COGNITIVE THERAPY FOR DRIVING PHOBIA – TWO SINGLE CASE STUDIES

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Abstract. Two single case studies are described of driving phobia treated with cognitive therapy. Assessment, formulation, risk and practical treatment of this common problem are reported. Self-report measures and a behavioural test evaluated results. Both cases improved significantly and reported that the treatment was acceptable. Recommendations for future research are also made.

Key Words: Cognitive, Behavioural, Road Traffic Accidents, Therapy.

Introduction

Road traffic accidents are a widespread occurrence, with over two hundred and thirty thousand recorded occurrences in Great Britain each year (DOT 2001). This rate of accidents is important because of the established relationship between road traffic accidents and long-term psychiatric and psychological problems. After all forms of road traffic accidents, in the short term one fifth of victims develop an acute stress reaction with 10% going onto develop a mood disorder, 20% phobic travel anxiety and 11% develop post-traumatic stress disorder (Mayou, Bryant and Duthie 1993).

An important sequelae of the road traffic accident is the impact it can have by restricting driving in terms of occupational, economic and social functioning. In rural areas it can be difficult to get around without being able to drive and culturally western society has become very reliant on the car as a means of transportation and as an indication of social status. Despite this the treatment of people with established driving anxiety is a neglected area of research.

Driving anxiety has been described as driving phobia, travel phobia and accident phobia. Clearly both travel and accident phobias are not just limited to drivers of vehicles but can also afflict passengers, motor bikers, cyclists and pedestrians. According to both ICD-10 and DSM -IV (WHO 1992; APA 1994) avoidance of driving due to anxiety should be diagnosed as a specific phobia. But driving anxiety does exist in less phobic forms. This has been discussed by (Blanchard and Hickling 1997) who suggest a sub group of "reluctant drivers" who when exposed to driving stimuli tolerate sometimes extreme anxiety for some essential driving e.g. to work or shopping but avoid other non essential car journeys.

Driving anxiety like other anxiety disorders has a number of developmental pathways. Some people develop driving anxiety following a trauma such as a road traffic accident, but in other cases the anxiety or phobic reaction follows a panic whilst driving, observation of an accident or even a near miss. These sub types of driving anxiety have recently been given attention by Taylor, Deane and Podd (2000). This group of researchers found no differences between sub groups in terms of anxiety severity between driving-fearful respondents who had been involved in a road traffic accident and people who were driving fearful but had not been involved in an accident. Importantly from a cognitive perspective they identify three main foci of fear. These foci were danger expectancies, anxiety expectancies from unpleasant driving situations and a fear of negative social evaluation from passengers or other drivers.

The evidence base for the treatment of driving anxiety is very limited. A literature review carried out in the preparation of this paper identified several single case reports (outlined below) but failed to identify any randomised controlled trials, of either drug or psychological therapy. This compares unfavourably with the growing body of research regarding critical incident debriefing, and treatment studies of post-traumatic stress disorder and acute stress reactions following road traffic accidents (Hobbs, Mayou, Harrision and Worlock 1996; Blanchard and Hickling 1997; Hickling and Blanchard 1999).

The case report literature includes several successful treatment studies of both driving fears and accident phobia. The earliest work was by (Wolpe 1962; Kraft and Al-Issa 1965). These researchers used systematic desensitisation combined with a limited number of sessions of hypnotherapy. Other successful reports of treatment by desensitisation have included (Levine and Wolpe 1980; Rovetto 1983; Horne 1993). More recent cases have treated accident phobia with combinations of imaginal and real life graded exposure (Blonstein 1988; Horne 1993) and graded exposure with progressive muscular relaxation (Fairbank, DeGood and Jenkins 1981).

These papers all describe variants of behavioural treatment. This study will extend this work by using a single case design to test the efficacy of cognitive therapy (CT) in the treatment of driving anxiety.

Case Reports

Both cases were seen for private treatment funded by health insurance. Assessment of each of the two cases consisted of a functional analysis in which cognitive, behavioural, psychosocial factors and previous history were examined. This confirmed that both cases were severely anxious whilst driving and that both avoided driving whenever possible. The main purpose of the assessment was to identify the cognitive and behavioural factors for the onset, development and maintenance of the driving anxiety. Mental state examination and risk assessments were also carried out.

