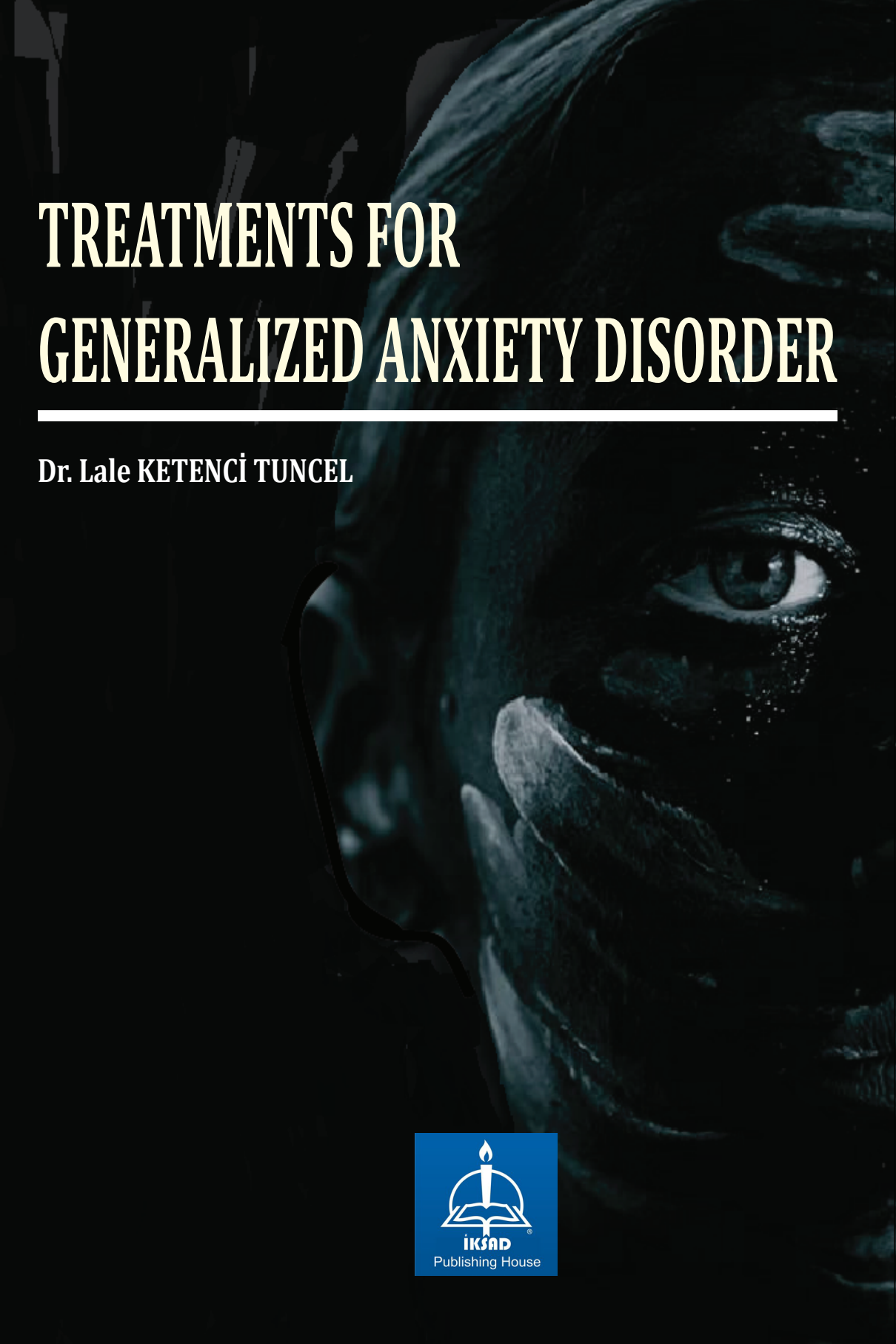

TREATMENTS FOR GENERALIZED ANXIETY DISORDER

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İKSAD
Publishing House

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İstanbul, 2022

İKSAD Publishing House

(The Licence Number of Publicator: 2014/31220)
TURKEY TR: +90 342 606 06 75
USA: +1 631 685 0 853
E mail: iksadyayinevi@gmail.com
www.iksadyayinevi.com

ISBN: 978-625-8423-90-7
Cover Design: İbrahim KAYA
January / 2022
Ankara / Turkey
Size = 16 x 24 cm

PREFACE

I am grateful to Assist. Prof. r. Asll Akdaş for her support, guidance and patience. She has been a special person who has shared her experience, knowledge, and resources limitlessly. Also, I wold like to thank to Prof. Kadir Özer, Assist. Prof. Serap Özer, Dr. Duygu Öztuzcu for their valuable supervisions.

Istanbul, 2022
Lale Ketenci Tuncel

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1. INTRODUCTION

1.1. The Definition and Characteristics of Generalized Anxiety Disorder

The Generalized Anxiety Disorder (GAD) appearing within the category Of anxiety disorders can be diagnosed in accordance with two different classification systems. Diagnostic and Statistical Manual of Mental Disorders (DSM-IV-TR; American Psychiatric Association, 2000) of these classification systems suggests that the main characteristic of the Generalized Anxiety Disorder is "excessive anxiety and worry" and is defined as the occurrence of these for a period of at least 6 years nearly every day about many incidents or events such as success in school and business. Furthermore, DSM-IV TR points out that the person has difficulties in controlling his/her anxiety in the GAD. In addition to this, anxiety and worry are accompanied by three of the following six symptoms: Uneasiness, excessive feeling of excitement or worry; easy-tiring; having difficulties in concentration of the thoughts and ideas or the position as if the mind stopped; irritability; muscle tension; sleeping disorder (having difficulties in falling asleep or continuing to sleep or a sleep, which is uneasy or which does not provide a rest).

According to the other classification system International Classification of Diseases (ICD10 World Health Organization, 2007), GAD is described as a continuous tension and a feeling of anxiety lasting for at least 6 months about the daily events and the problems. Moreover, according to ICD-IO the four of the following six

symptoms should be observed: Autonomic arousal; chest and stomach symptoms; mental fears such as the fear of losing control, the fear of death; general symptoms such as numbness and formication, motor tension; symptoms such as irritability, and difficulty in concentrating, which are not specific ones.

DSM-IV an LOD 10 characterize the features of GAD from different perspectives. In a research made in this matter, it was indicated that there are two reasons of being diagnosed I as GAD according to the criteria of DSM-IV, but not diagnosed as GAD according to the GAD criteria of ICD-IO. The first reason of this is the existence of comorbidity being excluded in the ICD-IO GAD. As for the second reason, it is the not meeting of any of the autonomic arousal symptoms. The most important factor having influence on DSM-IV diagnosis of GAD is overlapping with categories of GAD and panic disorder of ICD-IO. On the other hand, the autonomic arousal symptoms are relatively encountered less frequently in GAD. These symptoms are experienced as only mild in severity GAD. It has been said that there are two main reasons in the diagnosis of GAD only according to ICD10. The first reason is not experiencing the anxiety in an excessive way. The second reason is anxiety's not interfering with normal functionality. Moreover, more loses of faculty are observed in those having DSM-IV GAD diagnosis than those taking ICD-IO diagnosis (Slade & Andrews, 2001).

When we consider the classification of GAD throughout the history, it may be seen that many changes were applied and that this disorder is one of the most discussed diagnostic apsis categories (Sevinqok,

2001). GAD is an anxiety disorderentered into the diagnostic systems along with DSM-Ill. Although acute and strong anxiety and chronic and less strong anxiety can be distinguished, this case has led to a number of definitions until today. Before 1980, GAD was used to be classified under anxiety neurosis defined by Freud in 1894 (Tyrer & Baldwin, 2006). Anxiety neurosis's providing different reactions against antidepressant and benzodiazepines led to the thought that it included different syndromes. Together with the studies carried out, panic disorder and GAD classification was introduced instead of anxiety neurosis in DSM-Il (Saatqioélu, 2001). Another important change was made to associative symptoms. In DSM-III-R, 18 associative symptoms were classified within three groups of criteria as motor tension vigilance, scanning, and autonomous hyperactivity (Fisher, 2007). In DSM-III-R, while associative symptom criteria for GAD are consisted of 18 physical symptoms, the physical symptoms were reduced to 6 by figuring out that some of these criteria are in DSM-IV had more Panic Disorder characteristics. It was considered that defining specific symptom groups would provide a more reliable diagnosis and a more efficient treatment (Ladouceur et al., 1997). Furthermore, the word "unreal" characterizing "excessive anxiety and worry" was removed, that the anxiety cannot be supervised was emphasized and importance was given to the disorder in the other important fields of social, professional and functionality. Although the diagnostic reliability of GAD was low when compared to the other anxiety disorders, the features constituting the diagnostic criteria were found reliable and therefore it appeared in DSM-IV (Saatgioglu, 2001). DSM-IV indicates that GAD should not take a separate diagnosis in the event of its emerging during mood disorders

or psychotic disorders. (Fisher, 2007). In a similar way, DSM-IV-TR emphasizes that GAD should be not have occurred depending on a general medical condition (American Psychiatric Association, 2000). The medical condition such as thyroid diseases, in particular hyperthyroid, heart diseases, substance use and abstinence syndrome may lead to situations similar to anxiety symptoms seen in GAD (Fisher, 2007; Saatçioğlu, 2001).

One of the important features of GAD is considered as the variables of cognitive process. The cognitive process of GAD is consisted of four variables. (1) poor problem orientation, (2) intolerance of uncertainty, (3) cognitive avoidance, (4) faulty beliefs about worry (Dugas et al., 2007; Ladouceur et al., 1997). Ladouceur et.al. (1997) studied the variables of GAD symptoms and variables in the cognitive process. The research results indicate that DSM-IV GAD symptoms distinguished GAD patients from the patients, who have anxiety disorders. It is seen that both variables (poor roblem orientation and intolerance of uncertainty) distinguished GAD patients from the patients, who have other anxiety disorders. It was also analyzed whether the cognitive process variables distinguished the primary and secondary GAD. In the patients having the primary GAD, it was observed, as secondary diagnosis (social phobia, panic disorder, obsessive-compulsive disorder, major depressive disorder, specific phobia, dysthymic disorder and post-traumatic stress disorder). As for the patients having secondary GAD, it was observed, as the primary diagnosis, panic disorder with or without agoraphobia, obsessive-compulsive disorder and social phobia. It was observed that intolerance of uncertainty could not distinguish between primary and secondary GAD. When the patients, who have primary and secondary

GAD, are compared with the patients having another anxiety disorder, it was seen that the problem orientation of GAD patients are less capable, that they relied upon their problem solving skills less and that they had a less perception of personal control. Additionally, it is observed that the problem orientations of the patients, having clinical levels of anxiety, are more incapable when compared to the individuals not having anxiety. The cognitive process variable that can distinguish GAD and other anxiety disorders is the intolerance of uncertainty. Though the beliefs about cognitive avoidance and worry cannot distinguish GAD, they are the variables indicating GAD.

Moreover, there are numerous discussions on the distinctive features of GAD. However, while psychomotor retardation, crying, anhedonia or loss of attention and motivation, waiking up early in the morning, thoughts and behaviors of self-destruction, thoughts of personal deficiency are peculiar to depression, the situation of physiological hypervigilance, panic attacks, avoidance behaviors, thoughts and worries related to perception of threat are associated with the basic anxiety (Sevinçok, 2001).

