Memory bias in obsessive-compulsive and anxiety disorders

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Abstract

Objectives: According to the fact that OCD patients, especially considering to their obsession type, continually attend and mind certain stimuli, (for example washers, often memories contaminated objects or events) the aim of this research was to investigate one possible factor for this fact: memory bias. Method: Forty individuals (20 checking and 20 washing types) were selected together with 20 anxiety patients and 20 control individuals. The groups matched in demographic features and all of the groups completed Beck Anxiety and Maudsley Obsession and Compulsive inventories. Memory was assessed by word lists. Results: This study revealed no difference in memory bias among the groups. Conclusion: There was not memory bias in OCD and anxiety disorders and memory bias were showed by previous research, maybe related to other factors.

Keywords: Memory bias, anxiety, obsessive - compulsive disorder;

1. Introduction

Anxiety disorders are the most common psychiatric disorders in the United States and other populations that have been studied until now. Anxiety disorders are classified as generalized anxiety disorder, phobia, panic, obsession-compulsion and post traumatic stress disorder. Obsessive-compulsive disorder, after the phobia, the drug-dependent disorders and depression, is in the fourth row of the most common psychiatric diagnoses (Kaplan – Sadock, 2003).

In pervasive anxiety disorder, anxiety is not limited to certain foreign locations and avoidance behaviour is not observed in it (Clark, 2006). Diagnostic and statistical manual of mental disorders (DSM-IV) defines pervasive anxiety disorder as comprehensive, intense anxiety and worry about several events or activities that have lasting most days in the six months, control of the worry is very difficult and may be associated with a wide range of physical symptoms (Kaplan – Sadock, 2003; Girgin, Kurt, & Odabasi, 2011).

OCD (obsessive – compulsive disorder) is a highly disabling anxiety disorder, usually considered to be a difficult disease to treat, which requires lifelong treatment (Clark, 2006). Obsessive patients had preoccupation with recurrent thoughts and persons with compulsions feel they forced to do the same thing over and over. These compulsive habits come in the form of protective against anxiety nevertheless the person knows that obsessions are senseless and irrational also he/she feels the need for strong resistance against them.

Various theories have explained anxiety; Joffe and Levitt (1997, quoted from Aghely and Hajjarian, 2005) expressed that anxiety is the state that is experienced in waiting for a danger. Mowrer (1947, quoted from Clark & Fairburn, 1996), describes two-factor model of fear and avoidance behaviors in anxiety disorders. So if fear is
learned from a particular stimulus by classical conditioning and will continue with the operant conditioning through avoidance and escape. In compulsive disorders, escape and avoidance behaviors, is performed by person (such as checking and washing) will prevent the extinction of anxiety. In trying to justify and explain symptoms of OCD, Car (quoted from Riggs & Foa, 1993), Suggested that these people abnormally expect that the outcomes of activities or events be always negative and unpleasant.

Intrusive thoughts are more important to OCD patients. As was discussed the nature of repetitive thoughts and behavior is characteristic of the disorder that is known as flaw or biases in information processing. Memory and attention bias is the process that can be seen in obsessive and anxious persons. Researchers have shown that thinking and acting memory of OCD persons, especially checkers, be disrupted. There are three explanatory theories in memory of these people: Bias, public failure in the memory and uncertainty to memory (Mahmud Alilo & Atef Vahid, 2006).

Recently, researchers have been interested in memory of these patients, they have also shown that memory biases in checkers is more than other types of OCD that is result of their responsibility feeling for checking specific tasks (Radomsky et al,2001).

Rachman (1999) has claimed that catastrophic inverts of intrusive thoughts and impressions are the core of the etiology of OCD. Studies have shown that memory biases of checkers is more related to the feeling of responsibility that they understood as the outcome of their checking (Muller & Roberts, 2005). In a study, Rachman (1999) found that persons with OCD, compared to control group, shows bias to contaminated objects. In another study, (Izadykhaah et al, 1380), patients with OCD and persons with high anxiety have shown memory bias toward threatening stimuli. Other experiment was conducted to repeat Rachman’s findings about memory bias in OCD patients and the results, contrary to mentioned study showed that, people with contamination obsession did not differ from other participants in their memory to recall the clean and dirty objects (Dunker et al, 2003).

Studies related to memory biases broadly has been done with checkers, and assume that memory biases have an impairment role in starting or continuing the disorder and it is possible, with further investigations, the etiology and treatment strategies of patients will be more explicit and useful. But currently it is not clear whether the memory bias has the role in starting or continuing the OCD symptoms or not. Also few researchs have compared obsessive and anxious patients until now, With respect to, this study has compared these two disorders together (please refer to Ghassemzadeh, 1380; Mahmud Alilo & Atef Vahid, 2006). Hence the overall aim of this study is to compare memory bias in anxious and obsessive persons compared with control group. For this, the following hypothesis is proposed: 1. Memory biases in the three groups are higher than the control group, 2. Checkers shows more memory bias to words compare to anxious group, and 3. Checkers show more memory bias to words compare to washers.

