

Treatment of a woman with emetophobia: a trauma focused approach

Ad de Jongh

Department of Behavioral Sciences,
ACTA, University of Amsterdam and
Vrije Universiteit Amsterdam,
The Netherlands;
School of Health Sciences,
Salford University, Manchester, UK

Abstract

A disproportionate fear of vomiting, or emetophobia, is a chronic and disabling condition which is characterized by a tendency to avoid a wide array of situations or activities that might increase the risk of vomiting. Unlike many other subtypes of specific phobia, emetophobia is fairly difficult to treat. In fact, there are only a few published cases in the literature. This paper presents a case of a 46-year old woman with emetophobia in which a trauma-focused treatment approach was applied; that is, an approach particularly aimed at processing disturbing memories of a series of events which were considered to be causal in the etiology of her condition. Four therapy sessions of Eye Movement Desensitization and Reprocessing (EMDR) produced a lasting decrease in symptomatology. A 3-year follow up showed no indication of relapse.

Introduction

A phobia of vomiting, or emetophobia, is a condition characterized by a disproportionate fear of vomiting or other people vomiting, and is generally associated with an overwhelming sense of losing control, becoming very ill, or that others will find them repulsive. Individuals with this condition have a tendency to check and monitor interoceptive stimuli such as nausea that in turn makes them more likely to feel sick.¹

Estimates about the prevalence of emetophobia suggest that it is a rare condition occurring in about 0.1% of the population.² Conversely, in its milder form, fear of vomiting is fairly common in the community with estimates of point prevalence rates ranging from 3.1 to 8.8%, and women being four times more likely to suffer from fear of vomiting than men.^{3,4}

Emetophobia belongs to the category of *specific phobia (Other Type)* according to the current edition of the Diagnostic and Statistical Manual of Mental Disorders.⁵ To be diagnosed

with emetophobia, the avoidance response must be very distressing and have a significant impact on the person's life. As a result, emetophobics have a tendency to avoid a wide array of situations or activities that they believe might increase the risk of vomiting. For example, they may avoid crowded places from which they fear they cannot quickly escape in case of nausea or vomiting, such as shops, boats, airplanes, concerts and hospitals. In addition, they may not be able to go on holiday or travel on public transport, but the avoidance behavior could also pertain to avoiding adults or children who may be ill (and, therefore, regarded as contagious) or who are at risk of vomiting (e.g. people who are drunk). The avoidance might extend to using public toilets or door handles, medication, going to the dentist, restricting the activities of their children who may be in contact with other children, or to certain food which they believe could cause vomiting, which may lead to being significantly underweight.^{4,6,7}

The sudden nausea and anxiety in emetophobia seems to have many similarities with panic disorder⁸ and agoraphobia.⁶ The difference between emetophobia and panic disorder, however, is that the panic caused by emetophobia is usually of much shorter duration than that of panic disorder. Furthermore, the avoidance behavior of emetophobics covers a much wider range of situations than seen in agoraphobia, including the avoiding of drinking alcohol, becoming pregnant, contact with sick people and people with a degree of unpredictability, like children or the mentally handicapped.⁶ More specifically, the behavior of emetophobics is primarily aimed at the prevention of nausea and vomiting and not, as is the case of agoraphobia, to avoid situations where the thought comes to mind of not being able to get help when misinterpreting bodily signs of anxiety.

If left untreated, emetophobia is likely to persist. Knowledge on how emetophobia should be treated is limited, partly because of the lack of any controlled trial on the (relative) efficacy of treatment strategies for this condition. In fact, there are only a few published cases in the literature. Treatments that have been reported include the use of (combinations of) hypnotherapy,⁹⁻¹⁰ cognitive behavior therapy including stimulation of nausea or vomiting,^{11,12} the use of counter conditioning,¹³ interoceptive exposure,^{1,14} exposure *in vivo* to cues of vomiting, re-scripting of past aversive experiences of vomiting, behavioral experiments, dropping of safety-seeking behaviors, and role play of vomiting using the smell of vomit.¹⁵

It would seem that emetophobia is a condition that is relatively hard to treat. The most comprehensive treatment study used repeated exposure to film footage of people vomiting

Correspondence: Ad de Jongh, Department of Behavioral Sciences, Academic Centre for Dentistry Amsterdam, Louwesweg 1, 1066 EA Amsterdam, The Netherlands.
E-mail: a.de.jongh@acta.nl

Key words: specific phobia, vomiting phobia, emetophobia, EMDR.