In a similar way, a research dealing with the distinctive features of GAD compared the frequency of somatic symptoms in the patients having GAD and panic disorders (Barbee et al. 1997). According to this study, the same numbers of complaints are reported from the patients of GAD and Panic Disorders. Yet, the patients of Panic Disorder showed more cardiopulmonary and conversion complaints when compared to the patients of GAD. Along with this, when the existence of these symptoms other than the panic attacks are

evaluated, it was discovered that the patients having GAD exhibitedmore cardiopulmonary and conversion in comparison to patients of Panic Disorders.

A great majority of the patients of depression meet the associative symptoms of GAD. For this reason, it was strongly emphasized that DSM-IV could not distinguish the GAD patients from the depression patients. In a study conducted by Joormann & Stöber (1999), the relationship of each one of the six associative somatic symptoms of DSM-IV's (restlessness, easily fatigues, difficulty in concentration, irritability, muscle tension, diturbances of sleep) with pathological anxiety and depressive symptoms were analyzed. It is observed that there is a relationship only between muscle tension of the somatic symptoms of DSM-IV, GAD and pathological anxiety. On the other hand, there has been discovered a relationship between difficulty in concentration and depressive symptoms. As to the other four symptoms, they seem to be the general features of pathological anxiety and depressive symptoms. Muscle tension is considered as one of the features distinguishing GAD from the other anxiety disorders and mood disorders. However, as difficulty in concentration, related with GAD diagnosis, in DSM-IV is found in close relationship with pathological anxiety, this symptom is considered to have a closer relationship with depression.

Somatic symptoms out of muscle tension and difficulty in concentration have been found as related with both pathological anxiety and depressive symptoms. It has been seen that somatic

symptoms are not peculiar to GAD, and that depressive patients met these symptoms at the same time (Joorman & Stöber 199).

That GAD relatively begin earlier led some researchers to think that GAD is closer to personality disorders rather than anxiety disorders. Though many patients reported that they have always been anxious persons and that anxiety has been a part of their personality, a great majority of the patients report that the symptoms appeared in a later period (Campbell et al 2003).

1.2. Epidemiology

GAD is a psychiatric illness which has a high prevalence in population (Özcan et al., 2006; Ballash et al., 2006). Its frequency throughout the life is said to be between 1.2 percent and 10.3 percent (Slade & Andrews, 2001; Saatcioélu, 2001; Kessler et al., 2004; Özcan et al., 2006). Moreover, it is observed that the frequency of GAD throughout the life increases together with the age (Ehringer et al.,2006). In the Turkish Mental Health Profile research, 12-month incidence of GAD has been determined as 0.7 percent (KIIIG, 1998). As to the researches performed in the USA, 12-month incidence is 3.1 percent (Brawman-Mintzer et al., 1993; Hunt, 2000). Among the anxiety disorders, the most common one is the GAD (Fisher 2007). It was further reported that GAD has been seen in the primary patients complaining about anxiety in a 22 percent ratio (Witttchen et al., 1994). On the other hand, it is known that the frequency of these patients' consulting to doctors is more compared to the others (Rickels & Schweizer, 1997).

The age of onset for GAD symptoms is earlier when compared to other anxiety and mood disorders (Fisher, 2007; Campbell et al., 2003). 2003). Campbell and others (2003) reported that the starting age of onset for GAD is between 4 and 48 and that average starting age is 18, 82. The complaints generally show a gradual increase and exacerbation (Rickels & Schweizer, 1997). According to Fisher, (2007) if GAD is the primary disorder, its start is observed at an earlier age than average. GAD can also be considered as a late onset, but these frequently are seen as secondary to another disorder. Campbell and others in their study put forth that when GAD has early onset (age 12), either there has not been any stressors or there have been serious stressors. Additionally, as for the late onset (age 30—40)GAD, they reported that there have been low and middle level stressors. Furthermore, they expressed that the patients of GAD in earlier ages had more comorbid illness when compared to the patients of GAD in the later ages. There have been discovered a relation between the starting age and its strength. According to that, it was observed that the strength of the symptom in early onset GAD is much more (Campbell et al., 2003).

The average duration of GAD is reported as 20 years. Moreover, while the symptoms considering 40 percent part of the patients having GAD continued for a period of 1-5 years, considering the 10-16 percent of the patients, the symptoms continued for a period of more than 20 years. The ratio of remission is relatively low considering GAD. Almost two-third of the patients continue to experience symptoms (Nihan & Dunlop, 2007). Chronic anxiety and

tension in terms of GAD are problems lasting throughout the entire life. The symptom strength increases or decreases in relation with the environment and social incidences (Fisher, 2007). There occur fluctuations in the flow of GAD in relation with the existence of the life stressors (Brown et al., 2001). In addition to this, the flow/continuance and outcome are also related with the other psychiatric disorders accompanying GAD (Köroglu, 2005). When GAD is accompanied by mood disorders, the interference with functioning increases, the symptoms become severe; the course is more chronic and the risk of self-destruction increases (Sevinqok, 2001).

GAD is encountered more in females in comparison to males (Saatqioglu, 2001; Fisher, 2007). Female-male ratio is 2/1 (Ninan & Dunlop, 2007). In the study of Turkey Mental Health Profile, 12-month GAD is determined as 0.8 considering the females and as 0.5 percent considering the males (Yüksel, 2001; Özcan, 2006).

In the study made by Özcan and the other (2006), in a way not overlapping with the findings of other studies, they found that GAD was more common for the married individuals when compared to the ones, not married. Additionally, it was reported that GAD was more encountered in housewives, and in the individuals, who have physical illness history. When other socio-demographic caracteristics were taken into account, while it has been seen that there is not a relation between the income level and GAD, GAD has been seen more frequently in those people, who have a low educational level.

Furthermore, it was reported that there is a relationship between medical disorders and GAD. It was reported that 20 percent of the patients, who are diagnosed as having GAD, had a medical illness story. Yet, comorbidity of GAD along with a medical illness has not been studied.

On the other hand, it was reported that there were some medical conditions, where the findings similar to the symptoms of GAD. Medical assessment should be performed in order to distinguish these medical disorders from GAD. Tremor, sweating, tachycardia and hypertension and hyperthyroid symptoms may resemble to GAD, there is the possibility of false diagnosis. Additionally, there are similar symptoms of GAD in cardiac patients and in pheochromocytoma. Another medical condition is temporal epilepsy, which can be confused with GAD. Hypoglycemia, excessive caffeine consumption and substance use should also be researched (Saatqioglu, 2001).

Most of the patients of GAD receive an additional psychiatric disorder (Özcan et al., 2006; Fisher, 2007; Sevinqok, 2001). There occurred a comorbid psychiatric disorder throughout the lives of 90 percent of GAD patients, 66 percent of GAD patients still have comorbid disorders (Wittchen et al., 1994).

In a study carried out by Özcan et al. (2006), it was reported that a great majority of the GAD patients (90.8 percent) received a comorbid depressive or another anxiety disorder diagnosis. While not encountering with any depressive disorder as comorbid constituted

84.7 percent part, but seeing major depression as comorbid constitutes a part of 83.7 percent. Considering the 56.1 percent of GAD patients, another anxiety disorder is observed as comorbid. Further, 30.6 percent of these patients was seen as experiencing social phobia, and 19.4 percent of them were observed as experiencing obsessive compulsive disorder comorbidity.

Comorbidity with axis Il disorders along with GAD is also common. More than 50 percent of the GAD patients meet a diagnosis of a personality disorder (Noyes, 2001). Most frequently cluster C personality disorders (avoidant, dependent and obsessive compulsive personality disorders) are seen comorbid with GAD (Nutt et al., 2006).

2. APPROACHES TO GENERALiZED ANXIETY DISORDER IN THE HISTORY AND TODAY

2.1 Psychodynamic Perspective

Freud emphasizes that anxiety neurosis, which he evaluated as a sub-group of actual neurosis, did not resulted from conflicts belonging to childhood, but that it was related with the events being experienced then. Freud in 1926 indicated that neurotic anxiety originated from libido and that it was an outcome of the transformation of libido. The libido, abstained from discharge, is directly turned into anxiety. Later on, Freud, while leaving the idea that the energy of oppressed energy turned into anxiety automatically, suggested ego as the real site of the anxiety (Ersevim, 1997; Akvardar et al., 2000).

According to psychoanalytic theory, anxiety is chiefly an outcome of a conflict. According to that, the inner conflict is formed between ego and id or between ego and superego. If Ego, which strives to create a balance against unconscious motives, peculiar to id, weakens in consequence of any reason or if the power of the motives increases, there happens a conflict between ego and id. The conflict indicates that ego could not produce solutions against motives and could not cope with it. This is perceived as danger. In this context, anxiety is a reaction of ego, which is the homeostatic function and which perceives the danger conflict, motivates the defending mechanism against anxiety. According to psychoanalytic theory, when the

defending actions against anxiety remain not enough, there emerge the GAD symptoms (Öztürk, 2004).

Worry, in terms of psychodynamics, is defined as defending mechanism used as a way of avoiding thoughts about depressive subject. This concept goes far back to the signal theory of anxiety of Freud historically. According to the theory of Freud, defenses are usually activated for avoiding conflictual and traumatic feelings (Christoph, 2002). Through anticipating the events, which might be traumatic, it is reacted with anxiety before the trauma occurs (Ersevim, 1997). Anxiety, originating from the perceived danger gives the signal, which alarms the ego against the threat (Christoph, 2002). This is a function of ego and is named as signal anxiety by Freud (Ersevim, 1997). Defense mechanisms are activated with the purpose of keeping the threat off the conscious. But, while the psychodynamic perspective explains anxiety and worry, it also takes into account the other anxiety level determiners above the avoidance (defense). Some psychodynamic theorists focus on the influence of psychological growth of the relations between individuals (Christoph, 2002).

Among the other ideas about psychodynamic approach, anxiety originates from birth according to Rank. The breathing and circulation difficulties at the time of birth are also felt physiologically at the time of depression. According to Sullivan, anxiety originates from being rejected or not being approved by an important person.

Fromm indicates that generally the feelings of oppressed violence and hostility creates anxiety (Ersevim, 1997).

2.2 Biological Perspective

According to biological theories, the response of fear is available in born. It is controlled by a defensive system triggering a set of behaviors peculiar to the type. These defensive behaviors are the refreshment of autonomous arousal and somatic reflexes. This defensive system includes hypothalamic-hypophyseal- adrenal axe (stress axe) and a nerve circuit passing through the limbic parts of the brain. The central core of amygdaline directly activates the hypothalamic and brain stem parts, playing a role behaving symptoms of fear and anxiety. Amygdala, in an opposite way, is related with prefrontal cortex. Prefrontal cortex functions are the removal of the conditioned fear coded within amygdala, control of the mood changes dependiwon the internal extemal cues and modulation of autonomous and neuroendocrine functions (Ninan & Dunlop 2007).

The excessive serotonin activity in the critical areas of the brain such as amygdala, hypothalamus, thalamus and limbic system is thought to be associated with GAD symptoms (Brawman-Mintzer & Lydiard 1999). Additionally, the lack of GABA (gammaaminobutyric acid) is thought to be effective in the emergence of the symptoms of GAD (Köroglu 2005).

