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By Rikke Barslund Gregersen, Viktoria Vinther Ottsen, Irene Lundkvist-Houndoumadi,
Signe Holm Pedersen & Mette Bentz

Copenhagen University

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Addressing Comorbid Anxiety in Family-Based Treatment for Adolescent Anorexia Nervosa: User Experiences and Perspectives

Rikke Barslund Gregersen ^α, Viktoria Vinther Ottsen ^σ, Irene Lundkvist-Houndoumadi ^ρ,
Signe Holm Pedersen ^ω & Mette Bentz [¥]

Abstract- Purpose: This study examines three families' experiences of the influence of comorbid anxiety on the effectiveness of family-based treatment (FBT) for anorexia nervosa (AN) and the effect of an add-in module addressing comorbid anxiety, and how this might interact with the families' work on AN and the young person's (YP's) sense of self-efficacy.

Method: Qualitative interviews were carried out with three families, who had been offered an add-in module at The Child and Adolescent Mental Health Centre of the Capital Region of Denmark. All interviews were analysed using thematic analysis.

Results: Participants had either childhood emotional disorder, generalized anxiety disorder or social phobia as a comorbid condition to AN. All families experienced that anxiety symptoms limited the effectiveness of FBT, leading to stagnation. Two of three families found the add-in module helpful, attributing recovery from AN to that. These two families highlighted home assignments with challenging and obtainable goals, consciousness-raising with respect to the mechanisms of anxiety, and the focus on identifying small successes in therapy as being crucial for the process of recovery. The third family experienced it as yet another manual not fitting their needs. The add-in module had a positive influence on the self-efficacy in all the YPs, regarding their feelings of being able to handle the eating disorder. The module further helped parents and YP establish a shared language of challenges and a collaboration around treatment goals.

Discussion: The testimonies point to the necessity of addressing comorbid anxiety earlier in treatment, as it may hamper work on YP's autonomy and self-efficacy in phase two of FBT. The study highlights the importance of increasing the YP's belief in their ability to cope with difficult situations via individual and relevant goals. Further, it is argued that a good match between treatment approach and family is crucial and that addressing comorbid anxiety within the framework of FBT may be a means to this end for some YPs with AN and comorbid anxiety. The findings suggest that combining

interventions in the face of comorbid conditions may add to treatment efficacy in the field of AN treatment via increasing self-efficacy and parental empowerment.

Keywords: *anorexia nervosa, family-based treatment, comorbidity, anxiety, qualitative research, add-in module, self-efficacy, treatment effectiveness, young persons, thematic analysis.*

I. INTRODUCTION

Anorexia nervosa (AN) is a serious mental disorder most often debuting in adolescence. It has the highest mortality rate among mental disorders and may have dire consequences for the young person's development (Arcelus et al., 2011; Steinhausen & Jensen, 2015). Family-based treatment (FBT) is first choice treatment for anorexia nervosa (AN) in young persons (YPs), with recovery rates around 50% depending on studies and recovery criteria (Couturier et al., 2013; Lock, 2019). FBT focuses on empowering parents to support their child to eat well and get well, and it consists of three phases. In phase one, parents are instructed to take responsibility for the YP's eating and prevent disturbed behaviours. Phase two focuses on gradually returning age-appropriate control of eating and autonomy to the YP, and phase three focuses on returning to normal life and preventing relapse, as described in the treatment manual by D. Lock and D. Le Grange (Lock & Le Grange, 2015). While effective for many, a subgroup of patients shows less optimal response to FBT, wherefore additional interventions are needed.

Anxiety disorders are frequent among individuals with AN with a lifetime prevalence of around 60% (Kaye et al., 2004). Anxiety has been proposed as a vulnerability factor for AN, and emotional avoidance is suggested as a possible mediating factor between AN and anxiety (Kerr-Gaffney et al., 2018). Further, comorbid anxiety disorders have been associated with poorer outcome (Lock et al., 2006) and longer course (Lim et al., 2023) in treatment of AN in YPs. These findings suggest that comorbid anxiety may be a maintaining factor for AN that may need to be addressed in order to treat AN.

Author ^α ^σ ^ρ ^ω: Child and Adolescent Mental Health Center, Copenhagen University Hospital – Mental Health Services CPH, Copenhagen, Denmark. e-mails: rgregersen1@gmail.com, viktoriam@ottsen.dk, ilh@psy.ku.dk, signe.holm.pedersen@regionh.dk

Corresponding Author [¥]: Child and Adolescent Mental Health Center, Copenhagen University Hospital – Mental Health Services CPH, Copenhagen, Denmark. e-mail: mette.bentz@regionh.dk

Author ^ρ: Dept of Psychology, University of Copenhagen, Copenhagen, Denmark.