Received for publication: 28 August 2011.
Revision received: 2 December 2011.
Accepted for publication: 2 December 2011.

This work is licensed under a Creative Commons Attribution NonCommercial 3.0 License (CC BY-NC 3.0).

©Copyright A. de Jongh, 2012
License PAGEPress srl, Italy
Mental Illness 2012; 4:e3
doi:10.4081/mi.2012.e3

among a group of 7 patients.³ Up to 13 sessions were conducted in which the participants were asked to repeatedly view video sequences. The author noted that a subgroup of patients required a greater number of sessions because fear returned between the exposure sessions. This observation is in line with the results of an internet survey among 56, mostly female, individuals which showed that those who suffer from emetophobia are likely to have undergone a wide range of previous treatments but with fairly limited success.⁶

Eye Movement Desensitization and Reprocessing (EMDR) is a recommended treatment for posttraumatic stress-disorder or PTSD.^{16,17} Given that emetophobics frequently report a childhood onset, often following exposure to distressing experiences of vomiting or seeing others vomit,⁶ and that EMDR is capable of resolving disturbing memories of a wide variety of events, including those that explain the onset of phobic conditions,¹⁸ one might argue that emetophobia is also responsive to EMDR. Among the types of phobias that have been reported as being successfully treated by using EMDR (e.g. phobias of traffic, snakes, moths, spiders, mice, injections, dental treatment, and choking),¹⁹⁻²¹ there is one case report in the literature in which EMDR was used to treat a fear of nausea and vomiting.²² This approach led to complete remission of complaints following only one session of EMDR.

The aim of the present case study was to further explore the clinical usefulness of EMDR for treating emetophobia. To provide the reader with an impression of how the therapy was experienced by the client, special attention was paid to her personal notes and the cognitive, emotional and behavioral changes that she reported by e-mail both during the period she was in therapy and at follow up.

Case Report

Subject

Debbie is a 46-year old office worker who had been suffering from an excessive and unreasonable fear of vomiting for as long as she could remember. She had always done everything in her power to avoid seeing other people vomit, including her own children, as she was afraid that it would make her want to throw up herself. Debbie, therefore, avoided all kinds of situations, among which visits to hospitals, and watching certain television programs and films, from fear of seeing people that *might* feel unwell, and who therefore *might* vomit. Because Debbie had gradually been avoiding more and more of these situations in her daily life, her world had shrunk considerably.

Assessment

To assess whether Debbie's fear of vomiting would meet the diagnostic criteria for specific phobia (emetophobia) in terms of DSM-IV-TR, the diagnosis was established with a standardized diagnostic interview: the Mini International Neuropsychiatric Interview, version 5.0.0.^{23,24} This also evaluates the presence of coexisting disorders and helps clinicians make a differential diagnosis between emetophobia and, for example, panic disorder. Emetophobia appeared to be Debbie's only diagnosis.

To determine the severity of Debbie's symptoms, she was asked to fill out the Dutch version of the Symptom Check List-90-Revised version (SCL-90-R).²⁵⁻²⁶ This consists of 90 items providing an indication of psychological dysfunctioning on eight dimensions: agoraphobia (7 items), somatization (12 items), anger-hostility (6 items), depression (16 items), interpersonal sensitivity and paranoid ideation (18 items), anxiety (10 items), cognitive-performance difficulty (9 items), and sleep disturbance (3 items). The Dutch version differs from Derogatis' original version in that patients are requested to indicate the number of complaints they experienced during the previous week on a 5-point scale (1=none; 5=very many). The total score is the sum of the items of the eight subscales, including nine non-scalable items, and can vary between 90 and 450. Debbie's total score was 275. This fell in the *very high* range (norm group 2) on the dimensions *anxiety*, *agoraphobia* and *interpersonal sensitivity*.