The brain area responsible for the fear conditions is amygdala. Amygdala, located in the medial temporal lob, is consisted of 13

nucleuses. Three of these 13 cores form the basal amygdala (BA), lateral amygdala (LA) and central nuclei (CN) fear reaction ways. The exhorters received by sensory thalamus and sent to LA and then go to CN. BA provides the conneCtion between LA and CN at the same time. Long loop way sends signals to LA from emotional cortex, insula and prefrontal cortex. The information goes from here to brain stem and hypothalamus, which discloses the acute fear in a behavioral and autonomic way. This indicates that LA is the area responsible for consolidation and flexibility of fear conditioning. Any disorder or lesion in LA or CA leads to the acquisition of conditioned fear and corruption of long-term contextual fear memory (Farakani , Mathew & Charney 2006).

When the family and twin researchers are analyzed, it is observed that environmental and genetic factors are effective considering the GAD. There is a significant relationship of encountering with the GAD symptoms on the individuals having GAD and on their first level relatives. The effect of genetic factors on GAD is determined as 30-40 percent (Fisher 2007).

In a study conducted by Ehringer et al. (2006), GAD was analyzed exemplification formed by the twins and their brother/sisters. It was analyzed whether or not there is a difference in terms of the GAD prevalence between the females and males and the twins and the• brothers/sisters, who are not twins. They reported that genetic factors and the environment have an effect on the formation of the GAD

symptoms. Together with this, it was reported that the not-shared environment has in impact on the life-long GAD symptoms.

In another study conducted by Gregory and Eley (2007), analyzing the individual differences in different anxiety levels on children, it was reported that the genetic effect existed on the different anxiety disorders. In a similar way, it was also reported that the effect of environment was important in the same level. Additionally, it was touched upon the existence of many little-effect gens rather than a single gen (Gregory & Eley, 2007).

There are relatively less finding about the existence of a gen-environment interaction anticipating the existence of anxiety (Example: Fox et al., 2005). In a study carried out by Kindler et al. (2005), it was reported that there is not any finding guided by the fact that gen-environment interaction had an i.nfluence on GAD of adults.

2.3. Learning Perspective

The learning theories provide an explanation why anxiety, which is considered as the basic feature of GAD, is so permanent. Berkovec and others (2004, cited in Mineka & Zinbarg, 2006) analyzed the perceived benefit of anxiety and what is the use of anxiety in reality. The biggest perceived benefit of anxiety focuses on the belief that anxiety helped individuals avoid disasters (superstitiously or real) and from deeper emotional subjects, which they do not want to think. The studies analyzing how actually anxiety functioned, provide anexplanation why the anxiety process come to a position of

supporting ego. Firstly, when people having GAD got anxious, they distract themselves from the disturbing images, emotional and physiological reactions. Suppression of these emotional and physiological reactions enables to reinforce the anxiety process. As anxiety suppresses the physiological reactions, this, at the same time, prevents the person to completely process and experience the subject, which the person is anxious about. For extinction of the anxiety response, such processes (exposure to anxiety proviking cues) are required. For this reason, the threatening significance of the situation will continue. According to the theory, anxiety functions as the cognitive avoidance reaction. The struggle for controlling anxiety may lead to a more aversive thought, the perception that the anxiety cannot be controlled, which actually triggers further anxiety (Mineka & Zinbarg, 2006).

As reported by Mineka and Oehlberg (2008), most of GAD symptoms were described by Pavlov and in part of the neurosis literature between the years 1930s and 1940s. In the neurotic behavior experiments applied to animals, most general symptoms of GAD such as hypersensitivity, restlessness, muscle tension and distractibility were observed. The symptoms generally are observed out of the e perimental situation, where the neurosis is created, and increase within the course of time.

Mineka and Kihlstrom (1978), based on a review of the existing literature indicate that there are frequently encountered two themes in the experiments carried out. These are predictability of the

environment and controllability of the change. This situation makes us think that being subject to incidents, which cannot be controlled and which cannot beanticipoted, may be important in the formation and continuance of GAD. Furthermore, exposure to an incident, which cannot be anticipoted, may lead to chronic fear and anxiety, since there is no signal about the aversive incident, there is no cue signalling the individual that he/she can relax and feel comfortable. In this case, it is apparent that the controllability of a stressor and the ability to anticipate, plays a determining role in the formation or not formation of anxiety.

The primary conditioning models pointed out that traumatic experiences were sufficient and necessary for the development of phobic fear and other anxiety disorders. Afterwards, attention is focused on the role of other associative learning forms in the etiology of these anxiety disorders.

Conditioned fear theories contributed for a long time to the understanding of the formation and maintenance of anxiety disorders. According to these theories, the unconditioned emotional response (UR) given to aversive unconditioned stimulus (US) is associated with the cues existing during the time of the traumatic incident and becomes a conditioned stimulus (CS). With these cues, the following encountering incidents trigger the conditioned emotional response (CRS). There occurs an association with both contextual and explicit cues existing during the time of fear conditioning and acquisition (Grillon et al. 2006).

In a study carried out by Grillon et al. (2004), the participants were analyzed in three different conditions in the laboratory. While providing a shock, which can be predictable, in the first situation, and providing a shock, which cannot be predictable, in the other situation, no shock was provided in the following situation. Anxiety was created with the two types of aversive stimulus, which can be pedictable and unpredictable. One of these was an aversive shock; the other was formed without giving larynx air, which is less aversive. A stronger startle reflex was produced by, the group of participants who are in 'unpredictable' condition compared to the group of participants who are in 'predictable' situatiom. According to this, not being able to anticipate causes an increase in the level of anxiety only when the stimulus is aversive enough. The reason of this is stated as the fact that the danger, ewhich can be anticipated and which cannot be anticipated, leads to different types ofaversive reactions (Grillon et al., 2004).

On the other hand, the most important thing that determine the level of anxiety is thought to be whether or not the aversive stimulus may be perceived as can-be-anticipated or cannot-be-anticipated rather than whether it is can-be-anticipated or cannot-be-anticipated (Mineka & Oehlberg, 2008).

In another study carried out by Grillon et al, (2006) the participants are exposed to a virtual reality situation, where there are three virtual rooms. While shock was not given in a room, shock, which can be anticipated was given in the other and a shock, which cannot be

anticipated in the third room. An eight-second colorful light was delivered as CS. While shocks were matched during the time of acquisition with CS in the situations, which can be anticipated, it was delivered as random in the situation, which cannot be anticipated. No shock was delivered in the stage of extinction. Startle stimulus was given in sequence along with and among CSs in order to assess cue and context conditioning. The participants showed a more powerful startle in the case of giving a cannot-be-anticipated shock when compared to the other two situations, because there happened a greater contextual conditioning with the ca ot-be-anticipated shock (Grillon et al., 2006).

The findings of the forementioned dy are consistent with the fear conditioning studies. During the time of aversive conditioning, there develops fear and anxiety against both cue and context associated with aversive stimulus. When the shock is communicated with a cue in the predictable situation (lights getting on), there develops a more powerful fear conditioning against cue than the one against the context. Nevertheless, there happens a greater startle reflex in the consequence of contextual conditioning in the absence of CS. At the same time, the subjective anxiety increases in the unpredictable situation when compared to the situation with the predictible shock. In the simple cue-danger match (for instance light/CS-shock/US), symptoms, which maintain the GAD and the worry in people, are not observed. However, contextual conditioning demonstrates critical features of the anxiety disorders. Contextual conditioning models the

danger situations, where there is no cue, and maintains the anxiety situation (Grillon et al., 2006).

2.4. Cognitive Theories

According to the cognitive model, as people are inclined to perceive many situations as a threat due to their beliefs about themselves and their lives, they experience generalized anxiety. Non-functional assumptions and beliefs associated with generalized anxiety vary from one person to the other. Yet, the most-commonly appearing beliefs and assumptions are related with the acceptance, competition, responsibility, control and anxiety symptoms (Kabakfl, 2003).

There are four basic contenst in GAD according to cognitive model; (1) intolerance of uncertainty, (2) positive beliefs about worry, (3) negative/poor problem orientation, (4) cognitive avoidance. The individuals, who cannot tolerate uncertainty believe that uncertainty is stressful and annoying, and that the uncertainty of the future is not fair, that the unexpected events are negative, and that they should be avoided and that the uncertainty would affect the functionality of the person. The positive beliefs about worry are based on the idea that the individuals having GAD had irrational beliefs upon anxiety's being useful. GAD patients generally consider worrying as the equivalent of caring and for this reason, being anxious means to be good-hearted and sweet for them. Approaching the anxiety and worry from a different perspective Eysenck (1992 cited in Borkovec et al, 1998), presents a cognitive anxiety model consisting of three facts. According to these models, anxiety has three functions; alarm,

prompt and preparation. In accordance with the perception of threat as internal or external, the alarm function sends the information about the threat to awareness. Afterwards, the prompt function brings the ideas and images related with the threat to conscious awareness from long-term memory. Finally the preparation function lets the person to deal with the negative scenarios about the future. This function directs the person to anticipatory coping either by means of struggling to prevent the anticipated negative developments or by means of preparing for the expected negative results (Borkovec et al., 1998).

Problem orientation is the metacognitive processes, reflecting the point of being aware daily problems and person's problem-solving skills and the evaluation of these. The problem orientation includes specific behavioral skill as in the problem solving skills. These are skills such as defining the problem, finding alternative solutions, making decision and implementing the solution. For instance, the change of confidence in problem solving, which is one of them, may lead to anxiety (Ladouceur et al., 1999).

Cognitive avoidance is based on the idea that GAD patients use many strategies for avoiding from the concrete thoughts (including mental imagination) of threatening results and unpleasant emotional reactions. This avoidance corrupts the process of the feeling of fear and leads to the maintainance of high level anxiety and worry for the individuals having GAD (Dugas et al., 2006). If the dominant thing in the anxiety is thought, and if the thoughts are not an enough emotional information processing method for changing the meanings

of emotions, coping with the emotional material by getting anxious actively supresses the processing of emotional information and continues to create situations to corrupt the emotions. With this functional aspect of it, anxiety is a form of cognitive avoidance from the perceived danger (Borkovec, Ray & Stöber, 1998).

Ego defensive and compensator cognitive processes in terms of GAD are taken as the basic subject in the recent cognitive models (Riskind, 2005). In the model of Borkovec (1998), pathological anxiety associated with GAD was conceptualized as a tactic not adaptive aversive imaginative and intense feeling of fear, avoided cognitively and verbal abstraction (Borkovec et al., 1998). The nature of the anxiety in the cognitive avoidance theory of Borkovec is summarized by three key findings. The first of these is that an oral inner speaking is dominant in anxiety rather an imaginative one. The other finding is that anxiety has an supressive effect in the emotional processing of the materials associated with the threat. The final finding is that there is a significant relationship between GAD and its factors between the persons (Borkovec et al., 1998; Fisher, 2007).

Erickson and Newman (2006), in a study they carried out, it was aimed at researching the elements of cognitive interpersonal patterns associated with the GAD. When GAD group is compared with controls, it was reported that there is a great difference with the predictions about how the partners get affected during the interactions and how the partners actually get affected during interaction. The individuals having GAD dealt less with self-revelation when

compared to the controls. Even so, when compared to the participants, they formed more worried affect in the situations of specific self-revelation. It was reported that GAD diagnosed individuals showed º not less self-revelation but showed more worried affect within this process.

In summary, this study, which indicates that the cognitive interpersonal factors contributed to the maintainance of chronic anxiety and GAD, is in coherence with the final finding of Brokovec (Erickson & Newman, 2006).

