

Yael Latzer · Daniel Stein *Editors*

Bio-Psycho-Social Contributions to Understanding Eating Disorders

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About the Editors

Yael Latzer, DSc, graduated from the University of Haifa with both her BA and MA degrees in Clinical Social Work. This was followed by obtaining her Doctor of Science (DSc) at the Technion Medical School in Haifa, Israel. She received additional certification in psychotherapy, family and couple therapy. She held a two-year (1989–1991) fellowship position, training in the treatment of eating disorders at the Psychoanalytic Institute, Menninger Foundation, in Topeka, Kansas, USA.

She founded the Institute for the Treatment and Study of Eating Disorders in the Division of Psychiatry at Rambam Health Care Campus, Haifa, Israel in 1992 and has since served as its director. She is currently Full Professor in the Faculty of Social Welfare and Health Sciences at the University of Haifa. Professor Latzer has served as the head of various academic programs, including a family therapy MA program, a clinical program, and most recently, MA program for ultra orthodox. She also developed an MA nutrition program, which was opened in 2008 with an emphasis on behavioral and psychological related factors, and has been the head of the program for 5 years.

Professor Latzer has published more than a 150 articles in scientific and clinical journals, as well as more than 50 chapters in various books. She has edited three books on varied topics of EDs. She has actively participated in many international and national scientific conferences and serves as a reviewer for a variety of international and local scientific journals. She was also nominated and served as the president of the Israeli Academy of Eating Disorders for 5 years. Her main topics of interest include sleeping and EDs, EDs and family, EDs and religiosity and EDs and identifying at-risk groups and prevention of EDs among Israeli adolescents subgroups prevention. She specializes in family-based treatment, cognitive behavioral therapy, and Interpersonal psychotherapy for EDs.

Five years ago Prof. Latzer developed and established an innovative project in Israel, the rehabilitation house for young women with eating disorders who have entered their recovery phase of treatment. (“Zeida Laderech”). In addition, over the last 10 years she have been active as an advisor to the Israeli Parliament (“Knesset”) taking part in many meetings, and has contributed dramatically to the change

in treatment policy regarding eating disorders. From 2010 to 2012 she served as advisor to pass a new Bill through the Israeli parliament, prohibiting the appearance of underweight models in commercial advertising.

Professor Latzer is both nationally and internationally recognized as an expert in the field of eating disorder treatment and research.

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About the Faculty of Social Welfare Health Science

The Faculty of Social Welfare and Health Sciences was established in 1996 by the University of Haifa and the Council for Higher Education. The impetus for its founding was the intense and rapid professionalization in Israel and throughout the world of the various disciplines encompassed by the faculty. In addition, the new faculty reflects the need for an academic institution of higher learning in the north of Israel to train professionals in the areas of social welfare and health sciences.

Following its establishment, the Faculty of Social Welfare and Health Sciences has strengthened cooperation and collaboration between the University of Haifa and the Technion and the Rappaport Faculty of Medicine by offering specialization in the areas of behavioral sciences and administration, on the one hand, and medical sciences on the other. Each institution contributes and gains from the programs.

At present, the Faculty of Social Welfare and Health Sciences includes the School of Social Work, the School of Public Health, the Department of Human Services, the Department of Occupational Therapy, the Department of Nursing, the Department of Physical Therapy, and the Department of Gerontology.

The Institute for the Treatment and Study of Eating Disorders was founded in 1992 as part of the Division of Psychiatry at Rambam Health Care Campus in Haifa, Israel. Professor Yael Latzer, who founded the eating disorders Institute, has been the director since its establishment. The center serves as a nationwide referral center (though its clients are primarily from the north of Israel), specializing in the assessment, diagnosis, and treatment of eating disorders in adolescents and adults. An average of 12 new patients is referred every week, and approximately 130 new patients are treated yearly. The clinic treatment model is based on a multidisciplinary framework with a focus on family-based treatment and cognitive behavior therapy. Based on this model, the clinic provides a two-year continuing education program for experienced clinicians from all disciplines. The institute has undergone an enormous amount of professional and clinical development over the years and has become a recognized leader in the field of eating disorders, both within Israel and in the international professional community.