Procedure

EMDR is a protocolized, 8-phase psychotherapeutic approach aimed at resolving symptoms resulting from disturbing and unprocessed life experiences.²⁷ It begins with a focus on the traumatic memory itself by asking the client to recall the memory and to concentrate on various

aspects of it. The client must focus specifically on the most distressing image and a dysfunctional negative belief of oneself in relation to the image, as well as accompanying emotions and bodily sensations. A core feature of the procedure is the performance of eye-movements. Typically, the therapist moves his or her fingers back and forth in front of the client, asking him or her to track the movements with the eyes while concentrating on the trauma memory.²⁷ Following the image and negative cognition (NC), access to the emotional and somatic aspects of the memory takes place. After each series of eye movements (termed *a set*) the client is asked to report emotional, cognitive, somatic and/or imagistic experiences until internal disturbances reach a SUDs (subjective unit of disturbances scale ranging from 10 to 0) of zero and adaptive and positive cognitions (PC) are rated strong on a VoC (validity of cognition) scale, ranging from 1 (feels completely untrue) to 7 (feels completely true). For the application of EMDR with phobias, there are a number of elements added to the procedure, including a preparation for future confrontations with the phobic stimulus.²⁸

A wide range of experimental studies demonstrates that eye movements during recall of aversive memories reduce their vividness and emotionality.²⁸⁻²⁹ Recalling a traumatic memory is assumed to tax the working memory capacity which is reduced. If another task is executed during recall, less capacity will be available for recalling a distressing event.³⁰ This means that the memory is experienced as less vivid and emotional. Although eye movements are believed to serve as such a *secondary* task,²⁸⁻²⁹ also other modalities can be applied to tax working memory. In the present case, EMDR was carried out using headphones connected to a CD-player on which alternating tones (*clicks*) were played.

Case conceptualization

EMDR is based on a model that focuses on distressing events in the individual's life that remain unresolved and that are causal in the etiology of the psychological disorder. Initially, Debbie indicated that she could not remember when she had started being afraid of vomiting. To help Debbie access memories that are considered crucial with regard to the origins and maintenance of her symptoms, the *Two Method* model was used.³¹ Debbie remembered an occurrence that had taken place while she was in kindergarten in which a child in her class threw up over a table. According to Debbie, she must have been about four years old at that time. It was decided to reprocess this memory first.

The first treatment session

The most disturbing picture of Debbie's memory of the kindergarten appeared to be *the*

mess on the table, the moment that my class mate vomits all over the table. The feeling that this picture evoked in Debbie was one of *pure powerlessness* (NC=*I am powerless*), and appeared to be emotionally charged (SUD=8). After starting the EMDR procedure, an intense flow of thoughts immediately started in Debbie's mind. She quite rapidly associated the event at the kindergarten with other relevant events related to the main one. Thoughts and memories arose that were associated with Debbie's early school years. During the second set, she suddenly burst into tears when she realized how much fun she had actually missed because as a child she was always so fearful. In the following set, Debbie saw *all kinds of nice things, jars of paste and such* that had once been present in her kindergarten class. At the end of this chain of associations, when going back to the initial target memory, she indicated: *It is really a strange thing when I see the event, it seems as if I saw it changing from very small and detailed into something much broader. Not only the perspective of that table, where it happened, but also everything around it, but in their normal proportions.* After the following set, new memories arose. Then, suddenly, there was an expression of calm on her face: *Yes, what is actually disgusting about it? ...The picture that I had always had of it in my mind's eye seems to be simply disappearing.* But this amazement was rapidly followed by a new memory that came to mind: *My parents were away and I had to babysit. He felt nauseated and thought he would make it to the bathroom, but only made it to the kitchen. What a disaster!*

Debbie added that she had panicked and had run to the woman who lived next door to ask for help. But she had replied that she was not able to help either, as she herself could also not tolerate vomiting and vomit. Debbie could still remember very clearly that she was allowed to use the neighbor's telephone to call her parents: *Then father came home to clean it up, but afterwards he left again.* In a clearly emotional way, Debbie said that with the return of this image she felt fearful and deserted again: *I lay frozen stiff with fear in my bed, listening carefully in case I heard anything.* But above all, what was really painful about the event for Debbie was the fact that her father did not see her problem: *No one even saw my fear. The entire vomiting situation was even driven into the background by this.*

After this interlude, the EMDR was started up again to process the memory of the kindergarten until Debbie was able to look at this event without experiencing any disturbance. Next, it was agreed with Debbie to conclude the session, and that she would keep a journal for the next few days with the request to e-mail this to the therapist.