Huppert and Alley in their studies (2004), indicated that the anxiety in GAD damaged the processing of emotional information. When the individuals feel anxious, their cognitive sources deal with the content of the anxiety, therefore the individual cannot process other information including the emotions. Anxiety is a form of avoidance becoming automatic like other avoidances. Contrary to the other anxiety disorders, where the avoidance serves for decreasing or preventing the fear or anxiety, anxiety in GAD is defined as avoidance from not only from negative but also from all affects.

The metacognitive model of GAD defines worry not only as an anxiety disorder but also as coping with strategy activated by the metacognitive beliefs (Fisher, 2007). Metacognition is cognitions associated with cognitions and are described as cognitive process or information consisting of monitoring, controlling and evaluating the thought. The introduced theory defines the metacognitive and cognitive factors continuing the psychological disorders and innate in

being inclined to emotional disorders. Metacognitive theory and therapy considers the negative belief and resistance in the negative thoughts as an outcome of metacognition controlling the cognitions (Wells, 2007).

Metacognitive model separates worry as type 1 and type 2. Type 1 is daily worries and anxieties like inner moods such as worry, money, the health of other people, social conditions and physical health. The reason of the existence of such worries is their having positive metacognitive beliefs associated with the need of maintaining the anxiety in order to cope with in a more efficient way. As for type 2, it is related with worry about worry or 'meta-worry'. It is also related with the negative beliefs about that the worry is uncontrollable and dangerous (Fisher, 2007).

It is mentioned about a specific sequence of events in the model. Once triggered, the anxiety/worry process heads towards activation of positive metacognitive beliefs about the function of the worry/anxiety. Later on, sensitivity and accessibility to information related with the threat increases respectively and this leads to a more severe anxiety. The assessments go toward type 2 anxieties motivating the struggles of decreasing the depression and re-gaining the control. These struggles include dealing with avoidance, search for security, supressing the aversive thought or distracting activities; actually all of these reinforce the anxiety as a coping strategy rather than decreasing the anxiety (Fisher, 2007).

One of the cognitive models of GAD is intolerance of uncertainty. This model consists of fours cognitive contents; intolerance of uncertainty, faulty positive beliefs about anxiety, poor problem solving and cognitive avoidance (Dugas et al., 1998). Intolerance of uncertainty is defined as disposition towards reacting negatively against an uncertain situation and is thought to play a basic role in the formation and maintainces of GAD (Fisher, 2007). Dugas et al (1998), reported that these four cognitive contents were the distinctive features of GAD and that intolerance of uncertainty among these is the focal point. Intolerance of uncertainty in GAD may worsen the "what if' question at the beginning, and these questions are created even in the absence of a stimulus (Dugas et al., 1998).

The model furthermore distinguishes the ones, who are anxious about problem solving, and the ones, who are anxious about the cannot-be-coped situations or never-to-happen situations (Fisher, 2007).

One of the theoretical developments within the recent period is the emotional dysregulation model of GAD (Menin et al., 2002). This theory is consistent with the cognitive avoidance theory. The model, at the same time, tries to answer why certain emotions are found such aversive by some of the individuals, who are motivated to using avoidance strategies. According to the model, there happens an increase in the emotional intensity of the GAD individuals and therefore there is a difficulty in interpretation of these emotions. The person most probably reacts negatively against various emotional experiments combining with emotional management strategies. The

emotional dysregulation model explains GAD as the inefficiency in the emotional management, where there is an excessive trust on anxiety in order to reduce the affect (Fisher, 2007).

2.5. Cognitive-Behavioral Perspective

The cognitive-behavioral theories start with the cognitive model of Beck. The cognitive distortion in the anxiety disorders in the cognitive model of Beck rely upon the development of a disorder in the danger schemes directing information processing (for instance; attention, interpretation and memory against threatening stimulus). Once these schemes are activated by the real or expected negative experiments, they break down the processing and therefore, the person exaggerates the strength and extent of the danger, deals less with the coping sources of it and excessively uses the redemption strategies, protecting the ego, such as cognitive, affective or physical avoidances (Beck & Clark, 1997).

The fundamentals of the theory of Borkovec (1998), are based on the behavioral approach, which is conceptualized as a form of cognitive avoidance serving for decreasing the sympathetic arousal formed with the perceived threat and for removing the unpleasant images (Fisher, 2007). The anxiety behaviorally is related with procrastination and interpersonal patterns, which are strict, not adaptive generally include the corruptive and nurturant behavior. Considering the GAD individuals, procrastination is seemed to happen due to the fear of failure and the concerns of being evaluated socially underlying it. Furthermore, it is associated with delaying the decision-making

process through procrastination and with delaying the faults and consequently the given punishments. It was also reported that there is a relationship between the procrastination behavior and perfectionist behavior. Many persons, who are GAD, might have learned in their childhood that caring for other is required for obtaining love and approval, and they can continue to show this behavior in their adulthood. Taking care of someone also prevents social criticism or interpersonal acceptance. However, the excessive nurturant be avior decreases the possibility of these people's needs in the interperson and the attempts of taking care are generally considered as excessive and unnecessary (Borkovec et al., 1998).

Barlow (2000, cited in Fisher, 2007) presents a comprehensive GAD model combining biological, psychological and environmental factors. Barlow conceptualizes GAD as anxious apprehension and argues that it is the basic anxiety disorder Anxious apprehension is defined as future-oriented mood state including getting prepared for coping with the negative incidents to be faced with. This mood state is associated with directing the attention towards a high negative affect level and chronic overarousal, the sense of uncontrollability and tlu•eatening stimulus (Brown et al., 2001). The negative affect characterized with the sense of uncontrollability is supported by physiology and specific brain circuits' activation. The most used coping with strategies in decreasing the negative affect and in problem solving are behavioral avoidance and anxiety (Fisher, 2007). Though the process of anxious apprehension is encountered in all

anxiety disorders, its content/focal point varies according to the anxiety disorders (Brown et al., 2001).

3.TREATMENT

3.1. Pharmacological Treatment

The options in the therapy of GAD are benzodiazepines (BZD) buspirone and antidepressants. The most frequently used among these is BZD. BZD decreases the anxiety by means of empowering the inhibitor effects of GABA, which is thought to be an efficient neurotransmitter. All benzodiazepines are effective anxiolytics at the same degree. For this reason, the selection of BZD depends most probably on pharmacological features and patient factors. The most frequently seen side effects of BZD is sedation and sleep. When the medicine is cut off, abstinence syndrome may occur. Furthermore, when the medicine is cut off, symptoms' repetition is frequently encountered situation. Though BZD is the basic resource in the treatment of anxiety disorders, the actual inclination prescribes BZD along with the antidepressants, which are effective in GAD (Yüksel, 2001; Öztürk, 2004; Ninan & Dunlop, 2007).

In the pharmacological treatment of GAD, benzodiazepines are determined to be the group, whose beginning effect is the fastest. Nevertheless, the research findings indicate that longterm uses of benzodiazepines should be paid attention, if a long-term treatment is required, research findings indicate that cognitive behavioral treatment and buspirone use is appropriate. Benzodiazepines are

effective in the somatic symptoms of GAD and have the best effect in the short term. Because of the reasons of encountering depression comorbidity in a high rate, not having potential for abuse, its side effects' being more tolerable, it is reported that antidepressant should be thought as the primary option in pharmacological treatment (Saatqioglu, 2001).

3.2. Psychotherapy

There are psychotherapy methods accompanying each of the aforesaid models of GAD. The efficiency of these models have been assessed empirically. When the definite and relative effects of these treatments are taken into consideration, generally, it is observed that 50 and 60 percent of the patients get well (Fisher, 2007).

3.2.1. Psychodynamic Treatment

Psychodynamic psychotherapy increases the general functionally in the patients having anxiety disorders especially when the time is limited and enables the symptoms to decrease (Ferrero et al., 2007). Psychodynamic therapy may be conducted as both short-term and long-term treatment. The short-term treatment is generally between 16 and 30 séances. As for the long-term treatment, it may vary from several months to several years (Falkleichsenring, 2006).

Crits-Christoph et al (2005), developed a short-term interpersonal oriented psychodynamic treatment. This approach is based on the supportive-expressive psychodynamic (SE) model of Lubrosky

(1984). At the same time, it is based on the core conflictual relationship theme (CCRT), which is a method of determining and interpreting the central interpersonal themes. SE treatment of GAD handles the anxiety symptoms in the patients in the context of interpersonal conflicts. Therapist formulated the interpersonal conflicts by means of using CCRT method, which functions as the focus of interventions throughout the treatment. By means of determining the patterns in the actual and past relationship and in the relationship of the patient with the therapist, it is studied on the conflicts affecting the anxiety symptoms and a better way of coping with the feelings is found. An accepting, not judging and emphatic atmosphere is created in the therapy. Direct advices or coping methods are avoided (Crits-Christoph, 2005).

Brief Adlerian psychodynamic psychotherapy (B-AAP) is consisted of 10-15 séances, each of which last 45 minutes. According to B-AAP, the individual needs to form a self image and manage it and he/she creates patterns managing the human relationships, but at the same time creates an unconscious "symbolic theme" depending on the living style of his/her (Ferrero et al., 2007).

In contrary to the short therapies with psychoanalytic inclinations, in particular the techniques increasing insight, those implementing B-AAP do not make a definite distinction between supportive and intensive interventions. The treatment plan is based on the psychological functionality and on the perception of the therapist. Intensive and psychotherapies differ in terms of the quality of the

relationship. Intensive psychotherapies is characterized with the analysis of the personal experiences of the patient. Supportive psychotherapies is characterized with the contribution of the therapist. In terms of B-APP, there process elements are defined as encouraging to the relationships, determining the focal point and determining the change fields as may occur in the focal point (Ferrero et al., 2007).

The interpretive interventions in the psychodynamic treatments increase the insight of the patient in relation with the repetitive conflicts continuing his/her problems. As for the supportive interventions, they aim at reinforcing the skills not being used due to acute stress (for instance, a traumatic incident) or not developed in the desired level. These skills are conceptualized as the functions of ego in the psychodynamic psychotherapies. For this reason, the supportive interventions may be defined as the configuration or continuance of the ego functions. Reinforcing the ego function such as reinforcing the therapeutic alliance, determining goals and testing the reality or motive control are some of the supportive interventions (Leichsenring, 2006).

According to the psychodynamic therapies, the primary goal of the treatment is to establish a relationship based on the acceptance attitude and to rely upon the skill of changing. According to the focal point, the attention of the therapist primarily directs towards coping with the needs reflect by the existential situation of the patient, not towards solving the problem. As a conclusion, the main

goal of the therapy is to increase the self-esteem and self-efficacy (Ferrero et al., 2007).

3.2.2. Cognitive Psychotherapy

There are different approaches for changing the cognitions in the patients having anxiety disorders. Some of these are Ellis's rational-emotive behavior therapy (REBT) and Beck and Emery's cognitive therapy model. The contents of these therapies consist of teaching the patient to determine the irrational thoughts and to characterize them and change them with the positive self-statements or to modify them by means of assessing their reality. The cognitive modification is generally used together with behavioral therapies. There relationship between the decrease of anxiety symptoms and this cognitive modification. Anxiety, cognitions and avoidance are related with each other and therefore, any modification to occur in any of them will also lead to the modification of others within this system (Chambless & Gillis, 1993). The main goal in the cognitive therapies is to show the persons that there may be different, alternative points of views different from their negative point of views (Kabakçı, 2003)

The cognitive interventions include reconstruction of the irrational beliefs about the anxiety, rational assessment of the possibility of concluding of an event in a negative way and the assessment of the damage that may be caused by this incident/event. Moreover, it also worked on the problems associated with intolerance of uncertainty and perfectionism (Canadian Psychiatric Association, 2006).

