Aetiology of Obsessive Compulsive Disorder: Are Parenting Styles Causal?

Abstract

Introduction
Obsessive-Compulsive Disorder (OCD) is a condition that affects an individual’s normal behaviour. It arises from anxiety and is caused by a range of genetic and environmental factors.

Objectives
To investigate whether parenting styles and behaviours are a causal factor of OCD.

Methods
To find relevant articles, the following key words were typed into SCOPUS and ISI Web of Knowledge, “OCD” or “Obsessive Compulsive Disorder” AND adult* AND style or bond AND child*. Free articles that were topic specific and published in English were selected. Articles that focused on the biological causes of OCD or other mental disorders were excluded. The chosen articles were then assessed using CASP criteria.

Results
Findings reported that compulsive behaviours were linked to both maternal and paternal styles of parenting. Authoritarian and dismissive parenting involving low levels of care was found to be a strong predictor of the condition. Symptoms were also observed in highly anxious subjects with little independence. However, the link between over-protectiveness and OCD remains uncertain.

Conclusion
Parenting styles that are dictatorial in nature and show little concern for individuals are believed to cause Obsessive-Compulsive Disorder. Due to ambiguity in current literature, more research is needed on overprotective parenting.
Introduction

Obsessive-Compulsive Disorder (OCD) is a widely recognized anxiety condition affecting 2% of the population\(^1\). During an onset, ‘an unwanted, intrusive thought repeatedly enters the person’s mind’\(^4\). This is known as an obsession\(^1,3,4\). As this intensifies, it generates fear and compels an individual to continuously carry out ‘repetitive behaviours or mental acts’\(^1,3,4\).

The International Statistical Classification of Disease and Related Health Problems (ICD-10), diagnoses OCD when ‘either obsessions or compulsions are present on most days for a period of at least two weeks’\(^5\). The nature of the obsessions and compulsions can vary greatly; however, symptoms most commonly reported are frequent checking, cleaning, ordering and hoarding\(^4,6\).

Coping and living with OCD can be very draining for an individual\(^7\). As the compulsions become stronger, personal and social relations are strained\(^3,4\). For this reason, the WHO has listed it as one of the leading causes of disease burden in high and middle-income countries\(^4,8\).

The definitive cause of OCD is unknown as an individual’s nature and nurture play an equally important role in its development\(^4,7\). Some studies associate symptoms with the activity of serotonin and dopamine receptors in the brain\(^9,10\). Others suggest that certain auto-immune conditions cause the compulsions\(^10\). In addition to biological factors\(^11-13\), the disorder is thought to be influenced by types of parental behaviour\(^14,15\).

Parenting can be subdivided into three styles: authoritarian, authoritative and permissive\(^6,16,17\). Authoritarian parenting is highly controlling and gives individuals very little autonomy\(^16\). An authoritative style is more balanced and sets realistic targets for children to reach\(^16\). In contrast, individuals with permissive parents are ill disciplined and poorly advised\(^16\). Timpano et al. (2010) found no association between this style of parenting and OCD development\(^6\). However, an authoritarian style was found to be linked to the disorder, as it generated high levels of anxiety\(^6\).

As of yet, the majority of studies have focused on investigating the genetic causes of OCD\(^10,12,18\). Although the relationship between child attachments types and OCD has been examined\(^19,20\), there has been limited research on the role of parenting. As a result, this structured review was undertaken to gain an understanding of the environmental causes of OCD. Furthermore, if causality is found, the review will give an insight into how the disorder can be prevented or managed more successfully.

Aim

To investigate whether parenting styles and behaviour are a causal factor of Obsessive-Compulsive Disorder.

Objectives

Several articles on parenting styles and OCD were searched for. After that, the strengths and weakness of the four articles were evaluated to establish the influence of parenting styles and behaviour on Obsessive-Compulsive Disorder.
Method

Searched SCOPUS

Used the MeSH terms, "OCD" or "obsessive compulsive disorder" AND parent* AND style OR bond AND child*

25 Hits returned

Inclusion and Exclusion criteria applied

6 articles remained

CASP criteria was applied to assess study quality

2 articles remained

These articles were then critically appraised

Figure 1: A flowchart of the search strategy used in SCOPUS
To get an overview of Obsessive-Compulsive Disorder, background reading was carried out using the NHS choices website. Following this, online databases SCOPUS and ISI Web of Knowledge were

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searched for relevant articles. See (Figure 1) and (Figure 2). In SCOPUS, the following key terms were typed in the field: Article Title, Abstract, Keywords:

- “OCD” or “obsessive compulsive disorder”
- AND parent*
- AND style or bond
- AND child*

In ISI Web of Knowledge, the following key terms were typed in the topic fields:

- “OCD” or “obsessive compulsive disorder”
- AND parent
- AND style
- AND child*

In order to get a good variety of articles, data from all years to present was searched. Also, the subject areas were limited to Life Sciences, Health Sciences, Physical Sciences and Humanities.