2. Methods

2.1. Participants

Selected sample is 80 in four groups of 20 persons that except washing group, other groups including 10 males and 10 females. Sampling method was available type and participants were selected from the psychology clinic that answered to Maudsley obsessive – Compulsive Inventory and Beck Anxiety Questionnaire.

2.1.1. Maudsley Obsessive-Compulsive Inventory

This self-evaluation questionnaire is included 30 correct / incorrect questions that is related with different dimensions of obsessive-compulsive symptoms, And assess overt rituals and their relationship with compulsions. Besides a total score of obsession, it is included four subscales (checking, washing, slowness and doubt). Test – retest reliability and internal validity of this inventory is appropriate. Test – retest correlation and internal validity, respectively is 0/80 and 0/70-0/80. (Strenberger & Burns, 1990). Also Mahmud Alilou (2007) in his research with a group of 25 college students reported that the test – retest reliability of mentioned inventory is 0/82.
2.1.2. Beck Anxiety Inventory

BEI is the most common self-evaluation tool that is used to measure anxiety in adults and adolescents. Also it thoroughly have covered the aspects of cognitive, emotional and physiological of anxiety (Beck, 1988). This test includes 21 sentences that in it the responder rates severity of his/her anxiety symptoms include a range of 0 to 3 over the past seven days (each sentence including 4 propositions that show the severity of anxiety. Internal validity is high and obtained correlation coefficient is among 30 to 70 with the average 60 (same source).

2.3. Procedure

Subjects that have been diagnosed by a clinical psychologist as obsessive – compulsive and generalized anxiety patients were introduced to enter the study. After the interview MOCI and BAI were performed to determine the dominant clinical sign (subjects with 5 scores in checking subscales and 3 scores in washing subscales of MOCI were placed in checking group and subjects with 6 scores in washing subscales and 2 scores in checking subscales of MOCI were placed in washing group, also anxious subjects with 26 score in BAI were participated in the study. Normal control group, were participated in research if they didn’t have any mental psychopathology. In this study subjects were matched in terms of gender, economic class and age.

2.3.1. Computer memory tasks

In this study, 200 words that were more related to anxiety and OCD were selected and presented irregularly and within five seconds on monitor and their order were bollixed each time. Each of the subjects was in the room just with the examiner and was trying to subjects focusing on the terms offered. After presenting the words on monitor, after the presenting of the words, subjects were questioned to distraction and after 5 minutes, a sheet was provided to subjects to write the number of words that they remember.

3. Results

Table 1 shows the number of participants in this study. Number of participants in each group is 20 and the total participants are 80 that except washing group, other groups including 10 males and 10 females.

<table>
<thead>
<tr>
<th>Groups</th>
<th>Number</th>
<th>Female</th>
<th>Male</th>
</tr>
</thead>
<tbody>
<tr>
<td>Washing</td>
<td>20</td>
<td>20</td>
<td>-</td>
</tr>
<tr>
<td>Checking</td>
<td>20</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>Anxiety</td>
<td>20</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>Control</td>
<td>20</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>Total</td>
<td>80</td>
<td>50</td>
<td>30</td>
</tr>
</tbody>
</table>

First hypothesis: memory biases in three groups are higher than the control group.

To compare the amount of memory biases to each group of words in groups, one way ANOVAs analysis was used. As Table 2 shows, there is not any significant memory bias between control and other groups.

<table>
<thead>
<tr>
<th>Groups</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Squares</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>21.973</td>
<td>3</td>
<td>7.312</td>
<td>1.74</td>
<td>0.33</td>
</tr>
<tr>
<td>Within Groups</td>
<td>517.550</td>
<td>76</td>
<td>6.810</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>539.488</td>
<td>79</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Second hypothesis: Checkers show more memory bias to words compare to anxious group.

According to Table 2 there is not any significant difference in memory bias between obsessive and anxious subjects.
Third hypothesis: Checkers show more memory bias to words compared to washers. Table 2 also shows that there is not any significant difference in memory bias between washers and checkers.

4. Discussion

Results show that memory bias is not distinctive in obsessive and anxious persons and this finding is not consistent with Rachman and Radomsky findings (1999). According to their findings, obsessive persons have memory bias in compared with control group. Also, a research by Izadikhaah et al. (1380) had shown that anxious and obsessive people had more memory bias in compared with the control group. Also, present findings showed that there is not any significant difference in memory bias between checkers and washers that is consistent with Dunker et al. (2003) findings. In this research there is not distinct memory bias towards threatening words in checkers.

Generally, findings of this study don't approve existence of memory bias in obsessive and anxious people. Considering the contradictory data in memory bias we require further investigations in this area and now it is not clear that obsessive-compulsive and anxious patients have more memory bias than other people patients. It is necessary that therapists consider various factors that are important in development and persistence of OCD, because with consider to inconsistent outcomes, it will not effective to attention just one factor like memory bias in therapy.

References