The intolerance of uncertainty model, which is a cognitive model of the aforesaid GAD, classifies anxiety in two different groups. While the first of these is the persons getting anxious about solving the problems, the second group gets anxious about the cannot-becoped or never-to-happen situations. It is indicated that cognitive exposure is suitable for the second group, and that it is not suitable for the first-group anxiety. This cognitive technique serves people to cope with the uncertainty in the future in more appropriate way rather than to react against the uncertainty with anxiety (Fisher, 2007).

Metacognitive treatment of GAD especially deals with the negative metacognitive beliefs about anxiety's being uncontrollable. Firstly, the therapist forms the metacognitive formulations and shares with the patient. Afterwards, therapist emphasizes that the anxiety is a normal process, but that it is becoming problematic due to the negative and positive beliefs about the anxiety owned by the person, and due to the useless strategies used in order control the anxiety. Later on, the therapist asks the patient whether or not the anxiety will continue to be a problem if he/she does not believe that the anxiety is uncontrollable or harmful. Finally, the therapist shows the patients how some thought controlling strategies are useless by means of applying thought suppression. The treatment is ended by means of handling with the alternative ways of coping with the stress factors, which trigger the anxiety (Wells, 2007).

3.2.3. Cognitive-Behavioral Psychotherapy

Cognitive behavioral treatment of GAD is generally consisted of self-monitoring, cognitive restructuring, relaxation training and rehearsal of coping skills (Borkovec & Ruscio, 2001). Among the other psychotherapy techniques, cognitive therapy and relaxation therapy of anxiety disorders, GAD in particular, are supported by empirical data. These two treatments generally are used in a cognitive-behavioral therapy package. However, they, fundamentally, are based on different theoretical approaches and each one is usefully individually in a clinic use (Siev & Chambless, 2007).

In cognitive-behavioral theories, it is indicated that tolerating emotional experiences, process and/or controlling skills are deficient in terms of GAD. Consequently, therapist explains that anxiety has a lot of functions including also avoiding and escaping from the emotional experiences, which cannot be coped with, in addition to providing a psychoeducation. This prepares the patient in the therapy for a deeper discussion in relation with the anxiety (Huppert & Alley, 2004). Readings might be given about anxiety (Canadian Psychiatric Association, 2006). The first sixe sessions include standard cognitive behavioral therapy procedure. (1): psychoeducation, (2): observation of emotions, anxiety, thoughts, senses and behaviors by the patient, (3): breathing regulation and progressive relaxation, (4): cognitive challenging, (5): exposure to anxiety, (6): worry behavior prevention. At the end of six session, the therapist uses self-monitoring technique in order to determine whether specific emotions are avoided in

situations, which increase anxiety, or whether specific emotions emerge or not. While concluding the treatment, the patient is encouraged to observe his/her emotions. By this way, the patient continues to understand how to label his/her emotions in a clearer way (Huppert & Alley, 2004).

One of the techniques of GAD being used in its treatment by CBT is exposure. As GAD is not characterized with specific external situations or with avoiding from specific environment, CBT uses imagery rehearsal for GAD rather than in vivo exposure (Siev & Chambless, 2007). Imagery exposure is applied to the anxiety related with the scared catastroph (for instance, illness or death of one of the members of the family). With the purpose of removing the unreal safety behaviors such as calling the members of the family by phone for learning whether or they arrived their departure safely, exposure technique is used. Furthermore, exposure helps learn to tolerate rather than escaping from the experiences related to the anxiety (Canadian Psychiatric Association, 2006).

Patients of GAD react with anxiety through struggles too little in solving the problem before many difficulties. Developing more functional problem solving skills may enable to react more appropriately instead of anxiety before difficulties. In coping with the situations such as sleeping disorders, time management problems, procrastination, avoiding from emotions and problems, developing problem solving skills is useful. Developing problem solving skills is

thought to be useful also in coping with the interpersonal problems and relationship difficulties (Canadian Psychiatric Association, 2006).

Though cognitive behavioral therapy is effective in the treatment of GAD, a great part of the patients are obliged to cope with residual symptoms. Cultivation of mindfulness may help GAD patients. Mindfulness-based cognitive therapy (MBCT) is a group of therapies arising from mindfulness-based stress reduction (MBSR). MBSR basically uses mindfulness meditation.

In the modern treatments of anxiety disorders, muscle relaxation is an important therapeutic technique. This treatment is based on progressive muscle relaxation. According to this theory, the relaxation of muscles leads to the relaxation of mind as well; it is because there does not happen an emotional situation in the event of completely relaxation of peripheral areas, which is effective in the process. The main therapeutic goal of muscle relaxation is to be able to escape from the anxieties of tense, stressful and anxious people and from the physiological effects of these anxieties/troubles through learning to reduce muscle tension. One of the presumptions underlying this logic is that there are reactions activating the stress, that the patients, who can be treated in an effective way, will experience a significant reduction in the muscle tension at the time of anxiety and that this reduction in the muscle tension will lead to reduction in the activation in both central and peripheral nervous system (Conrad, Isaac & Roth, 2008).

4. TREATMENT EFFICACY STUDIES

In a meta-analytical study performed by Gould et al (1997), it was reported that the most evaluated medicine class in the researches analyzing pharmacological treatments was benzodiazepines, that the most-evaluated medicine among these was diazepam. There is not found a significant different among the different medicine classes used to reduce anxiety in terms of efficiency. Though antidepressants are effective, a high rate of leaving the treatment is observed probably due to its having many side effects.

There are quite a few studies about psychological interventions other than CBT, especially about psychodynamic psychotherapy. In a study carried out by Ferreror et al. (2007), pharmacological treatment with B-APP was decided (brief Adlerian psychodynamic psychotherapy) for a period of six months for GAD patients. B-APP was anticipated to be more effective than medicine treatment in the long-term social functionality of GAD patients. In the end of this short intervention lasting 10 session, it was stated that there occurred a reduction in the anxiety and depressive symptoms and that the results were observed in the follow-up session one year later. It was indicated that B-APP was effective both as single-treatment method and together with medicine treatment. While an increase in social functionality is observed in B-APP treatment and medicine treatment, there not been discovere a significant difference between the two methods.

Though, in treatme s were psychodynamic and interpersonal therapies were focal point, the interpersonal subject and problems in the other

psychotherapy methods played an important role. Regardless of the treatment method, the development in the social and interpersonal relationships in the treatment of GAD is generally one of the main goals of the treatment. In a study that Crits-Christoph et al. carried out (2005), supportive-expressive (SE) treatment, which focuses on interpersonal subjects in the treatment of GAD, and supportive, nondirective therapies, which do not focus completely on interpersonal problems, has been compared. SE therapy is expected to provide much development when compared to supportive, nondirective therapy in the interpersonal subjects. The participants were classified within two groups as those receiving SE and those receiving supportive (not focusing on interpersonal problems) therapy. Participants are applied a 16-weeks therapy as one session in a week. In the end of the research, it was reported that there was not a finding in direction that SE therapy created more development when compared to supportive therapy in the interpersonal problems as its focal point is interpersonal issues (Christoph et al., 2005).

Durham et al. (1994), in a research they carried out compared the effectiveness of cognitive therapy and psychodynamic psychotherapy and anxiety management training. 80 participants, who received GAD diagnosis, were classified within three treatment groups; a comparison was made in the pre-treatment period, post-treatment period and in the followup session after six months later. Cognitive therapy was significantly more effective than analytic psychotherapy. Analytic psychotherapy showed a significant effect, but less development is

observed when compared to cognitive therapy. The patients, who received training for coping with the anxieties, showed a similar development with the patients, who received cognitive therapy after the treatment.

In a study carried out by Gould et al. (1997), they aimed at analyzing the effectiveness of CBT and pharmacological treatment methods in reducing the GAD depressive symptoms and anxiety. Together with that, they analyzed which CBT combinations and which medicines were more effective. Cognitive restructuring, situational exposure, introceptive exposure, systematic desensitization, relaxation training, anxiety management traininE applications were considered as cognitive-behavioral methods. As for the pharmacological studies, they included all medicines developed for GAD or the medicines used for these indications commonly in the United States of America. The subjects in all the studies included within the research are either the persons, who meet DSM criteria, or the persons, who might meet these criteria when considered. The research included 35 researches carried between 1974 and January 1996. Totally, 61 different treatment methods were used within the studies.

It was expressed that there was not a relationship between the duration of the disorder and the strength of the anxiety in the study. When the treatment format is taken into account in terms of CBT method, it is seen that there is not a significant difference between group treatment and individual treatment. Furthermore, it was discovered that long-term treatment was no related with better results (Gould et al., 1997).

Among the therapy methods in CBT, a combination of cognitive and behavioral techniques was observed to be more effective compared to the single use of these techniques. Other than the point that cognitive behavioral treatments were more effective than the relaxation biofeedback training, there was not discovered a significant difference among the treatment methods.

When CBT and pharmacological treatment is compared with one another, it was not discovered a significant difference between these two treatment methods in terms of effectiveness. Though antidepressants are effective, a high rate of leaving the treatment is observed probably due to its having many side effects.

When the studies, indicating that GAD created an inclination to depression on the individuals, are analyzed, it is seen that CBT in GAD had a great significance s preventive as much as in the treatment of secondary depression Gould et al., 1997)

In a study where Conrad Isaac and Roth (2008), researched relaxation technique's efficacy, they indicated that relaxation therapy was effective in the treatment of GAD patients. However, they also expressed that there is not enough evidence concerning GAD patients learned to relax their muscles. They also expressed that there are not findings supporting above-mentioned muscle relaxation therapy became useful through teaching the person how to relax his/her muscles and supporting the logical explained physiologically. Relaxation therapy is thought to be effective in a cognitive-psychological level rather physiological (Conrad Isaac & Roth, 2008).

Siev and Chambless (2007), in a meta-analytical study they carried out compared the relative efficacy of cognitive therapy and relaxation therapy in the treatment of GAD. t was reported that there is not a significant difference between Cognitive Therapy (CT) and relaxation therapy (RT) in terms efficacy. It is observed CT and RT had same-level efficacy in the treatment of GAD.

In a study carried out by Butler et al. (1991), the efficacy of cognitive-behavioral therapy and behavioral therapy in the treatment of GAD was researched. In the study, 57 patients, who received GAD diagnosis, were classified within three groups as cognitive-behavioral therapy group, behavioral therapy group. The participants received individual therapy for a period of 4-12 sessions. The participants were evaluated before and after the treatment and after 6 months later. The research findings indicated that cognitive-behavioral therapy was more effective than behavioral therapy in the treatment of GAD. In the evaluation made six months after the end of the treatment, the patients, who received cognitive-behavioral therapy, showed significant less anxiety symptoms when compared to the patients, who received behavioral therapy. At the same time, both cognitive-behavioral therapy group and behavioral therapy group showed significantly less symptoms when compared to the control group.