After the first treatment session

Four days later Debbie e-mailed the following text: *It was an exceptional experience. That you can take a memory that you have and it has always been the same, but that it gradually enlarges. The sound in your ears has such a calming effect and it seems as though it helps you process a memory in a positive way. I don't know whether I am describing it well, but that is how I experienced it. I was dead tired from all the emotions that arose during the treatment. Yet, I can already tell you now that my first memory of kindergarten already feels very neutral. That I even thought back with pleasure on it today. The image of filling the paste jars came up again, which I always enjoyed so much, and also the sweet face of the teacher.*

The second memory that we dealt with; home – apartment – brother that vomited and my father... this is not yet really neutral, I must say. Although I do find it surprising that I could suddenly remember many details of my room back then, and that was actually nice. But with this memory, in addition with the vomiting situation another feeling came more strongly forward, it seems...; not heard, not seen. I am not there. I will keep a journal and look forward to the next time.

The second treatment session

In the journal that Debbie had kept since the previous session, a number of other events came up that possibly have played a role in worsening or maintaining her fear. She described an event that happened a few days earlier when a car suddenly slowed down in front of her and drove into the bicycle lane: *An unusual place. At that moment I felt a rush of adrenalin and my thoughts flashed back to I don't know how many years ago (as I write this, I see the images before me again). A car stops. I see that someone is just getting back in, and then opens his door again and vomits.*

It was decided to also make this memory part of the treatment. But first the memory of Debbie's father that cleaned up the vomit of her brother was targeted once again. The emotional burden of this memory (SUD) could also be brought down to 0. Then, five minutes later after the installation phase, she could project the image in her mind and feel that she was definitely worth something after all. This was followed by the vomiting scene of the car that had stopped, and this memory was also successfully processed.

After the second treatment session

Debbie wrote in her journal: *This week in the train I was sitting reading a newspaper. There was a comic in it about vomiting. It was a poster on the step (wat bedoel je hiermee? On the step?), at least that is how it was drawn. I did not immediately react with fear! Wow! I*

even turned the page back another time and continued to look at the picture for a few minutes, while inside myself I said: 'Actually such a drawing doesn't mean a thing'. I can hardly believe it.

The third treatment session

At the beginning of the third treatment session, Debbie reports that she had noticed that she could stand up for herself much more than in the past. Her husband had noticed it, too, as had her colleagues: *We are understaffed where I work. And this is not the first time. The last few times I worried about the work that had to be done and worked overtime for hours. Nothing was ever said about this; no one appreciated it. Now I work my normal hours and just push whatever is not finished aside: without any feelings of guilt.*

In the last week, she had remembered that, when she was still in primary school, she had gone on a school trip with a bus. Someone had become nauseated while they were traveling along. At present, the idea of not being able to get off the bus was still being experienced as very frightening and had to do with helplessness. After a while, the memory slowly began to feel neutral, and after one hour this treatment session could also be concluded.

After the third treatment session

After the third treatment session, Debbie e-mailed: *During the last treatment it seems as though a sort of screen was put up. I sat in the bus during a school trip. One of my classmates suffered from carsickness and my fear that he would vomit seized me. It was very uncomfortable to experience that feeling again, all the more so when I was asked what I could do. If I could just tell someone that I feel so trapped, so anxious. To whom could I say this? Wham! The screen! To the person sitting next to me. And who is beside me always and everywhere? My friend Nicky. And it was specifically Nicky that I would never dare telling this. As I write this I feel that intense emotion again! It suddenly became so clear to me how much impact this 'friendship' had on me. I didn't dare tell her out of fear of not being understood. To feel the disdain of Nicky; who never complained about anything and was always brave. What could I do? I kept going around in the same circle and did not know it. Then the therapist asked me if it would be useful to simply look out the window, maybe there was something interesting to see outside. A miracle, it worked! And that worked the next week, too, at work. During an unpleasant situation I looked out the window, that is to say I just let it happen and didn't assign any significance to it. That was such a liberating feeling.*