To ensure that topic specific articles were selected, sets of inclusion and exclusion criteria were then applied. In this review, the strengths and weaknesses of the studies would be examined; hence it was vital to consider free, full text articles published in English. To avoid collecting generalised information, articles that looked at OCD and specific parenting styles or behaviour were included. Furthermore, documents that described the influence of the family environment were viewed. This provided good background information on how parental emotions could cause anxiety and obsessive beliefs in an individual.

Studies on depression and substance abuse were excluded from this review, as they were irrelevant to the clinical question. Articles that were published in foreign languages were also eliminated. Additionally, studies on the biological and genetic causes of OCD were omitted, as this review focused on parenting styles and behaviour.

Once the search had been conducted, article titles were scanned and relevant studies were quickly shortlisted. Upon reading the abstracts, inclusion and exclusion criteria were applied. Selected articles were then critically reviewed using the Critical Appraisal Skills Programme (CASP). This programme aims to investigate the reliability and clinical appropriateness of each study. 21

Aspects of the articles were reviewed using checklists 21 and awarded the following scores:

2 = YES
1 = CAN’T TELL
0 = NO

The highest scoring articles were used for appraisal in this structured review.
Results

A search in SCOPUS, using key terms in the clinical question, returned 25 hits. A similar search in ISI Web of Knowledge returned 21 hits. Once inclusion and exclusion criteria had been applied to the articles, six relevant studies remained.

This review aimed to look at parenting by the mother and father. Therefore, articles that studied the role of the entire family were rejected to avoid the effect of multiple variables. A couple of the articles concentrated on child attachment-types instead of parenting behaviours and styles. This would not address the clinical question of this structured review so these studies were excluded. A few of the articles were based on different anxiety disorders and mental health conditions. They were eliminated, as findings were not specific to OCD. Furthermore, several articles were omitted as they focused on the treatments and prognosis of the disorder.

The quality of the six articles was assessed using CASP and the top four articles were critically appraised. The findings of the studies are as follows:

P. Alonso et al. (2004) found a positive link between types of parenting and OCD symptoms\(^22\). In particular, rejection and lack of empathy from both parents was strongly associated with OCD\(^22\). Furthermore, hoarding symptoms were observed in children receiving very little emotional warmth from the mother and father\(^22\). Interestingly, the study found that overprotective parenting was not associated with OCD\(^22\).

Similarly, a study carried out by Aycicegi et al. (2002) revealed that the behaviour of both parents causes OCD\(^23\). In contrast to P. Alonso et al. (2004)\(^22\), maternal control and psychological dominance were found to be important predictors for the condition\(^23\). Additionally, the findings showed that similar parenting styles elicited different compulsions in subjects, for example maternal control was more likely to cause constant checking and doubting symptoms\(^23\); whereas paternal control was more likely to cause regular hoarding and ordering symptoms\(^23\).

Timpano et al. (2010), investigated the relationship between three parenting styles and OCD\(^6\). Authoritative and permissive parenting was found to be very weakly associated with OCD\(^6\). However, a statistically significant relationship was found between authoritarian parenting and OCD\(^6\). Researchers found how lack of autonomy in this approach resulted in individuals giving precedence to internal thoughts\(^6\). In doing so, a heightened sense of responsibility was developed\(^6\). This triggered episodes of anxiety and resultant obsessive behaviours\(^6\).

The final article by Yoshida et al. (2005), examined the association between paternal overprotection and OCD\(^24\). Unlike the findings in P. Alonso et al. (2004)\(^22\), over-protective parenting was found to be strongly associated with the disorder\(^24\). The author explained how this style gave limited independence and exposure to the outside world\(^24\). As a result, individual’s experienced greater levels of fear and intense compulsions \(^24\). Also, findings showed that maternal nurture was linked to the development of OCD\(^24\).

In summary, the following key points were noted:

- Parenting styles and behaviour are a causal factor of OCD.
- Strict parenting styles, involving limited emotional support result in anxiety and obsessive beliefs.
The link between over-protectiveness and OCD development is unclear.