In the study carried out by Evens (2008), whether or not the eight-weeks MBCT (mindfulness based cognitive therapy) program, focusing on mindfulness meditation training and CBT principles, were effective in the treatment of GAD was researched. After the end of 8-

months MBCT, a significant reduction in the level of anxiety, tension, worries and depressive symptoms of the participants as group was reported. Moreover, there has been a significant reduction in the symptoms of the patients, who had anxiety, worry and depressive symptoms. Though mindful awareness in the daily life increased after the intervention compared to the pre-intervention; a significant difference was not discovered (Evens, 2008).

5. CONCLUSION

GAD is a diagnostic category, whose main feature is associated with "excessive anxiety and worryt and where this anxiety and worry is associated with many incidents or events such as success in business or school. In addition to that, excessive anxiety is accompanied by discomfort, excessive excitement or worry, easy tiring, difficulty in concentration of thoughts and ideas and the position as if the mind stopped, irritability, muscle tension, sleeping disorder symptoms. GAD is the most frequently encountered disorder among the anxiety disorders and its life-long incidence is between 1.2 percent and 10.3 percent. Average starting age is 18, 82. Comorbid disorders in GAD are encountered very frequently. Life-long comorbid disorders are observed on the 90 percent of GAD patients.

According to psychoanalytic theory, anxiety is basically an outcome of a conflict. In this context, anxiety is a reaction of ego, which is the homeostatic function and which perceives the danger. When the defenses against anxiety remain poor, the GAD symptoms emerge.

According to the learning theories, anxiety functions as the cognitive avoidance reaction. This situation makes us think that being subject to the incidents, which cannot be controlled and which cannot be predicted, may be important in the formation and continuance of GAD. However, it is reported that contextual conditioning is more effective in the formation of GAD.

According to the cognitive model, as people are inclined to perceive many situations as a threat due to their beliefs about themselves and their lives, they experience generalized anxiety. According to the cognitive model, four cognitive components are seen in GAD. These are cognitive components related with ; (1) intolerance of uncertainty, (2) positive beliefs about worry, (3) negative/poor problem orientation, (4) cognitive avoidance.

In cognitive behavioral theories, cognitive, affective or physical avoidances are used excessively as a protective strategy of ego due to the cognitive schemas leading to less evaluation of the coping sources by means of exaggerating the strength and extent of the threat in generalized anxiety. Furthermore, procrastination behavior is considered as a way of avoidance as well. The situations associated with the fear of failure are procrastinated and social assessment/evaluation and probable punishments are avoided. The behaviors of taking care and showing interest, which have been learnt as a way of gaining love and approval, are considered as a way of avoiding from social criticism and non-acceptance.

The most frequently used effective method used in the pharmacological treatment of GAD is the use of benzodiazepines. As for the psychodynamic therapies, by means of determining the patterns in the actual and past relationship and in the relationship of the patient with the therapist, it is studied on the conflicts affecting the anxiety symptoms and a better way of coping with the feelings is found. The cognitive therapies includes; teaching the patient to determine and characterize the irrational thoughts, re-regulation of the irrational beliefs about the anxiety, objective evaluation of the perceived benefits of anxiety, intolerance of uncertainty, possibility of negative ending of an incident/event and the evaluation of the damage to be caused by this incident. The cognitive behavioral therapies, in addition to the contents of cognitive treatment, include relaxation training, self-monitoring, development of problem-solving skills, and the behavioral interventions resulting from imagery exposure.

There are numerous studies assessing the efficacy of treatment methods in GAD. When these studies are taken into consideration, that benzodiazepines are effective in reducing the anxiety, but that other used medicines are similar in terms of efficacy is understood. While it is understood that B-APP (brief Adlerian psychodynamic psychotherapy) is effective in reducing the anxiety, that SE (supportive-expressive) therapy, which focuses on interpersonal problems, is effective in interpersonal problems is clearly understood. Along with that, long-term treatments are not better than shon-term therapies. It is known that behavioral therapy and relaxation training

are also effective. It is also understood that MBCT (Mindfulness-based cognitive therapy) is also effective in reduction the GAD symptoms. When the efficacy of these treatments are compared, while it is seen that cognitive therapies are more effective than psychodynamic therapies and that cognitivebehavioral therapies are more effective than behavioral therapy, there has not been discovered a significant difference between cognitive-behavioral therapies and pharmacological treatments in terms of efficacy. However, when the long-term efficacies of the treatment are taken into consideration, it is reported that cognitive-behavioral treatments are more effective than pharmacological treatments. When generally taken into account, cognitive-behavioral therapy, which includes techniques such as cognitive restructuring, systematic desensitization, introceptive exposure, relaxation training, development of problem solving skills and anxiety management training, has a high efficacy in the treatment of GAD.

6. PRESENTAION OF THE CASE

Kerem was a 26-year-old single graduate student in the social sciences at a prestigious university. Although he reported that he had had problems with anxiety nearly all his life, including as a child, the past 7 to 8 years since he had left home and gone to college had been worse. During the past year his anxiety had seriously interfered with his functioning. He reported worries about several different spheres of his life. He was very concerned about his own health and that of his parents. During one incident a few months earlier, he had thought

that his heart was beating slower than usual and he had experienced some tingling sensations; this led him to worry that he might die. In another incident he had heard his name being paged over a loudspeaker in an airport and worried that someone at home must be dying. He was also very wonied about his future because he had had trouble completing his master's dissertation on time given his high level of anxiety. He also worried excessively about getting a bad grade even though he had never had one during four years at a prestigious university or at his equally prestigious graduate institution. In classes he won-ied excessively about what the professor and other students thought of him and tended not to talk unless the class was small and he was quite confident about the topic. Although he had a number of friends, he had never had a girlfriend because of his shyness about dating. He had no problem talking or socializing with women as long as it was not defined as a dating situation. He worried that he should o date a woman if he was quite sure it could be a serious relationship from th onset He also worried excessively that if a woman did not want to date him that it me t athe was boring.

In addition to his worries, Kerem reported muscle tension and easy fatiguability. He also reported great difficulty concentrating and a considerable amount of restlessness and pacing. When he couldn't work he spent a great deal of time daydreaming, which worried him because he didn't seem able to control it. At times he had difficulty falling asleep if he was particularly anxious, but at other times he

slept excessively, in part to escape from his worries. He frequently experienced dizziness and palpitations, and in the past had had fullblown panic attacks. Overall, he reported frequently feeling paralyzed and unable to do things. Both of Kerem's parents were professionals; his mother was also quite anxious and had been treated for panic disorder. He was obviously extremely bright and had managed to do very well in school in spite of his lifelong problems with anxiety. But as the pressures of finishing graduate school and starting his career loomed before him, and as he got older and still had never dated, the anxiety became severe enough that he sought treatment.

6.1. Assessment and Intake

K had a very dressy and clean look. Though seemed quite stressful and a bit shy, he gave detailed information about his complaints during the intake.

K, while defining himself, stated that he had always been a worrier since his childhood, and a bit more anxious in comparison to his friends and the others around. K expressed that he was a successful student throughout his school year although he experienced stress and uneasiness.

When the reason of his demanding help at the moment was inquired, he expressed that he had too many physical complaints, that being about to graduate from the university increased his worries and that he thought he had to find a girlfriend and establish a serious

relationship as he would graduate soon, but that his worries increased in this respect as well. He said that he strained himself too much, that he felt too stressful, that especially his shoulder and neck hurt much, and that he tired quickly, that sometimes he felt himself so tired as not to be able to do anything before midday. He said that he had difficulties in collecting his thoughts, and that he could not concentrate. Further, he provided detailed information about his physical complaints like fast heart beatings. He expressed that his physical condition would influence his success at school, even to the extent that he would not be able to complete his dissertation.

He said that he had never received psychological aid before, but his mather has received treatment due to the panic attacks. He expressed that he was about 12 then, and that he scared much about "what if his mother die" and that he checked his mother by not sleeping at nights, and listened her breathing. He said he resembled his mother in many aspects, and that both of them were apprehensive and worrier. When the panic disorder symptoms of K are assessed, it is seen that he had attacks similar to panic attacks, but that these symptoms did not fully meet the panic disorder criteria. Apart from the so-called attacks, he expressed that he felt his heart beat, so fast and that his won•ies were generally about his health. When inquired a bit more deeply, he said that the he worried about health of his family frequently. He said, "Sometimes, I call my family several times a day. I imagine they might have had an accident and I feel the need to call and check whether they are well or not." When the other subjects he worried

about are taken into consideration, it was seen that these subjects were mostly about his future and generally about the events ending negatively and other catastrophic possibilities.

He expressed that his physical complaints were not assessed by a specialist comprehensively before, that only non-comprehensive assessments were made and that generally no physical problem has been discovered.

When asked, he said that he had difficulty in sleeping and that he felt himself exhausted. When he asked about whether there had been any changes in his weight or appetite, he said that he was never on good terms with eating, and that this did not change then. When he was asked about his thoughts about the future, frequently the following thoughts were discovered; "what if I cannot succeed, "I will not be able to finish my dissertation, I will not find a job", "what if I cannot find a girl to many". He was observed to demonstrate a desperate and depressive point of view about the future. When he was questioned about the probability of self-destruction, he said that he would not do something like that, that he considered self-destruction as a weakness and that he did not want to make his family upset. Generally, his mood was observed as anxious and mildly depressive.

When his relationship with his friends and his family was taken into consideration, he expressed that he was on good terms with everyone, that he wanted to help the people around as much as he could. He further said that he had anxiety about relationships with

the opposite sex, that he was disturbed by the thought that he might be boring for the person he is with, and that he refrains from romantic relationships.

At the end of the session, he was said that session was rather for knowing him and getting information, and that his presenting problem would be dealt as of the following session.

Goals were detennined upon working on in the other sessions. When he was asked about what he would want to have changed throughout the psychotherapy, he said that he did not want to strain himself that much, that he wished to study well and to concentrate on his dissertation, that he wanted to be more relaxed in the classroom, that he wanted to get rid of thinking negatively

always and that he wanted to establish a committed relationship with a girl. Minimizing his physical tension, reducing the anxious thoughts to at least a level not to interfere with his life tasks, and reducing the problems of establishing a relationship with the opposite sex and the problem of concentration were determined as treatment goals.

He was informed about the therapy rationale and how it would work. He was said that the contributions of himself, with who would worked on these goals, was very big and important. Besides, he was told that his seeking for psychotherapy indicated his determination and motivation in this respect, and that this side

of him was a strenght to contribute the process of psychotherapy positively.

As a part of the assessment, Minnesota Multiphasic Personality Inventory (MMPI), Beck Anxiety Inventory and Beck Depression Inventory were applied to K.

6.2.Diagnosis

In the end of assessment, it was seen that K met the criteria of DSM-IV-TR Generalized Anxiety Disorder diagnosis. When the Beck Anxiety Inventory was assessed, it was seen that his anxiety level was high in consistence with the generalized anxiety disorder. According to the Beck Depression Inventory, it was seen that K's depression level was mild and that MMPI results were in a way supporting the diagnosis. K experiences excessive anxiety and worry in many aspects of his life. For instance, while using an expression indicating his worry about his health like "sometimes my heart beats very fast, and I feel exhausted generally, I think I have a big problem yet I do not know what it is, what can I do if it is a bad thing", on the other hand, he expressed that there were thoughts disturbing himself too much about worsening of his family's and his mother's health in particular. In addition to these, he had worries about that he would never graduate from the university, that he would not be able to find a good job, that he would not be able to marry and would have to live alone. He said that he found himself lost in these thoughts many times within the daytime. These expressions match up with the excessive anxiety criteria observed in many facets of life such as

school, business and health, which are considered as the basic criteria of DSM-IV-TR Generalized Anxiety Disorder. Besides, K experiences physical and cognitive symptoms especially when he is anxious. While concentration disorder has been observed as a cognitive symptom, when physical symptoms are taken into account, frequently exhaustion, heartthrob and sleeping disorder has been observed. The focal point of worry and anxiety is not associated with another Axis-I diagnosis. Though K experienced several experiences similar to panic attack, it had been seen that the focal point of anxieties was not related with re-experiencing of these attacks, but was related with various aspects of life, especially with uncertainty in those aspects. It had been seen all these experiences influenced the social life and school success of K. He expresses he had difficulties in his studies about his dissertation due to his exhaustion and difficulties in concentration, and that the thought of not being able to finish the dissertation, though he spent a good deal of time for this, put himself off. Finally, K also meets the final criterion of DSM-IV-TR Generalized Anxiety Disorder, which is about these disorders' not being associated with any substance use or medical condition.