Evidence is not clear on whether comorbid anxiety should be addressed during FBT for AN, or rather later if symptoms persist after completing treatment. The FBT literature recommends mostly postponing anxiety treatment until AN is resolved (Lock & Nicholls, 2020). Based on clinical experience however, we hypothesize that comorbid anxiety is a maintaining factor in FBT as it impedes YPs' returning to social life after the parent-led renourishment in phase one, thereby counteracting the second phase of FBT, which focuses on restoring YPs' autonomy and self-efficacy around eating. In sum, we suggest that overall effectiveness of FBT may be improved if comorbid anxiety is addressed in a way that strengthens the YP's ability to gain independence and return to social life.

In search of ways to improve the effectiveness of FBT for YPs with less optimal outcomes, we developed and pilot-tested a manual addressing anxiety in FBT (add-in module) (Lundkvist-Houndoumadi & Bentz, 2021). The add-in module is offered when comorbid anxiety is diagnosed and deemed by the therapist and the family to impede response to FBT. It consists of 12 sessions, is based on a cognitive-behavioural approach, and is administered as part of the FBT sessions focusing on empowering parents. It aims to supply the family with a shared understanding of anxiety symptoms, increase awareness of the intertwining between anxiety and AN, and provide the family with tools to overcome anxiety, which may stand in the way of AN recovery.

Knowledge is scarce regarding user perspectives of families with a child with AN and comorbid anxiety when they receive standard FBT, let alone their perspectives on receiving a manualized treatment component targeting the anxiety disorder. Consequently, the present study is not hypothesis-testing, but exploratory in nature. Our aim was threefold: a) to understand whether patients and parents in FBT for AN experienced comorbid anxiety to influence the effectiveness of FBT, and if so, how they described this influence; b) to understand the families' experience of a cognitive-behavioural module targeting anxiety, with a focus on how this might interact with the families' work against AN and c) to understand whether the add-in module increased the YPs' sense of self-efficacy.

II. METHODS

Participants were families with a YP (12-17 years old) that a) gave consent to contribute to an ongoing study investigating the response to FBT for AN in a government-funded Child and Adolescent Mental Health Centre (Bentz et al., 2021), b) were offered the add-in module because the YP was diagnosed with a comorbid anxiety disorder that was deemed by therapist and family to be impeding response to standard treatment (FBT), and c) were invited to an interview

about their experiences. The overarching study by Bentz et al. (2021) demonstrated that FBT can be demonstrated in standard care with 57% successfully completing treatment within 12 months (Bentz et al., 2021). By the beginning of the present study, three families had experienced a course of add-in treatment as an adjunct to their FBT (Table 1), and they all agreed to a 45-minute interview providing a written informed consent. Three out of five interviews were carried out at the treatment unit, whereas the fourth and fifth interviews were carried out online via Microsoft Teams.

An interview guide was developed based on the following themes: a) the YPs' history with anxiety and eating disorder, b) the families' hopes for and subjective definitions of treatment effect, c) the families' experience of the effectiveness of standard FBT and the extent to which anxiety symptoms interacted with it, d) the experienced effect of the add-in module, and e) the YPs' sense of self-efficacy during treatment. Themes a) and b) form the basis for understanding the families' experiences, while themes c) and d) evoke lived experiences when comorbid anxiety is not addressed, and when it is addressed, respectively. Lastly, theme e) uses the theoretical construct of self-efficacy as a lens through which to understand the families' experiences. To ensure the quality of the collected data great emphasis was placed on conducting continuous monitoring to ensure that the interviewer's interpretation of what was said corresponded with the interviewees' experiences.

The interviews were transcribed and analysed using the thematic analysis of (Braun & Clarke, 2006). Thematic analysis is a qualitative analytical method for systematically organising, interpreting, and reporting of qualitative data. It involves the phases of a) familiarization with the data by reading and re-reading the transcripts, b) generating initial codes in each transcript, c) searching for themes across transcripts, d) reviewing themes, and e) defining and naming the themes. The thematic analysis was carried out by collaborative coding by the first and second author, focusing on expanding each other's interpretation of the data and thereby seeking to deepen the reflective process until a full agreement on final themes was reached, thereby establishing a consensus-based inter-coder reliability. All five interviews were coded before generation of potential themes. Results of analyses was shared with informants. The presented results summarize the key findings from the generated themes.