A week later Debbie wrote: *After a birthday party with a barbecue, I left early. I had a splitting headache. Later on my husband came*

home. He felt terrible and I heard him vomiting. In the past, this sound alone would have created a panic reaction in me. I would have covered my ears in order not to have to hear it, and I would have felt terribly nauseous. And now? Amazing. I remained calm. I simply went to lie beside him on the bed without worrying about whether he might vomit again. Or: could that meat have been spoiled, so that I will become sick shortly, too? No. Nothing of the sort. I simply slept.

Fourth treatment session

In the fourth session, a so-called *future template* was installed; a blueprint of a positive action in the future. More specifically, Debbie was asked what she, in terms of her fear of nausea and vomiting, still did not dare to do or any particular situation she still avoided. Debbie answered that she now thought she could deal with virtually all situations related to vomiting in daily life. However, she still considered it unpleasant to take long bus trips, as she would have to accept that she could not simply get off the bus just like that, for example, if someone might have to vomit. Debbie was asked to imagine how it would feel to take such a long bus trip, an image that included herself and one from which she could not simply walk away. Debbie was requested to hold on to this image in her mind and at the same time say to herself: *the PC I can handle it*. Then a new series of sets was introduced and this procedure was repeated a few times. The confidence of being able to deal with the image increased a little after each set. After a VOC of 7 was reached, Debbie was asked to what extent she thought she was capable of taking such a bus trip, and she answered: *Entirely*.

After the fourth treatment session

When Debbie and her therapist met for the last time, Debbie indicated that she had planned the bus trip, and that there were no longer any situations that she still feared. In fact, over the past few weeks she had not thought about her vomiting problem at all. To measure the effects of treatment Debbie was asked to fill out an SCL-90 again. It appeared that there were no high subscale scores with the total score being 121 (*average*). Accordingly, it was decided to discontinue the treatment for the time being with the restriction that, if needed, she would contact the therapist again.

Three year follow up

Three years later, the therapist sent Debbie an e-mail asking her how she was doing and how she would evaluate the value of the therapy from her current situation. Debby answered: *I'm still not entirely happy when I see someone vomit, but the violent panic reac-*

tion doesn't happen. And that's so nice! Meanwhile I switched jobs. Nowadays, I work at an undertaker's business. If I get a notification of death, I go directly to the family and then do the last operations. I can tell you: it's not always fresh and it often happens that some comes out through the mouth. I am really amazed at myself for doing this!

Discussion

This paper presents a case in which EMDR was used successfully in the treatment of emetophobia. Although cognitive-behavioral therapy (CBT) has been proven to be efficacious for treatment of specific phobias in general,^{32,33} positive treatment effects in case of treating emetophobia are limited to a very small number of case studies.

The result of the present case study is in line with previous studies on fear and phobias with people suffering from debilitating fears that have developed following disturbing events in which a trauma focused approach has proven to be a useful treatment, comparably as effective as CBT.^{21,34} An important difference with the latter approach is that, in the present case study, the client was not systematically exposed to situations that she has so far been avoiding (e.g. sick people, TV programs, vomit), but the therapy was aimed at processing a series of memories of past events which were considered to be crucial with regard to the origins and maintenance of her symptoms. These beneficial effects of EMDR should be considered in the light of the working memory account explanation of this approach.³¹ There is a wide array of experimental studies demonstrating that the vividness and the disturbance of memories can relatively easily be reduced using a variety of tasks that tax working memory.^{28,29,35} One might postulate that memories that are less emotional can be assimilated more easily into semantic memory networks leaving more room for functional interpretations.