With the purpose of completing the assessment, K was assessed within the multiple-axis system of DSM-IV-TR. In Axis-I, K meets the Generalized Anxiety Disorder (GAD). When the disorders of Axis-Il are taken into consideration, it has been seen that there is not any diagnosis. As he does not have a known medical disorder, K further does not meet the criteria of Axis-Ill. When Axis-IV is taken

into account, his being about to graduate from university and his being about to move towords a new life stage may be assessed in relation with the condition he is in. In the general assessment of functionality, Global Assessment of Functioning Scale (GAF) was applied. GAF point of K is 60. K experiences middle level difficulty in his social and academic functionality.

Besides, when the cognitive process variables, which are frequently encountered in Generalized Anxiety Disorder, intolerance of uncertainty, which is the most basic of these contents, was observed during assessment. The cognitions of his being about to complete his studies and starting to a new life stage may be provided as examples. He finds himself lost in mental images and thoughts, which generallyassociates with catastrophies, within the daytime, and he thinks this is uncontrollable. It was also observed he had wrong beliefs about anxiety such as that being anxious prevented him from taking bad marks and becoming stupid in the classAhat if he does not get anxious, if he feels comfortable and relaxed, that he might be a bad student. His interpreting the events as a threat erroneously, leads him to experience excessive anxiety and avoidance behaviors like not speeking in the classroom. Further, his cognitive presumptions about acceptance and approval leads him to behaviors of excessive display of interest and of taking care of people. In general, the cognitive processes that cause the maintainence of anxiety and experience of tension might be considered as intolerance of uncertainty and his perceiving the events as uncontrollable. As there is not any signal

before the aversive events, he keeps himself ready for any possible threatening or negative event at each and every moment. His beliefs that anxiety is useful, lead him to preventive and compensatory behaviors for the probable negative events.

6.3. Case Formulation

K, during the time of his mothers panic attacks that started when he was 12, says that he had fears such as "What if something happens to•ny mother", and that he had nothing to do to help to his mother. His mother's panic attacks might be considered as a predisposition factor of K for Generalized Anxiety Disorder (GAD). It is because K's sensitivity for bodily rhythm and physiological changes increased together with his mother's panic disorder. He experiences performance anxiety about his relationships and in academic field. When his performance anxietywas inquired about, there has been seen the assumptions such as "I shouldn't hurt others' feelings", "I have to help everyone", "I have to be successful in my courses , If I succeed, the society will welcome and accept me". These beliefs, assumptions and his performance anxiety may be considered as priming factors.

When the factors bringing out the anxiety and intense worry are taken into account, his forthcoming graduation and completing his dissertation on time are important. His being about to graduate brings responsibilities such as finding a good job. Besides, the uncertainty about post-graduate period is a actor triggering the Generalized Anxiety Disorder of K.

He interprets the increase in the sensitivity against bodily changes and .the changes that might happen within a day in catastrophic way. For instance, he interprets his heart's beating in a way

fast as "my heart will stop", and his tension and breathing disorder increase together with this interpretation. His anxiety and worry about his family's health leads him to call them and check whether they are well or not and his anxiety decreases with the controlling/checking behavior. For this reason, anxiety behaviors such as calling the family got reinforced. All these interpretations and anxiety behaviors are considered as factors that enable the Generalized Anxiety Disorder to contiune.

7. TREATMENT PLAN

Based on the efficacy studies, cognitive behavioral psychotherapy was decided for treatment of ICs GAD. Approximately a treatment to last 12-14 sessions was planned. As explained above, a 2-session intake was conducted and detailed information was received about the presenting problem, background history and his anxiety experiences within the recent period. Moreover, some of the automatic thoughts, assumptions and beliefs about the anxiety were identified. "I will not be able to succeed, I will not be able to find a job, I cannot marry if I cannot be successful, I must be able to cope with everything, ifLget anxious, this will make me guarded against mishaps. During intake, information was provided about the psychotherapy process.

At the end of this psychotherapy, it was aimed at to obtam a change in the erroneous beliefs of K about anxiety's being functional, at reducing the physical tension, and developing new strategies and problem solving skills for coping with the anxiety and worry. Reduction of symptoms, performing relaxation exercise for the decrease of tension, prevention of behaviors maintaining the anxiety by means of worry behavior prevention, cognitive restructuring aimed at cognitions in relation with suffering a disaster uncertainty, and, controllability of events, and finally relapse prevention had been planned as the stages of the psychotherapy.

7.1 Session 111

In this session, it was stated that, according to the inforrnation given by K, the problems suffered by him was quite similar to the experiences of people experiencing anxiety problem, and a general information was given about the nature of anxiety. It was said that anxiety was an emotion that all humanbeings had and for this reason that it was a natural and required part of our lives. It was stated that people suffer anxiety in conditions, which might be dangerous or threatening or drastic, and it was analyzed by means of dealing with an example that may create anxiety. The last incidence, he was anxious about, was discussed. The event, which he said that his professor wished to talk to him about the dissertation the previous day was taken into consideration and he was asked to imagine the scene. By means of identifying the thoughts, physical changes, emotions of him and what he would do, the links among all these thoughts,

emotion, bodily changes, and behavioral response were explained. Besides, some situations, in which anxiety might help him reach his goal, were touched upon. It was stated that anxieties, which are experienced when anxiety prevented his relaxation and his becoming comfortable, when anxiety was too intense or frequent or when there is actually no danger or threat, was not adaptive and excessive. He was told that psychotherapy would focus on reducing this anxiety, which brings out his worries and physical complaints.

It was told that anxiety might be triggered internally and externally, and that these triggers might be thoughts, physical sensations or external situations was explained. That anxiety was a reaction against these triggers and that whether it would be easier to control the anxiety by means of dealing with these triggers individually was emphasized. K said that then things cleared in his mind a bit more and that he always thought about, "Why am I like this?" "Why do I think such things?" He used statements like, "I always think a possibility by saying what if it happens so and so, I always think the worst". In this respect, it was decided to deal with anxiety physically, cognitively and behaviorally.

Another impoltant aspect of psychotherapy was explained to be the homeworks. By means of homework, it was said to be important in terms of implementation of what was gained also out of sessions, and providing the continuity along the period passing between the sessions. Along with that, he was explained that his own effort was quite important in this process and that these homeworks were very

significant in that respect. A homework about that he would observe his level of worry and anxiety to be dealt with in the following session was given. He was explained that the self-monitoring homework delivered to him would enable him more precise observations about his life; for instance, it was observed that some clients became more or less anxious in some days at the end of self-monitoring, even though they said they were almost always very anxious. Furthermore, it was said that self-monitoring would help to evaluate and understand anxiety in a more objective way, that it was useful to analyze the anxiety just like a scientist. Finally, he was said that observing the anxiety level every week would be effective in our assessing the changes along with the treatment process. When he was asked what he thought about this, K said that it did not seem very hard, and that he would at least try. K was told that anxiety might increase in the beginning stages when he staffed self-monitoring his anxiety, because that he would face with anxiety like this for the first time and that increase in anxiety would be exvected. He was provided information about how he could record the self-monitored anxiety and worry and the thoughts about this, and he was given an example of Cognitive Self-Monitoring Form. (Appendix A)

7.2. Session IV

At the start of this session, the previous session was summarized and it was stated that it would be dwelt on the homework given in the previous week. The agenda for the present session was set together. K said that he had difficulties in spending time for this homework

because of his dissertation, but that he did something. When the self-monitoring form was analyzed, it was seen that his anxiety level was variable throughout the week. It was dwelt on two days before, when he indicated the highest anxiety level as 85 percent. Here, talking with the dissertation consultant as the triggering event noted down, and his thoughts in mind were; "He will not like it, " I have got too many mistakes, the dissertation will never finish". While touching upon this experience, firstly, the thought dimension, explained in the previous session associated with anxiety, was taken into account. His belief about the factuality of these thoughts was assessed. While the previous anxiety level, indicated in the form, was 85 percent, his belief about that he would not be able to finish his dissertation was 75 percent, however, after the thoughts such as "I progressed much in my dissertation work, seeing my deficiencies might save time for me", his belief that he will not be able complete his dissertation was noted as 30 percent, and his anxiety level was noted as 45 percent in the form. Later, it was dwelt on his anxiety during the other days, on his thoughts and altemative thoughts. Besides, it was said that, with the purpose of coping with the events that are perceived as a threat at the times when he gets anxious, his attention will be directed towards this event and therefore he will have difficulties in concentrating on other things around and even that he might have experiences such as forgetfulness that may affect his performance for this reason. Primarily K said that he had thoughts like "My advisor will not like it", when he goes for talking about the dissertation, because his professor has a sullen face. Moreover, he told that he had thoughts in

his mind like "What if he does not like my work, how can I complete my dissertation, and that these thoughts made him tense and stressful. When he was asked if he could concentrate on what was said by his professor while these thoughts were in his mind, he said, "In fact, I remember, now thinking, that my advisor pointed out some important issues, and I always said OK, but I was so confused-that I'm not clear on what he said to me." When he was asked about the reason why he was so confused, he said", he was helping me to make my dissenation better, he was telling mymistakes, that's awful and now I will have to do all these on my own." This case was summarized such; a series of negative thoughts are created in his mind with his interpretation about the sullen face of his professorr and these thoughts prevented him to get use of what was explained by his professor. He said that this explanation was quite significant, that he previously complained about his inability to concentrate.

Later, it wastalked about bodily changes, which are another dimension associated with anxiety, as mentioned in the previous session. It was figured out that, when he experienced anxiety the most, were the times he was talking about his dissertation. The changes take place in his body was inquired. K expressed that his heart beats as if to burst and that he felt as if he cannot breathe. He stated that he most of the time felt bad, but that he felt the worst on these occosions. Upon this, he was explained, as mentioned previously, that anxiety was a normal reaction given against events that are interpreted as dangerous and threatening, and that his body had a function such as preparing to react

for fight-flight response. Brief information was given about the operation of autonomous nervous system in such situations. He was told that, though autonomous nervous system operates involuntarily, we could control its operation consciously and that one way of doing this was regulating breathing. It was determined that one situation that increases and causes the continuation of physical complaints in anxiety situations was the rapid breathing. How breathing affected the physical condition was explained. Therefore, it was decidecl to make a breathing regulation training in this session. K was asked to breathe in a rapid way for a period of 10 seconds and to observe how he feels. Then, K said, "I felt as if I am going to faint, and Ifeel dizzy, this is what really happens at times when I am very anxious." Afterwards, K was showed how to perform deep breathing. K was asked to put one of his hands to his chest and the other on his belly for performing a deep breathing exercise. He was observed that his chest heaved more in normal breathing practice and then he was asked to breathe deeply by counting up to 5 until his hand on his belly moves, and again to breathe out completely by counting up to 5. After several repetitions, K achieved to perform deep breathing. When he was asked about how he felt, he expressed that he did not feel any disturbance or tension in his body, and that he- liked this breathing exercise very much. He was told to practise graduently until the next session at home. He seemed quite eager and willing for this.

