaris et al. stated that no direct correlation had been found between the extent of the separation or of the radiologic irregularities of the pelvis, to the severity of pelvic pain in pregnancy, in a number of studies [11]. Computed tomography (CT) scanning has also been performed by some authors, but mainly for differential diagnosis [11]. Kanakaris's study showed that the phenomenon may be correlated to other kinds of chronic pain, and previous skeletal trauma. Among a large number of potential factors, those shown to be strongly related to pregnancy related pelvic pain were strenuous work which involves frequent twisting and bending of the spine, a history of low-back pain, pelvic girdle pain or previous trauma to the bony pelvis [11].

A study by Van de Pol, Van Brummen, Bruinse, Heintz and Van der Vaart found correlation between pelvic pain in pregnancy with more chronic diseases and higher scores on the egoism domain of the personality questionnaire. In addition, they found that women with pelvic pain in pregnancy reported more depressive symptoms. Of course, depressive symptoms and scores related to egoism may be a result of painful disorder and not the cause. However, I conclude that in the absence of clear physical or physiological causes, the involvement of psycho-social factors should be seriously considered. In my experience pregnant women who complain about pelvic girdle symptoms, tend to visit the clinic frequently for numerous other reasons, possibly indicating previous sexual or physical abuse, marital problems or other emotional disturbances. Of course, other physical (orthopedic) and obstetric causes of the pain should be eliminated and physiotherapy or hydrotherapy offered in an attempt to reduce the symptoms, but in my opinion the patient should be provided with maximal emotional support from her treating physician and nurse. Her psycho-social status should be investigated and psychotherapy offered alongside physiotherapy if considered necessary.

The second gynecological disorder with emotional aspects, which I want to discuss is Vestibulitis-Vulvodynia. Driver described this, as a condition characterized by intermittent or continuous, localized, vulvar pain, making sexual intercourse intolerable for the sufferers [14]. According to Vasileva, Strashilov and Yordanov, most patients describe sensations of burning, stinging, irritation, or rawness in the area. The symptoms may spread to the whole vulva (generalised vulvodynia) or only to part of it, such as the clitoris (clitorodynia) or the vestibule of the vagina (vestibulodynia). The authors described the significant impact of the condition on the affected women, their intimate partners and the negative impact on quality of their lives [15].

According to Paavonen vulvodynia is an underdiagnosed complex clinical syndrome with several subtypes and therefore its prevalence is unknown [16], while Vasileva, Strashilov and Yordanov vulvodynia, stated that the condition can affect up to 16% of women, and can occur in girls and women across all age groups and ethnicities. The authors described the condition is a significant burden to society and the health care system [15].

Research has presented many therapeutic options such as vulvar hygiene measures, local treatment, oral medications, psychological approaches, surgical procedures, electrical nerve stimulation, and laser therapy. However, it is apparent that no single treatment is effective for all patients. Bergeron, Binik, Khalifé, Kelly, Glazer, Meana, and Amsel conducted a randomized study to compare twelve weeks of cognitive–behavioral therapy, twelve weeks of surface electromyographic biofeedback, and vestibulectomy in the treatment of dyspareunia resulting from vulvar vestibulitis in 78 patients. The patients were assessed via gynecological examinations, structured interviews and standard questionnaires pertaining to pain, sexual function and psychological adjustment, pretreatment, posttreatment and 6-month follow-up. As compared with pretreatment, there were statistically significant reductions on pain measures at posttreatment and 6-month follow-up in all treatment groups, with perhaps a slight advantage in those who underwent vestibulectomy. Follow-up at 2.5-years showed that improvements were maintained for all treatment groups and there was no difference in dyspareunia, sexual function, and psychological adjustment between the vestibulectomy and CBT groups. The authors suggested that women with dyspareunia can benefit from both medical and behavioral interventions [17]. Similarly, Vasileva, Strashilov and Yordanov advocated that an individualized, holistic, and often multidisciplinary approach is needed to effectively manage the patient's pain and pain-related distress [15].

When I first presented this disorder to my psychotherapist colleagues, I described an archetype of patients, who were young, frequently newly-wed patients usually from conservative-traditional or religious backgrounds. My understanding of the condition was that it was an emotional disorder derived from misinformed sexual education and excessively strict conservative parenting. Of course, sexual or physical abuse during childhood was an obvious hypothesis for etiology but most of the women I encountered could not consciously recall such an experience. Undertaking a review of literature on the subject, led us to Liao, Chakrabarty, Mu, Bhattacherjee, Goestch, Leclair, and Smith's research which described histopathologic and physiologic differences in biopsies taken from the sensitive areas of women with vulvodynia compared to controls or compared to non-sensitive areas in the affected women. These findings included infiltration of macrophages and other immune system cells into the tissues and biochemicals such as cytokines and components of the renin-angiotensin system which are produced by these cells. Furthermore, an increased number of neurons and branching of their dendrites was described in a number of studies. These empirical physical findings support the surgical treatment option of excision of the painful tissue or use of local or systemic medication which modify the immune system activity in the area. The findings contradicted my hypothesis that the disorder was entirely a psychological one. However, during the dialog with my colleagues we considered that infiltration of the immune system and specifically that of macrophages must be a reaction to the invasion of a pathogen or physical trauma to the tissue. Women, who undergo vestibulectomy for this disorder, have usually