What the present case study also illustrates is how exposure to distressing or otherwise aversive situations can lay down the groundwork for phobic conditions like emetophobia. This agrees well with the data of a survey among emetophobics showing that about one-third of them reported past memories of actual vomiting, and more than half had observed someone else vomiting.⁶ It is conceivable that, at the moment one is confronted with situations that are similar to the earlier event, these, and perhaps other memories associated with nausea, are more or less automatically activated and are re-experienced as if they are about to be repeated. The same applies for the thoughts, emotions and bodily sensations that

were also present during the event. In this way, the fear is, as it were, kept alive. The treatment hypothesis for EMDR is that when the strength of such memories is weakened, and therefore the subject feels less emotionally charged, fear and associated avoidance behavior can also decrease or disappear.

Interestingly, in Debbie's case, the memories that were selected as targets for subsequent processing proved not only to be memories involving loss of control (*powerlessness*), but also to relate to self-worth. It would seem that such events (e.g. upsetting humiliations and other embarrassing experiences) could have made Debbie vulnerable to the development of fear and avoidance behavior following an encounter with a potentially traumatic or distressing event. A trauma-focused approach predicts that targeting memories of such events would lead to symptom improvement. Indeed, the treatment result reached beyond a decrease in Debbie's fear of vomiting *per se*. After therapy, Debbie was not only better able to control situations in which she encountered cues related to vomiting, but she also felt more able to stand up for herself much more than in the past.

References

- Hunter PV, Antony MM. Cognitive-behavioral treatment of emetophobia: The role of interoceptive exposure. *Cogn Behav Pract* 2009;16:84-91.
- Becker ES, Rinck M, Türke V, et al. Epidemiology of specific phobia subtypes: findings from the Dresden Mental Health Study. *Eur Psychiat* 2007;22:69-74.
- Philips HC. Return of fear in the treatment of a fear of vomiting. *Behav Res Ther* 1985; 23:45-53.
- van Hout WJPJ, Bouman TK. Clinical Features, Prevalence and Psychiatric Complaints in Subjects with Fear of Vomiting. *Clin Psychol Psychother*. In press. DOI: 10.1002/cpp.761.
- American Psychiatric Association. Diagnostic and statistical manual of mental disorders (DSM-TR) Washington DC, USA, American Psychiatric Association, 2000.
- Lipsitz JD, Fyer AJ, Paterniti A, Klein DF. Emetophobia: Preliminary results of an internet survey. *Depress Anxiety* 2001;14: 149-52.
- Veale D, Lambrou C. The psychopathology of vomit phobia. *Behav Cogn Psychoth* 2006;34:139-50.
- Lydiard RB, Laraia MT, Howell EF, Ballenger JC. Can panic disorder present as irritable bowel syndrome? *J Clin Psychiat* 1986;47:470-3.
- Ritow JK. Brief treatment of a vomiting phobia. *Am J Clin Hypn* 1979;21:293-6.
- Wijesinghe B. A vomiting phobia overcome by one session of flooding with hypnosis. *J Behav Ther Exp Psy* 1974;5:169-70.
- Dattilio FM. Emetic Exposure and Desensitization Procedures in the Reduction of Nausea and a Fear of Emesis. *Clinical Case Studies* 2003;2:199-210.
- McFayden M, Wyness J. You don't have to be sick to be a behaviour therapist but it can help: treatment of a vomit phobic. *Behav Psychother* 1983;11:173-6.
- Moran DJ, O' Brien RM. Competence imagery: a case study treating emetophobia. *Psychol Rep* 2005;96:635-6.
- Kahana SY, Feeny NC. Cognitive behavioral treatment of health-related anxiety in youth: A case example. *Cogn Behav Pract* 2005;12:290-300.
- Veale D. Cognitive behaviour therapy for a specific phobia of vomiting. *The Cognitive Behaviour Therapist* 2009;2:272-88.
- National Collaborating Centre for Mental Health. Post-traumatic stress disorder: The management of PTSD in adults and children in primary and secondary care. Clinical Guideline 26. National Institute for Clinical Excellence, London, 2005.
- Bisson JI, Ehlers A, Matthews R, et al. Psychological treatments for chronic post-traumatic stress disorder. Systematic review and meta-analysis. *Br J Psychiatry* 2007;190:97-104.
- De Jongh A, Ten Broeke E, Renssen MR. Treatment of specific phobias with eye movement desensitization and reprocessing (EMDR): Protocol, empirical status, and conceptual issues. *J Anxiety Disord* 1999;13:69-85.
- De Jongh A, Ten Broeke E. Treatment of specific phobias with EMDR: Conceptualization and strategies for the selection of appropriate memories. *Journal of EMDR Practice and Research* 2007;1:46-57.
- De Jongh A, Van den Oord HJM, Ten Broeke E. Efficacy of Eye Movement Desensitization and Reprocessing (EMDR) in the treatment of specific phobias: Four single-case studies on dental phobia. *J Clin Psychol* 2002;58:1489-503.
- De Jongh A, Holmshaw M, Carswell W, van Wijk A. Usefulness of a trauma-focused treatment approach for travel phobia. *Clin Psychol Psychother* 2011;18:124-37.
- De Jongh A, Ten Broeke E. (1994). Opmerkelijke veranderingen na één zitting met Eye Movement Desensitization and Reprocessing: Remarkable changes after one session of EMDR: Fear of nausea and vomiting. *Tijdschrift voor Directieve Therapie en Hypnose* 1994;14:89-101.
- Sheehan DV, Lecrubier Y, Sheehan KH, et al. The Mini-International Neuropsychiatric Interview (MINI): the development