**Discussion**

All four articles used were descriptive study designs, which were appropriate to determine causality between parenting styles and OCD. The authors of the articles clearly stated and addressed the aims of the study. However, on critical appraisal, the articles presented with a series of limitations. For an overview, refer to (Table 1).

**Article 1**

P. Alonso et al. (2004) recruited 40 subjects from an OCD clinic over a two-year period\(^2\). Collecting subjects over a long period of time increases the reliability of the conclusions. However, as subjects were chosen exclusively from one site, the sample was not representative of the whole population. Furthermore, selection bias may have been present; thus weakening the findings. Also, the study is flawed by the very small sample size\(^2\). To improve this, a larger sample could have been collected using random sampling.

The study is strengthened by the fact that subjects had similar baseline characteristics, for example, gender and socio-economic status\(^2\). This reduced the effect of confounding variables. Moreover, ethical research was conducted, as consent was attained and a ‘complete description’ of the study was given to participants\(^2\). In contrast to the other articles\(^5,24\), ‘course credit’ was not given\(^2\). This strengthened the study, as results were less likely to be influenced by external factors. Additionally, the author gave a detailed description of data collection\(^2\). However, this could have been improved by stating the form in which it was recorded.

Data on childhood parenting was collected using an 81-item questionnaire\(^2\). Although this is thorough, a number of limitations exist in this method. A very exhaustive list of items may have resulted in subjects losing interest whilst completing the questionnaire. This could have affected the accuracy of the responses. To overcome this, fewer questions should be included. Secondly, there is a chance of recall bias as subjects may have struggled to remember details of parental behaviour\(^2\). Moreover, the author does not explain how the questionnaire was formulated and standardized to prevent observer bias; thus weakening the outcome of the study\(^2\).

In spite of these weaknesses, a statistical programme was used to carry out detailed data analysis of multiple parenting styles\(^2\). Moreover, the conclusion reflected the results of the study and is consistent with current knowledge\(^2\). This increases the credibility of the findings.

**Article 2**

Timpano et al. (2010) investigated authoritarian parenting as a causal factor of OCD\(^5\). It involved sampling 227 students between the ages of 17 and 24\(^5\). In contrast to the previous article\(^2\), a larger sample size was collected\(^5\). This gives a representative picture and increases the accuracy of the findings. However, the fact that three quarters of the subjects were female may have led to skewed findings\(^5\). To prevent this, an equal proportion of males and females should have been selected.

Another limitation of the study is that it is age-specific\(^5\). This means that the findings are less applicable to the whole population. Instead, a wider age group could have been examined so that a complete picture on whether authoritarian parenting causes OCD could be built. In contrast to the
study conducted by Alonso et al. (2004)\(^2\), subjects were given extra credit for participation\(^6\). This weakens the study as it increases selection bias. Nonetheless, informed consent and permission from the ethics committee was taken\(^6\).

Similarly, data on parenting styles was collected using a questionnaire\(^6\). To avoid bias, the questions were equally split amongst three styles\(^6\). This type of data collection is advantageous as it provides primary evidence. On the other hand, only findings from returned and completed questionnaires can be reported. As the response rate is unknown; this may have led to distorted results\(^6\).

The results of the study were only presented in tables\(^6\). This weakened the study as it made interpretation more difficult. To draw quicker conclusions, data should have also been presented graphically. In spite of these weaknesses, data analysis was explained in detail\(^6\). Scores from the questionnaires on parenting styles were averaged and expressed as regression equations\(^6\). Also, standard deviations were calculated to see the degree of spread of the results\(^6\). Rigorous analysis meant that the overall quality of the data was enhanced.

In comparison to the first article\(^2\), the author’s opinion has been clearly stated\(^6\). Moreover, wide ranges of parenting styles and OCD symptoms have been explored\(^6\); thus strengthening the evidence base of the study.

**Article 3**

In the study by Aycicegi et al. (2002), 130 students from Boston University were recruited\(^23\). All subjects received a reward for taking part in the study\(^23\). This may have heavily influenced participation; therefore increasing selection bias. Additionally, the sampling method used to recruit subjects has not been reported\(^23\). The author should have clearly mentioned this, as it could have introduced further bias into the study. Also, the fact that 70% of the subjects were female, may have led to one-sided results\(^23\). To avoid this, an equal number of males and females should have been selected. However, the author explained why this was not possible\(^23\).