undergone years of treatment with various topical medical and local anesthetic creams as well as lubricants which they have used during sexual encounters. The above study stated that the women participating in the study and undergoing vestibulectomy were "free from hormonal medications, topical or oral neuromodulators, steroids, pain medications, or angiotensin converting enzyme inhibitors". However, the authors did not mention for how long the participants had refrained from utilisation of topical medications and lubricants. During our dialog, we raised the suspicion that the prolonged use of these topical agents and perhaps excessive palpation of the tender areas for various reasons are the initial cause of the infiltration of immune cells into the tissue and proliferation of nerve cells which remain long after their application is ceased.

Other research has shown that in the long-term many patients who underwent vestibulectomy, have a gradual recurrence of symptoms, and patients who underwent CBT had better long term outcomes [17]. Protocols of couple counselling have also been demonstrated to be effective, while taking into consideration that many of the sexual partners of these women also suffer from different kinds of sexual dysfunction. Furthermore, Corsini-Munt, Bergeron, Rosen, Beaulieu and Steben demonstrated that a greater extent of childhood maltreatment in both women and men was associated with more severe reports of pain during intercourse. These findings support the hypothesis of our team which is the necessity for a thorough process of psychotherapy for these women which may include some CBT principles and be accompanied by physiotherapy such as biofeedback approaches, as well as couple counselling with their partners. We are opposed to the surgical approach, based on the hypothesis that the pathological findings in the vestibular tissue are the result of long term medical therapies or a previous infection or trauma, and not the initial cause. We are also concerned that excision of tissue from the relevant location of the vulva may not be efficient in reduction of dyspareunia in the long term and may impede the woman's sexual enjoyment during intercourse. Unfortunately, many gynecologists prefer the certainty of a physical etiology for the disorder which can be more easily treated with the surgical approach which they are familiar with in their specialty, while they lack the skills and time to treat the disorder through psychotherapy or are not familiar with a psychotherapist who possesses the required skills. It is also unfortunate that patients often prefer to undergo a drastic and traumatic surgical procedure in this highly sensitive area, believing the disorder to be a physical one, rather than to confront the complex personal emotional cause of their disorder which they may be partially or entirely unaware of. Based upon this standpoint my co-researchers and I advocate that gynecologists need to be exposed to the psychological basis of this common and debilitating disorder, and be taught initial psychotherapeutic skills to approach these women's requirements. They should work closely with psychotherapists with experience of the disorder in order to provide individual and couple therapy which induces real and long-term change and improvement in the patient and couple's well-being and sexual functioning.

The above two examples of conditions within the specialty of Obs-Gyn demonstrate the crucial necessity for us to consider our patients in a far more holistic manner, with a biopsychosocial approach. For such an approach, physicians in this specialty must build a long term trusting and empathic alliance with their patients, and learn to explore the possible psycho-social source of the presented physical complaint. Other aspects of the patient's physical and emotional health must be considered even if the patient does not present them to the doctor and doesn't identify the relationship to the specific currently presented symptom. In order to develop practically applicable skills from our understandings in psycho gynecology, my co-researchers and I investigated the subject of doctors' efficient and empathic communication [13]. Since the field of Obs-Gyn, deals with the most intimate and sensitive aspects of women's health, with complex psychosocial associations, effective and empathic communication is a crucial contributor to the success of the physician-patient meeting.

Since the time of King Solomon, it has been observed that the healer's approach towards his patients and his communication skills, have a positive or negative effect on the outcome of the meeting between them and the entire healing process. It is well known that adolescents tend to avoid divulging information to adults. At the same time, parents and professionals have difficulty in transferring important health and safety messages to adolescents. Over the years of gynecology practice with adolescents, I constantly sought out efficient communication skills, and the ability to establish a non-judge mental, open and trusting alliance with these young patients. Such an alliance is essential for the effective communication of important health and safety recommendations to this young, vulnerable population [14]. Empathic and cautious communication is also crucial when working with pregnant women who frequently suffer from discomfort caused by common pregnancy induced symptoms, and whose anxiety levels are usually high. It also sometimes becomes necessary for this population to cope with undesirable results of fetal diagnostic tests and make crucial decisions regarding the continuation of the pregnancy which are very time limited. Some of my patients explicitly told me that my communication skills were empathic, efficient and helped to calm them and give them confidence. However, I felt that in this aspect of my practice there was always room for improvement. Furthermore, I had frequently heard complaints from my patients regarding inefficient and offensive communication of doctors in clinics and hospitals where they had been treated, and posts on social media and articles in the press informed me that many women in Israel had poor or even traumatic experiences during their visits to gynecologists [22].