The eating disorders Institute is affiliated with the Faculty of Social Welfare and Health Sciences at the University of Haifa, providing a training, practicum, and

research setting for BA, MA, and PhD students. As a university-affiliated teaching department, the clinic trains students from different professions and conducts research projects on many diverse topics related to eating disorders.

Recently, the Institute launched a rehabilitation program for young women with eating disorders who have entered their recovery phase of treatment. This pioneering and unique program, supported by the National Insurance Institute of Israel and approved by the Ministry of Health and Ministry of Social Affairs and Social Services, aims to provide residence in a hostel setting for eating disorder patients during their recovery period. The house, “Zeyda Laderech,” was opened in July 2009.

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About the Pediatric Psychosomatic Department

The Pediatric Psychosomatic Department at the Edmond and Lily Safra Children's Hospital, Chaim Sheba Medical Center, Tel Hashomer, Israel, was founded in 1987 by Edith Mitrani MD. Serving as a nationwide referral center, this department specializes in the treatment of eating disorders in children and adolescents. Twenty patients are hospitalized at each period of time and around 80 patients are hospitalized yearly. The department runs a halfway-out day center and an ambulatory follow-up service. The halfway-out day center serves between 15–20 patients at each period of time and between 40–50 patients are treated there every year. The ambulatory clinic currently treats around 250 patients yearly. The department has treated over 1300 patients since its foundation.

Treatment is based on behavioral rehabilitation of disordered eating performed by a multi-professional team. Patients receive specialized individual, family, and group therapies. Treatment is geared toward the amelioration of disordered eating preoccupations and behaviors, alongside treating comorbid disturbances and promoting the ongoing developmental needs of the adolescent. Treatment is also geared toward encouraging appropriate changes in the family to consolidate the changes achieved and to reduce the risk for relapse.

As a university-affiliated teaching department, the Pediatric Psychosomatic Department trains students from different professions. The department runs many research projects in diverse topics related to eating disorders, suicidality, and psychosocial aspects of pediatric medical disorders.

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Introduction

Eating disorders (EDs) are considered a major problem of the modern era, ranking among the most prevailing public health issues facing female adolescents and young adults in many countries around the globe [1]. Despite the abundance of research investigating many aspects relevant to EDs in the last two decades, ED patients, their families, their treatment providers, and the society in which they live continue to experience a multitude of problems. These include detrimental myths and prejudices as well as the interference of political considerations with respect to the budgets provided for treatment, research, and prevention.

These issues are of particular relevance in Israel because, on the one hand, since the 1990s, Israeli male and female youngsters have been troubled with eating-related disturbances to a greater extent than many other Western industrialized countries [2], raising critical questions about their emotional well-being. Yet, on the other hand, the funding provided for the treatment of EDs in Israel is scarce relative to almost all other Western industrialized countries [3]. This gap between needs and resources led us to invite key distinguished researchers from around the globe to collaborate with local Israeli researchers in the vital endeavor of systematically tackling major unanswered issues in the ED field via a comprehensive book series. We previously edited two books resulting from this multinational endeavor, with implications for ED stakeholders around the world. The first book deals with historical and sociocultural aspects of EDs, and it also spans vast multidimensional and interdisciplinary literature with respect to different etiological theories for EDs. The second book summarizes a similarly comprehensive endeavor with respect to treatment for and outcome of EDs [4, 5].

The current book is geared toward specific issues related to EDs that are relatively new to the field, yet in our opinion hold considerable importance. In this book, we aimed to integrate three different aspects of these novel contributions: medical, psychological, and sociocultural. It is our hope that readers of our book will gain a more holistic perspective not only on the role of each facet but also on their interplay in order to promote the understanding, treatment, prevention, and research of EDs.