Case 1 (C1) was a 47-year-old divorced lady. Her main problem was severe anxiety when both a passenger and whilst driving. She avoided car journeys whenever possible. When she knew that she had to make a journey she was anxious for several hours beforehand in anticipation of the journey. Her automatic thoughts during the course of driving were "I will have an accident" and "I'm going to panic." When passing junctions an intrusive image was triggered of a blue car pulling out in front of her. She also had occasional nightmares of the accident. She was able to drive short distances e.g. local shops. When driving her safety behaviours included continuous checking of her rear view mirror, covering the brake with her foot and maintaining of an excessive tight grip of the steering wheel with her hands. She was also hypervigilent, she swallowed excessively and hyperventilated during long journeys. This problem had started 9 months prior to assessment and followed on immediately from an accident in which a blue car had pulled out in front of her from the left hand side. She had little recollection otherwise of the accident other than a loud bang and a pungent smell of smoke. She required hospital treatment for whiplash, an injured right arm and she was treated for minor cuts and bruises. The driving anxiety had remained constant after the accident and she continued to have continuous pain in her right arm. She was not clinically depressed. There were no major risk issues associated with her treatment. Her self-concept had changed profoundly since the accident. Before the accident she had been confident and outgoing but since she had lost a lot of her confidence and considered herself a failure. She was particularly self critical because she had not been able to overcome her anxiety without professional help. The problem was also preventing her from taking her teenage children out or picking them up from social activities and was therefore having a significant impact on her social and family

life. She had no previous trauma history and had not received any previous psychological therapy.

Case 2 (C2) was a 48-year-old married man with a seven-year history of driving anxiety. He avoided car journeys whenever possible, but was still driving long distances (over 70 miles) to work out of necessity two to three times per week. His automatic thoughts were "I will lose control of my car and crash." His perception of the road ahead changed to being narrower and closer than the reality. This perceptual change was accompanied by an overwhelming sense of vulnerability. His safety behaviours were avoidance of driving over 40mph, excessive gripping of the steering wheel with his hands at all times and continuous mirror checking. He also had a tendency to brake suddenly when feeling vulnerable. The problem had started 7 years prior to assessment. He was driving on the motorway and passed a large lorry in the rain. Out of the blue he felt overwhelming anxiety. After this experience he began to feel anxious each time he drove. A year later he stopped driving on motorways altogether. In addition to this problem he had been receiving peritoneal dialysis for eleven years due to kidney failure. He had received a transplant but this has been unsuccessful. As a consequence of kidney failure and the dialysis he was prone to fatigue and recurrent periods of mild to moderate depression. When seen for initial assessment he was mildly depressed but not suicidal. There were significant risks associated with his treatment due to his sudden unexpected braking. He was very concerned because he might have to give up his job. Twelve months previously he had been treated successfully with graded exposure by the author. But he had relapsed 6 months after treatment. The relapse followed a period of hospital treatment when he was unable to drive for a month. He had no trauma history.

Single Case Methodology

The study followed an ABA design. The baseline period was for 4 weeks. This was followed by cognitive therapy with subsequent 1 and 3 month follow-up.

Dependent Measures

The main dependent measures were a behavioural test of levels of anxiety whilst driving a specified distance on a specified road. C1 was asked to rate her maximum anxiety level on a 0-8 scale (higher score indicates higher anxiety) whilst driving to the clinic for appointments and C2 was asked to rate his maximum anxiety level on a 0-8 scale (higher score indicates higher anxiety) whilst supervised with his driving on a specific stretch of motorway at 60mph. Problem and Targets(Marks 1986); Impact of Events Scale (IES) (C1 only) (Horowitz, Wilner and Alvarez 1979); Beck Anxiety Inventory (Beck, Epstein, Brown and Steer 1988) and the Work and Social Adjustment (WASA) (Marks 1986) scales were also completed at Pre Treatment, Post Treatment, 1 and 3 Months Follow up (mfu). No follow up data was available for C1 at 1mfu.