The data collection methods were similar to the previous articles; a self-report questionnaire was used\(^23\). This is excellent for sampling a large group of people at once. However, inability to remember aspects of childhood parenting could cause recall bias; thus reducing the credibility of the results.

To assess the types of parenting that were strongly linked to OCD; seven key areas were looked at\(^23\). These have been documented in the methodology; however, the author has not explained why these were chosen\(^23\). Following this, an equal number of questions regarding maternal and paternal behaviour were asked to the subjects\(^23\). This strengthens the overall findings, as it enables balanced conclusions to be drawn.

A series of T-Tests were used to analyze the results\(^23\). The values generated from these tests appeared to correlate with the conclusions; therefore improving the validity of the study\(^23\).

Compared to the study on authoritarian parenting\(^6\), the results are less reliable as repeat readings were not taken\(^23\). Furthermore, this study is weaker on ethical grounds as consent from participants was not sought\(^23\). Regardless of these drawbacks, the researcher has outlined the significance of the findings and mentioned areas of potential research for the future\(^23\). This increases the applicability of the findings.
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Yoshida et al. (2005), explored the link between overprotective parenting and OCD. In this study, 50 subjects were selected from various sites using stratified random sampling. This method reduced recruitment bias, thus strengthening the study and making the results more valid. In contrast to Aycicegi et al. (2002), the findings of this study were less likely to be one sided as an even proportion of males and females made up the sample. Also, the reliability of the conclusion was increased, as subjects were collected over a one-year period. However, they were not well informed about the nature of the study; hence this research appears to be less ethical than those discussed above.

Subjects used a four point scoring system to describe the level of care and protection given by parents. The results were then compared to a control group. Although the author clearly outlines the ways in which these scores were interpreted, failure to justify the data collection methods weakens the study. In addition, the narrow limits of the scoring scale reduce the accuracy of the results, as there is more room for overlap. To illustrate a clearer picture between parenting behaviours and OCD, a 10-point scale could have been implemented.

In contrast to the other studies, data analysis was carried out using a single technique. Moreover, repeat readings were not taken. As a result, the accuracy and reliability of the findings may have been compromised. Also, the trustworthiness of the findings is reduced as quality control measures were not used. Nonetheless, the results of the study were clearly summarized and illustrated using bar charts. This strengthened the study as it aided understanding of difficult concepts.

In the conclusion, the author has described and explained the link between paternal overprotection and OCD development. As the researchers perspective is evident, observer bias is reduced. Furthermore, the author has outlined the importance of the findings for future research, highlighting the clinical relevance of the study.

**Table 1 - An overview of the strengths and limitations of each study using criteria from CASp**

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<td>Is the type of methodology appropriate?</td>
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<td>‘Was the research design appropriate to address the aims of the research?’</td>
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<td>‘Was the recruitment strategy appropriate to the aims of the research?’</td>
<td>Yes</td>
<td>No</td>
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<td>Were data collection methods justified?</td>
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<td>‘Has the relationship between researcher and participants been adequately considered?’</td>
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<td>‘Have ethical issues been taken into consideration?’</td>
<td>Yes</td>
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Conclusion

Alongside limitations in the articles, flaws were found in the methodology of this review. Firstly, only two databases were searched; therefore clinically relevant articles from other sources may have been overlooked. To prevent this, additional searches in Medline or the Cochrane Library could have been performed.

Secondly, only online papers were accessed. This could have significantly reduced the data set; hence hard copies of relevant articles could have also been searched for. Additionally, other types of study design could have been looked at. This would have enhanced the quality of evidence in this review.

Although the biological causes of OCD have been substantially researched, there is insufficient literature on the environmental causes of the condition. Therefore, the findings of this structured review are important as they highlight OCD as a multi-factorial condition. The results are also significant, as they are consistent with existing evidence and have been derived from studies that examine a wide variety of parenting styles.

Future research includes investigating obsessive behaviours in parents as a causal factor of OCD in children. Also, the effect of parenting on OCD development in different genders could be assessed. Further studies on overprotectiveness and OCD are required, as the findings in this area were inconclusive.

Summary

The four articles showed that parenting styles and behaviour were a causal factor of Obsessive-Compulsive Disorder. Parenting that ignored the needs of the child and involved low levels of compassion was strongly linked to the disorder. Additionally, controlling parenting that gave little freedom and autonomy to individuals was associated with obsessive behaviours. These parenting styles were thought to cause compulsions as they triggered feelings of fear and anxiety.

Due to conflicting evidence, further research on overprotective parenting can be done.

References


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