Medical Aspects of Eating Disorders

In this era, EDs are conceptualized as partly representing genetically transmitted disorders [6] associated with a variety of altered brain functions [7]. The first two chapters in this book that discuss the association of EDs with attention deficit hyperactivity disorder (ADHD) and with sleeping disorders, respectively, point toward this conceptualization. The next two chapters discuss medical issues that result from EDs: osteoporosis and skeletal involvement in general.

Chapter 1 *Attention Deficit Hyperactivity Disorder (ADHD) and Eating Disorders* (Kaplan et al.)

Allan Kaplan and his associates from the University of Toronto in Canada are among the most prominent researchers studying the relations between EDs and ADHD. Until recently, the links between the two entities were relatively neglected. To correct this flaw, Kaplan et al.'s chapter reviews the growing body of research that has begun to examine the overlap in neurocognitive dysfunction, epidemiology, and genetics that characterize both EDs and ADHD. First and foremost, evidence indicates elevated rates of childhood ADHD in individuals who later develop EDs, particularly but not only for the bingeing/purging spectrum [8]. Moreover, overweight children show a greater preponderance of ADHD inattention symptoms, for example deficits in set shifting, as well as of impulsivity, in comparison to normal-weight youngsters [9]. Kaplan et al. highlight the abundant ADHD-related cognitive disturbances found in youngsters with EDs, including disturbances in executive functions such as impulse control, organizational and attentional capabilities, cognitive flexibility, set shifting, problem solving, decision making, and working memory [10, 11]. These disturbances are related to physiological dysfunction of the medial prefrontal cortex, orbitofrontal cortex, anterior cingulate cortex, and striatum [12, 13]. They may exert a deleterious effect on the integration of the process of eating; they may also increase the rigidity and obsessionality of weight- and shape-related cognitions [14] and the urges and impulsive behaviors associated with binge eating. Some of these disturbances may persist even in ED patients achieving long-term weight restoration and normal eating behaviors [11, 13], suggesting that they may be core ED traits that are independent of the effect of malnutrition and erratic eating patterns. Moreover, Kaplan et al.'s chapter summarizes molecular genetic studies, proposing that common genes involved in dopamine transport are found in binge eating, obesity, and ADHD, likely suggesting a shared genetic predisposition. These findings suggest that methylphenidate, which potentially improves ADHD-related cognitive disturbances, may have some beneficial effect on ED-related cognitions and behaviors. Although evidence-based support for this contention is not yet available, a few case reports administering methylphenidate to ED patients (mainly bulimia nervosa—BN) have shown promising results (e.g., [15]).

Chapter 2 *Sleeping Disorders in Eating Disorder Patients* (Latzer and Tzicshinsky)

The third chapter in this book, written by Yael Latzer from the Haifa University, and from Rambam Medical center in Israel and Orna Tzichshinsky from the Emek Yezreel Academic College in Israel, deals with another important neurologically related issue: the relationship between disturbances in eating and sleeping among adolescents. Eating and sleeping are both basic needs of the human body that are essential for normal development and existence. These needs are directly connected and mutually influence one another. Every situation that involves a physiological and mental imbalance may manifest itself in eating and sleeping patterns, especially when transitioning from one life stage to another. The intensity and the nature of the reaction may differ from one person to another and may be affected by the individual's genetic predisposition, personality, length and magnitude of the change, and social and cultural environment. The first part of this chapter describes both normative and pathological eating and sleeping development and behavior. In the second part, the authors discuss studies examining sleep-wake patterns among adolescents suffering from EDs. Finally, the importance of maintaining a balance between adolescents' needs for autonomy and the supervision and support of parents as providers of healthy nutrition and sleeping habits is discussed.

Chapters 3 and 4 *Osteoporosis and Skeletal Involvement in Eating Disorders* (Zuckerman et al.)