Cognitive Therapy

The treatment procedure was individual and formulation based. The theoretical ideas that underpinned the CT was that the driving anxiety was being maintained by exaggerated danger and anxiety appraisals (social appraisal were not relevant for these two cases), safety behaviours and avoidance. These three factors were hypothesised to be preventing reappraisal of driving as relatively safe. The CT consisted of five main elements:

i)   A cognitive behavioural formulation was developed collaboratively between the therapist and patient that explained the maintenance of the driving anxiety. The formulation covered two main areas (Taylor et al. 2000) (i) learned danger appraisals (concern about accidents, incompetent behaviour of other drivers, concern about injury, dangerous driving conditions or unfamiliar roads and lack of control over the driving situation and anxiety appraisals (concern about anxiety symptoms and their effects on driving);

ii) The participants were then taught to recognise perceived driving danger and anxiety related thoughts, which included any, associated intrusive imagery. The participants were then encouraged to reappraise automatic thinking associated with the appraisals through guided discovery;

iii)   Home work was then devised that involved testing out the validity of alternative thoughts through carrying out driving experiments whilst gradually learning to drop their safety behaviours;

iv)   Careful assessment of individual safety behaviours also took place in order that the behavioural experiments devised were appropriate, safe and within the law;

v)   Other interventions were introduced when the formulation indicated that they would be of value to the individual patient. C1 required three sessions of image transformation. This consisted of mentally bringing on the images in the clinic setting and manipulating it. This included bringing the blue car image closer and focussing on specific elements to make them larger e.g. the wheels. She also practiced rotating the car and then making the image of the car small and smaller until it was no longer visible. When driving she was instructed to be mindful of the car image if it was activated not attempt to block it out. Due to her hyperventilation during longer journeys she was also taught breathing control. C2's treatment was also adapted in that the therapist accompanied him with the behavioural experiments to ensure as far as possible that they were carried out safely due to the possible risk of causing an accident through sudden unexpected breaking.

Figure 1 shows the case individualised formulation developed for C1 as an illustration.

Results

Both C1 and C2 improved rapidly with CT. C1 needed nine clinic based treatment sessions taking seven hours. C2 needed five sessions taking six hours, five hours of which were therapist-accompanied sessions. The self-report measures of outcome e.g. behavioural test and anxiety ratings, problem and targets; BAI, IES and WASA supported this overall high level of improvement in both cases (Graph 1, Table 1 & Table 2). At discharge although C2 seemed to be doing well on the behavioural test, the other measures indicated less improvement. The patient at this point had carried out little in the way of behavioural experiments without being accompanied. This was addressed during the follow up period as homework and he quickly improved on the

other measures. C1's confidence returned with her social life returning to normal. She was able to travel as a passenger without anxiety and during the follow up period she did not experience any recurrent nightmares. C2 was able to continue to get to work, which was very important for him, given his continued physical problems.

Discussion

This study of two single case studies is interesting because the cases treated were typical clinically of the types of driving anxiety problems that are likely to be referred for psychological treatment. CT seemed to be effective through the identification and modification of danger and anxiety appraisals when combined with behavioural experiments designed to reduce avoidance and safety behaviours. These unequivocally led to increases in driving frequency, reduced anxiety and a subsequent reduction in hypervigilence and anticipatory anxiety. At the end of treatment both cases were able to travel without restriction with only occasional and minimal anxiety. There was also a significant reduction in occupational and social handicap in both cases. The treatment was also acceptable to both participants. The positive and rapid results reported here support the use of CT for driving anxiety when danger and anxiety appraisals, avoidance and safety behaviours are a significant feature of the clinical presentation.