- and validation of a structured diagnostic psychiatric interview for DSM-IV and ICD-10. *J Clin Psychiatry* 1998;59:22-33.
24. van Vliet IM, de Beurs E. The MINI-International Neuropsychiatric Interview. A brief structured diagnostic psychiatric interview for DSM-IV en ICD-10 psychiatric disorders. *Tijdschrift voor Psychiatrie* 2007;49:393-7.
 25. Derogatis LR. Administration, scoring and procedures manual I for the R(evised) version and other instruments of the psychopathology rating scale series. Clinical Psychometrics Research Unit, John Hopkins University School of Medicine, Baltimore, MD, USA, 1977.
 26. Arrindell WA, Ettema JHM. Dutch Symptom Check list (SCL-90). Swets and Zeitlinger BV, Lisse, The Netherlands, 1986.
 27. Shapiro F. Eye movement desensitization and reprocessing. Basic principles, protocols, and procedures (2nd ed.) Guilford Press, New York, USA, 2001.
 28. De Jongh A. EMDR and Specific Fears: The Phobia Protocol Single event trauma (pp. 575-610). In: M Luber (ed.) *Eye Movement Desensitization and Reprocessing: EMDR Scripted Protocols. Special Populations*. Springer Publishers, 2009.
 28. Gunter R, Bodner G. How eye movements affect unpleasant memories: Support for a working memory account. *Behav Res Ther* 2008;46:913-31.
 29. Engelhard I, van den Hout M, Smeets M. Taxing working memory reduces vividness and emotionality of images about the Queen's Day tragedy. *J Behav Ther Exp Psy* 2011;42:32-7.
 30. Baddeley A. *Human memory: Theory and practice*. Allyn and Bacon, Needham Heights, MA, USA, 1998.
 31. De Jongh A, Ten Broeke E, Meijer S. Two method approach: a case conceptualization model in the context of EMDR. *Journal of EMDR Practice and Research* 2010;4:12-21.
 32. Choy Y, Fyer AJ, Lipsitz JD. Treatment of specific phobia in adults. *Clin Psychol Rev* 2007;27:66-286.
 33. Wolitzky-Taylor KB, Horowitz JD, Powers MB, Telch, MJ. Psychological approaches in the treatment of specific phobias: A meta-analysis. *Clin Psychol Rev* 2008;28: 1021-37.
 34. Wanders F, Serra M, De Jongh A. EMDR versus CBT in children with self-esteem and behavioural problems: A randomized controlled trial. *Journal of EMDR Practice and Research* 2008;2:180-9.
 35. Hornsveld HK, Landwehr F, Stein W, et al. Emotionality of loss-related memories is reduced after recall plus eye movements but not after recall plus music or recall only. *Journal of EMDR Practice and Research* 2010;4:106-12.