I first consciously considered the subject of practitioner-patient communication, following my first-hand experience as a patient in a psychotherapy process conducted by Ofer Erez, who later became my co-researcher, together with his practice partner Anat Ben Salmon. At this time, I realized that through interpersonal communication alone, in the psychotherapy process, it was possible to induce a significant process of personal and family change, leading to a huge improvement in wellbeing of all family members. While doctors achieve recovery through medications and surgery, psychotherapists achieve it through interpersonal dialog

with their patients alone. Nevertheless, efficient communication is also an integral part of the doctor-patient meeting and I understood that if doctors wanted to acquire efficient communication skills, they could do so by learning from professionals whose only tool is dialog.

I took an interest in the research Ofer was conducting with Anat, investigating their psychotherapy practice for children, adolescents and their parents. Seeking to learn communication skills for my medical practice, especially with adolescents, I requested to read the texts they had written and discussed the content with them. For the same goal, I went on to enroll on Offer and Anat's psychotherapy training course and conducted discussions with them, concerning our respective practices and the interdisciplinary field of psycho-gynecology. From these discussions I learnt that constructing an open and trusting therapeutic alliance with the patient was the most important factor predicting the success of the psychotherapeutic process, and this appears to be true in the doctor-patient interaction. Research has shown that 'trust' (therapeutic alliance) in the doctor-patient relationship is a better predictor of treatment success than patient satisfaction [16].

The doctor should avoid being judgmental and imposing his personal worldview on issues such as child raising, sexuality and sexual preferences on the patient. I was exposed to the notion of "reflection in action" in that the doctor should observe the patient carefully during their meeting and respond to the patient's behavior and understand her requirements in real-time. My awareness of the prevalence of physical and sexual abuse of women grew and I learnt to look for signs of such previous experience in the behavior of my patients. Most importantly, I elevated my understanding of the absolute necessity for the doctor to provide coherent explanations regarding the physical examination or procedure which he is about to conduct. Later in the meeting the doctor should provide adequate and clear explanations regarding the findings of his examination, test results and the patient's condition in language which the patient can comprehend. He/she should exhibit readiness to answer the patient's questions, provide clear, explicit instructions regarding the treatment, why it is necessary and what to expect from it. If done efficiently and empathically, all these communication stages in the gynecologist-patient meeting improve the probability that the treatment will be carried out by the patient and that it will be effective. Moreover, this kind of communication is a crucial trust-building component of the gynecologist-patient relationship, enabling more efficient care in the future. Despite the fact that conducting these stages of communication efficiently before, during and after the physical examination appear to be time consuming, literature informed me that this approach actually saved time. Research has also shown that empathy in the doctor-patient relationship is a protective factor against physician burn-out [25].

My personal experience in my practice has taught me that efficient communication elevated the probability of successful treatment by increasing patient compliance, reduced the probability of a return visit for the same problem and prevented the possibility of the patient visiting another doctor for a second opinion. Although I had always intuitively behaved towards my patients in this manner, during our research process, I became consciously aware of these essential communication activities, and elevated my utilization of them in my practice. This explication of practical knowledge enabled me to discuss these skills with my colleagues and teach them in workshops.

Another understanding of our research is that the manner in which the physician's employer interacts with him/her and the style of communication between all members of staff in the physicians clinic, affect the way the gynecologist communicates with his patients [10]. If the health-care organization does not acknowledge the relationship between physical and emotional health in Obs-Gyn, and gynecologists are not trained in any way to approach this aspect of their care, the individual physician will be unable to devote time and effort in this crucial direction. This certainly cannot occur if health-care organizations demand that meetings with physicians in this field are 10-12 minute duration and there is no allegiance to one specific physician.

On a personal note, when I embarked on my interdisciplinary collaborative research with my psychotherapy colleagues, after nearly twenty years of practice in a public outpatient clinic, seeing over 30 patients a day, I was emotionally exhausted and suffering from professional burnout, which is common amongst my colleagues. As an integral part of the research process which I undertook, I conducted reflective practice with them, received professional supervision regarding emotional aspects of my patient's conditions and received emotional support from my psychotherapist co-researchers. The renewed personal strength and professional resilience which I have achieved and continue to enjoy today as a result of the interaction with my psychotherapist colleagues in this process, led me to the conclusion that there is a necessity for reflective practice, professional supervision and emotional support for physicians. This is the norm for psychologists-psychotherapists, but up till recently no such framework has existed for physicians in Israel. Over the past year, the regular continuation of our practice under the biological and anxiety-inducing risks of the CoVid 19 has awakened the necessity for emotional support for physicians [19,20]. This should begin in medical school and continue throughout all years of fellowship and practice, and should be provided by practitioners who are familiar with the specific difficulties which physicians face in their practice.

To my co-researchers and I, it is evident that psycho-gynecology is a domain which contains a large number of subjects with relevance to both fields of practice. Much further research is required in the field, as well as suggestions for practical application. This can only be achieved through interdisciplinary research in teams such as ours [21]. In further papers, my colleagues and I intend to present our understandings of many other disorders which fall within the domain of psycho- gynecology. This will also include our understanding of the significance of efficient communication between physicians and their employers and managers, and work conditions in general on the emotional well-being and burnout

of physicians. Furthermore, the subject of reflective practice, professional supervision and emotional support for physicians, will be researched and ways to apply this in practice suggested.

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