The psychological treatment with either cognitive or behavioural therapy of driving anxious people highlights a number of ethico-legal issues for therapists. If whilst carryout out behavioural experiments the patient was to be involved in a further accident the patient or their family (plaintiff) might consider taking legal action against the therapist if they considered that they or their family member was inappropriately put at risk by the psychological treatment e.g. a tort of negligence. In order for the legal action to be successful the plaintiff would have to prove that the treating therapist owed a duty of care and that the treatment given was below an acceptable standard (c.f. (McNair 1957). In the case of the treatment of driving anxiety the therapist would clearly owe the patient a duty of care. The standard of treatment would in legal terms be defined as that accepted by a responsible body of cognitive behavioural psychotherapists (*Bolam test*). Acceptable practice in all likelihood would include informing the patient about any potential risks associated with treatment. That an assessment of risk that the individual posed whilst on the

road, with evidence that the findings from the assessment had been considered and that the intervention had been being specifically tailored to risks identified. There would also need to be evidence that the patient had consented to the treatment (Newdick 1996). In addition to these patient centred factors other general insurance and liability also need to be considered. Where therapists are using their own cars should ensure that their insurance companies are aware that they are using their vehicles for work purposes – including an explanation of the therapeutic nature of the car use. Likewise the patient should be advised to do the same if the therapist is going to accompany them with supervised therapeutic activities.

In addressing these ethico-legal issues with C1 and C2, risk assessments were carried out in each case to ensure that they were "fit" to be on the road and that their driving was not going to be a hazard to other drivers e.g. sudden unexpected breaking or swerving. Even though the risks posed by C1 were minimal, in both of the cases it was agreed that it was necessary to grade the behavioural experiments to further assess that the driving was actually safe and not just perceived as such. Therefore both started with quiet minor roads. Additionally, as part of the assessment procedure C2's driving skills and impact of their anxiety on their driving behaviour were directly observed by the therapist. The patient – C2 had no doubts about his general skill as a driver but was concerned about the level of risk he might pose if he became suddenly anxious and overwhelmed and then braked suddenly in front of another driver. In both the case of C1 and C2 all the behavioural experiments discussed were also reviewing regularly to ensure that they constituted an acceptable standard of driving. For example it clearly would not have been appropriate to agree a behavioural experiment such as not checking the rear mirror on approach to a junction or driving over the speed limit etc. Furthermore as routine both C1 and C2 were advised that they must stay within the speed limit at all times, follow the Highway Code and not drive whilst under the influence of drugs of alcohol.

In support of the practice of observing actual driving behaviour (Taylor et al. 2000) suggests that assessment by observation of driving is useful in order to objectively assess possible differences between actual rated skills with perceived skills. She suggests that an independent driving instructor could carry out these assessments during a practical driving examination. This would support the risk assessment

process and this practice when relevant could be incorporated into CT either as a skills training module to address poor driving skills by a driving instructor or as evidence against unrealistic beliefs, if driving skills were of an appropriate standard.

Whilst relatively rapid improvements were seen with these two cases the questions are raised as to whether or not CT improves the outcome of driving anxiety over exposure alone (EA) or exposure with anxiety management (EAM) in terms of a better or more rapid response to treatment. This study was not designed to answer these questions directly. Instead the purpose was to test the efficacy CT as a treatment intervention in its own right, rather than comparatively. The motivation for this research work was to develop an intervention that addressed the key features of driving anxiety e.g. faulty appraisals, safety behaviours and avoidance through using a scientific single case design. The results of the research being used to inform and improve the researchers clinical practice and then through this paper disseminate the work to others who might wish to similarly treat driving anxiety.

Despite the scientific approach taken in this study, it does have a number of limitations. Whilst unlikely, the first of these limitations is that the results could have been due to non-specific treatment factors such as the therapeutic relationship. The outcome measures being self-report and the CT also being a multi component intervention. It is therefore possible that any one of the therapeutic ingredients is the effective therapeutic agent. Further controlled research is indicated that addresses the relative efficacy of CT, EA and EAM whilst controlling for the diversity of the phobic aspects of driving anxiety. In this way the limitations of this study can be addressed and evidence based interventions given reliably to the significant number of people whose daily lives are handicapped by driving anxiety.
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Conclusion

In conclusion, these two case studies have demonstrated the efficacy of CT with driving anxiety. This is the first published report of this intervention being applied to driving anxiety. The importance of the assessment of risk with the treatment of driving anxiety has also been outlined. Finally arguments to support the need for more rigorous studies of the treatment of this common and handicapping problem have been presented.

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