7.3. Session V

The session staned by summary of the previous session. K said at the beginning of the session that he felt himself better that week. He reminded that his anxiety level about his dissertation reduced down to 70 percent that week. When he was asked about his breathing exercises, he said that he did his best to perform these exercises. He also said that he realized he contracted his muscles too much at times when he gets anxious, that all his body hurts in the following day. He was informed, upon this, that one method for reducing his physical complaints and tension was the relaxation of his muscles. It was aimed at applying a relaxation training for gaining this skill. The rationale of relaxation training was explained to K as follows:

Relaxation training consists oflearning how to relax the muscle groups ofour body. mile muscles are relaxing, all attention is given to the relaxation feeling as well. This teaches you to recognize your tension and determine the tense parts of your body as well as teaching you how to relax yourself Learning relaxation skill is like learning how to swim or ride a bicycle. For this reason, you have to practice in order to learn relaxation as in other skills. It is also important to comprehend that; relaxation is something, which you can learn and improve, there is nothing magical here. I will not do anything to you, 1 will only show you the technique and I will let you pay attention to some important points. Without your active participation and regular practice, this method will not be of much use. The goal ofrelaxation training is to help you to reduce the muscle tension whenever you

want to. As you will not be both relaxed and anxious at the same time, there will be decrease regarding your anxiety (Ferguson, 2003).

The relaxation training started after he was asked if he had any questions about this. As stated below, K performed Progressive Deep Muscle Relaxation as demonstrated by the therapist.

In each component, tension of muscles and relaxation of muscles for a period of 10 seconds was the point in the training. Each muscle group was controcted and relaxed twicce in the following sequale;

1. 1.Right hand and forearm
2. Right arm (biceps)
3. Left hand and fore arm
4. Left arm (biceps)
5. Forehead
6. Upper cheek and nose
7. Lower cheek and jaws
8. Neck and throat
9. Chest, shoulders and upper back
10. Abdominal or stomach part
11. Right thigh
12. Right calf
13. Right foot
14. Left thigh
15. Left calf
16. Left foot

Besides, K was asked to find a keyword for his relaxed and peaceful being at the moment. He selected "blue" as the keyword. K was told to perform these relaxation exercises as frequent as he could between the sessions.

7.4. Session VI-Vll

After the summary of the previous session, the homeworks of relaxation and breathing exercises were reviewed. K expressed that breathing exercises made him quite comfortable, that he did not experience a complete relaxation, but that his tension reduced a bit and that he could recognize more easily when he was getting tense in a stressful situation. It was dwelt on the difficulties he had and questions regarding the relaxation exercise. He said that the highest anxiety level was 60 percent in the previous week, that his physical complaints reduced, but that his negative thoughts about his health and his family stressed him too much and that he could not help calling his family. Within these two sessions, it was worked on imagery exposure and on worry behavior prevention. He was told that the reason for the maintainance of his anxiety could be not thinking deeply and completely about these situations, when the facing up with the situation is blocked, the anxiety remains the same. When he was asked about what he did when such thoughts came into his mind, it was determined that he was trying to escape from theme by telling himself, "I must not think such things". He was explained that his trying to keep away his mind from a situation that he considers as a

disturbance, but that his trying not to think lead him to have more thoughts in his mind about that issue. For this reason, he was asked for thinking about these issues with his own wish rather than avoiding from these anxieties. The behaviors associated with anxiety, which have been mentioned in the previous session, were listed for the purpose of imagery exposure. A hierarchy list was created by determining the anxiety levels that these behaviors wouldgenerate. The situations that were listed are as follows:

100- his fathers' driving at night and in bad weather conditions.
95- presenting his dissertation
90- job interview
70- his not being able to get information from his family and/or not being able to reach to them by telephone
60- talking to the dissertation consultant
45- asking for a date to a girl
35- starting to talk during a lesson/classroom

Starting to talk in a lesson, in the end of the list, was taken into consideration. Regarding the event at issue, when the professor asked a question to the class in a lesson, K was determined as not being sure even if he knew the answer of the question, and that he remained silent instead of staning to speak and answer the question. Upon .this, he was asked to imagine the worst thing that might happen in his mind. K said that he would say something wrong or nonsense when he tries to answer the question, that his peers would laugh at him, that

they would think he was stupid and that they would not wish to talk to him. When he was asked to assess the degree clarity of this between 0 and 10 when he imagined this event in his mind, he said that clarity was about 7. Later on, he was asked to imagine the situation like a movie on a screen and again he was asked to assess the clarity in his mind. This time, he said that this was quite clear and gave 9 points of clarity for this imagination. He was asked about the level of anxiety, he said it was 80 % . He was asked to keep this scene in his mind and he was asked to concentrate on what he saw and heard. When he was asked about the level of anxiety, he said it was still about 80 %. A while passed in this way and anxiety level fell down to 50%. Afterwards, he was asked to think what the alternatives could be in addition to this image. He said that his friends might not care much about his wrong answer, that his professor would like his joining the lesson even his answer was wrong, that maybe his answer would not be completely wrong or nonsense. When he was asked about the anxiety level when imagined this in his mind, he said it was about 15 %. However, he said it was hard to imagine the worst possibility and he reported tension. It was told that he was required to imagine, and it was quite normal that his tension. A while later, he was said that his anxiety level would reduce.

The other components in the list were worked through and he was asked to imagine these in his mind. When worked on the component about not being able to get information from the family, K expressed that he felt comfortable only when he called his family and that he

talked with his family several times a day. If he cannot reach them by phone, he said he thought things like, "for sure something bad has happened, for instance an accident?, or are they sick?, and that he continued to call until he reaches them. After he was asked to imagine the worst possibility about this, it was dwelt on what the alternatives might be regarding this event. Later on, the logic of preventing the anxiety behavior was explained to him. He was asked to call his family only after he was back from school. He was asked to assess his anxiety level all the week and days.

7.5. Session V111-1X-X

At the beginning of the sessions, he was asked about the week and talked about the exercises and homeworks were checked. He said that he had difficulties at the beginning about calling his family only for once after he was back from school, and that he worried much. Yet, when he felt tense until he called his family, he said he tried to breathe correctly by means of concentrating on his breathing and that he tried to relax. He said that such relaxation helped him and that he did not experience anxiety as he used to experience. When his self-monitoring forms are taken into consideration, it was discovered that his anxiety decreased when compared to the first week. Within these three sessions, it was dwelt on automatic thoughts and assumptions identified in the self-monitoring forms and during the time of sessions, and cognitive restructuring was performed. It was determined that it was K's uncertainty thoughts about the future and his family's health, which made him anxious the most. Additionally, it was seen that his

thought of hurting others' feelings was quite aversive. When inquired on his anxiety about future and intolerance of uncertainty, some automatic thoughts were identified such as, "I will not be able to find a good job, "I will not be able to marry". When he wasætsked what it meant not to find a job and not to marry, he said, "If I do not have a good job, how can I guarantee myself?, there are good and bad conditions of life, people must have guarantee". There was determined assumptions like" I have to do everything in a perfect way and I have to have a selfcontrol" and a core belief like "world is a dangerous place". When the thoughts like "I will not be able to find a job, " I will not be able to marry if I do not have a job", were taken into consideration and selective abstraction, which is another cognitive mistake, was explained. The thought chain like," If I cannot pass the exam, my graduation will be delayed, if the school delays, I cannot pay the charge and I can never complete the school, I cannot find a good job, and I cannot marry if I cannot find a job", was taken into consideration and each component in this chain of thoughts were assessed one by one, alternatives and counter evidence were evoluated. When the each thought was assessedone by one, K both assessed the possibility of realization of the event less than the previous and he said that it seemsed easier to cope with like this. In the ninth session, he got much worried about his family's health. He expressed that his parents would go to a vacation for the weekend, that his father would drive a long way and that he always thought the possibility of their having an accident. When he was asked whether there were past evidences indicating the possibility of their family's

having an accident, he said that his father did not have a significant accident until then. However, he said that he could not help thinking the possibility of their having an accident. When he was asked to produce alternative thoughts, he said that his father was actually adrives well, that the accident would be a little one even if they had an accident, and that they would be able to be saved without getting hurt. He said that thinking in this way led to a decrease in anxiety. Afterwards, another cognitive mistake, catastrophizing was explained. Firs, he was firstly asked to imagine the worst thing that may happen about the matter he gets anxious about, and then he was asked to assess it realistically. He was explained that generally people assessed their skills coping with the negative events less when they worried or got anxious and that people are inclined to think that the negative events were continue forever. He was asked to write his thoughts that generate anxiety down his self-monitoring form and he was asked to ask himself about what would be the worst result, why it would be bad if it happens, what is the possibility of happening of that event, and how he could cope with that.

7.6. Session XI-XII

The homework given in the previous sessions were checked. The goals were assessed by reviewing the studies performed until then. It was discovered that K's anxiety level was about 20 and 35 percent. Besides, K said that he felt much better, and that he had nearly no physical complaints anymore. He expressed that he dealt more with his dissettation and that he progressed. He told that he called his

family at evenings twice a week and that he had no difficulty in doing this. He also said that he immediately found alternatives when a negative thought emerged in his mind.

He was asked about his situation in the classroom and aboutasking a girl for a date. He said that several times he talked in the classroom, and felt himself a bit tense and excited. He expressed that he, however, still could not meet an available girl. He actually liked someone, but that he did not know how to approach, and that he scared of being rejected. Upon these, it was worked on assertiveness skills. How he could talk was rehearsed through changing roles during the session. K said that he might close to the girl he liked this week and that he might ask something about the lessons.

After determining that goals were accomplished, termination and follow-up sessions were taken into consideration. It was decided to perform follow-up sessions once in two weeks. he was explained that, throughout the follow-up sessions, the developments would be followed, and the his problems in implementing the skills, he gained here, in real life were to be taken into account.

7.7. Session XIII-XIV

These sessions were held once in two weeks as follow up sessions. It was dealt with the developments and changes in K's life between these sessions. Some events experienced by K were taken into consideration, and it was dwelt on how he coped with the events. Later on, the prospective problems that K might face in the future

were determined; it was talked about how he could cope with these problems. Finally, it was talked on the changes he wish to make and on the plans in relation with his life, and these were made clear. He was satisfied with his accomplishments as means of psychotherapy and the therapist told him that when he encounter difficulties in the future he knows how he got help and were importantly, he will be his own therapist from now on.

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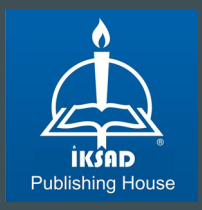
APPENDIX-A

Cognitive Self-Monitoring Form (worry record) Brown, O'Leary & Barlow, 2001

trigger/ event	automatic thougt	anxiety (0-100%)	prob. (0-100%)	(alternatives, evidence)	realistic prob. (0-100	anxiety (0-100%)



ISBN: 978-625-8423-90-7