Nehama Zuckerman et al. from the Rambam Medical center in Haifa, Israel, discuss in Chap. 5 the hormonal derangements involved in the physiological disturbances characterizing the ED spectrum, ranging from malnourishment to morbid obesity. The hormonal disturbances in EDs involve the growth hormone-insulin-like growth factor (GH-IGF) axis, with its influence on growth and bone metabolism, which are of particular relevance in adolescents. Involvement of the hypothalamic-pituitary-gonadal axis is common in girls and boys with EDs, demonstrating delayed puberty or hypogonadotrophic hypogonadism and amenorrhea. Hypercortisolemia, abnormal hypothalamic-pituitary-thyroid axis, and osmoregulation alterations also occur.

In Chap. 4, the authors focus on a main concern regarding the endocrinological instability of patients with EDs: the effect of malnourishment and abnormal eating on the skeleton, in particular the risk of decreased bone mineral density (BMD). EDs place adolescents and young adults at risk for bone loss or failure to attain appropriate peak bone mass. Zuckerman and her colleagues emphasize that even in individuals who have suffered from an ED during adolescence and are not symptomatic as adults, not to mention patients with chronic EDs, there is still an increased risk of bone pain and fractures. Adolescents suffering from EDs may evince, in addition, an increased risk of stress fractures and kyphoscoliosis, and many do not achieve their expected final height [16]. This chapter further highlights that one of the reasons for the reduced BMD in anorexia nervosa (AN) patients, in addition to reduced mineral intake and amenorrhea, is their low bone turnover, with relatively higher osteoclastic (bone resorptive) than osteoblastic (bone formation) activity. By contrast, normal-weight BN is not associated with low BMD, unless there is a past history of AN.

Zuckerman and her associates conduct an extensive review of the literature, while adding their own clinical and research input to the continuous discussion of whether to add hormones to the treatment of patients with AN to reduce the risk of osteoporosis. They firmly emphasize that treatment modalities involving hormonal supplements have limited effectiveness, whereas increased caloric intake and resumption of menses are essential to improved BMD. Lastly, bone loss may not be completely reversible in recovered AN patients. This accentuates the great importance of early diagnosis for the establishment of appropriate target weight range (based on premorbid rather than on current weight and height), and for vigorous weight restoration during adolescence [16].

Psychological Aspects of Eating Disorders

Next, three chapters in this book introduce psychological aspects of EDs, followed by two chapters examining specific psychological treatment interventions in EDs. The study of psychological factors potentially predisposing an individual to an ED is subject to considerable conceptual and methodological controversies and ambiguities. Different psychological models relate differently to the etiology of EDs, as in the case of any psychopathology of a putative psycho-developmental origin, according to specific built-in conceptualizations that are generated from treatments of already-ill individuals. The inherent problems with such models in the case of an ED are, first, that hypotheses about predisposing psychological factors are derived from findings in patients who are severely ill not only psychologically but also physiologically when analyzed, and, second, that these models cannot be subjected to rigorous research. Despite these limitations, the merit of any psychological model is that it may assist at least some ED patients (and their therapists) in understanding that their suffering has some relevant deep-rooted personal meaning; this, in turn, may offer an opportunity towards self-acceptance, and/or readiness for change. The current book contains chapters focusing on psychological experiences that are of considerable relevance in ED patients—suicide (Chap. 5), trans-generational transmission of disordered emotional difficulties (Chap. 6), and pathological altruism (Chap. 8).

Chapter 5 *Suicide in Eating Disorders* (Lilenfeld)

In this chapter, Lisa Lilenfeld from the Argosy University, Washington D.C., USA critically reviews the literature on suicide and attempted suicide in EDs. She emphasizes that the mortality rate among ED patients has substantially increased in comparison to healthy control populations, in particular among patients with AN, with standardized mortality ratios ranging from 2.9 to 17.8 [17, 18]. Suicide in AN usually appears within 10 years after the onset of the illness. Suicide is the second leading cause of death in AN patients, after the complications of the ED itself [19]. The picture is less consistent in the case of BN. Whereas in several studies suicide appears to represent the most frequent cause of death in BN, above and beyond the medical complications of the disorder [20]; some prospective outcome studies have