III. RESULTS

See table 2 for exemplifying quotes (Q).

a) *Influence of comorbid anxiety on the perceived effectiveness of FBT*

Overall, the interviewed families experienced comorbid anxiety symptoms to be limiting the

effectiveness of FBT leading to stagnation with respect to the intended treatment objectives in the given phase of FBT. Parents acknowledged that weight restoration is a necessary first step and a prerequisite for dealing with other problems. However, they experienced that their daughters' anxiety escalated, when met with the pressure of weight gain (Q1; Q2). Amanda's mother described how they were taught to handle anxiety attacks but lacked the tools to understand and prevent them (Q3). Furthermore, Beth described that her anxiety symptoms made it difficult to recover from AN, since the gradual returning to a normal social life, in phase two and three of FBT, were impossible; leaving home to be with friends triggered an intense fear of death and panic attacks, which hindered progression in the treatment of her AN (Q4). A common experience in all the families was a lack of strategies for dealing with the anxiety and a feeling that FBT was insufficient in this regard. The interviews this indicate that comorbid anxiety may challenge both the central treatment objective of weight gain in phase 1 of FBT and the objective of returning to a normal social life with the consequent need for age-appropriate responsibility for eating in phases 2 and 3 of FBT.

b) *Families' experiences of an add-in module targeting comorbid anxiety*

i. *Develop a shared language*

All interviewed families felt the integration of interventions for anxiety and AN to be meaningful, adding to the effectiveness of FBT. Involving parents in the intervention established a shared language between parents and YPs, making it possible to talk about anxiety and verbalize the progression, thereby helping parents support their daughters (Q5). From Amanda's perspective, the development of a shared language regarding the anxiety enabled her to understand and express her feelings, thereby increasing her ability to seek support from parents and friends (Q6).

ii. *Small victories contribute to recovery*

Amanda, Claire, and their parents found the interventions of the add-in module helpful and attributed the recovery from AN to the add-in module (Q7). Families emphasized the following elements as particularly relevant to the recovery: home assignments with challenging and obtainable goals using a stepladder approach, consciousness-raising with respect to the mechanisms of anxiety, and the focus on identifying small successes in therapy. As an example, Amanda underlined that one of her overall goals of eating in the classroom seemed completely impossible during FBT. However, small victories obtained during the add-in intervention, targeting her anxiety, such as paying in the supermarket, made this goal feel more realistic over time, eventually leading to its attainment (Q8).

iii. *Flexibility is needed in a manualized approach*

Beth found the cognitive restructuring work insufficient to match her experience of anxiety. This mismatch felt to be due to the fact that the exercises were centred around the identification of trigger thoughts, whereas she experienced that her anxiety began with an intense physical feeling of discomfort (Q9). Beth felt that the manual exercises overlooked the uniqueness of her experiences. After a few weeks of working with the manual and lack of desired results, the therapist initiated a deviation from the add-in module as well, which had a positive impact on Beth's feeling of "being seen" (Q10).

iv. *Returning to social life made possible*

The analysis further found returning to social life outside the family to constitute a meaningful indicator of treatment efficacy for all YPs and parents. Claire felt the social aspects were emphasized more in the add-in module compared to FBT. This made a significant difference for her motivation to recover from AN, because the treatment focused on social aspects of her life that she wished to return to (Q11). Even Beth, who did not experience the add-in module's interventions as crucial for her improvement, expressed that additional treatment targeting her anxiety had made a significant impact on her beliefs in her own abilities, especially in regard to returning to social life. Thus, learning strategies to handle anxiety made returning to social life more plausible, which in turn motivated the YPs to recover from AN, because they were working towards an objective of significant personal importance.

c) *Self-efficacy*

The add-in module was found to have a positive influence on self-efficacy in all the YPs regarding their feelings of being able to handle the eating disorder. For all the families, this positive influence was associated with parental encouragement and verbal support, which were made possible by the parents' involvement in the add-in module (Q12). For Amanda and Claire, the positive association between the add-in module and the development of self-efficacy was furthermore connected to success experiences they acquired during the anxiety treatment. Amanda experienced that she was more likely to obtain success in the add-in module, due to the focus on smaller and more realistic goals, compared to the FBT treatment objectives. She described how working on small goals and fulfilling them constituted significant success experiences that could be transferred to other more difficult goals related to the AN (Q13). Claire experienced being able to work on what she perceived to be more challenging goals than in the pure FBT (Q14). Even though she was nervous about it, this work gave her the opportunity to obtain success experiences, which could be transferred to other challenging situations regarding the AN. Thus, Amanda and Claire experienced the goals in the add-in module

as more adjusted to their individual needs. These findings are in line with Bandura's (Bandura, 1997) argument that success experiences can lead to generalizable skills, which can be used across stressful situations in everyday life and thereby develop a YP's self-efficacy. For Beth, anxiety medication, and not the success experiences stemming from the add-in module, led to her becoming less responsive to bodily sensations, which was crucial for the development of self-efficacy in relation to social aspects of her recovery, such as eating in school, having a job, going to parties etc. (Q15).

IV. DISCUSSION

Interviewed families experienced comorbid anxiety as challenging the effectiveness of FBT, especially in phase two, because it hampered the YPs' engagement in social life, which is normally a major motivation for fighting AN and prevented the development of skills to resist AN behaviors. The interviews, hence, shed light on a crucial aspect of the treatment process, that is often overlooked and contributes to the existing literature. In extension, an anxiety disorder might act as a maintaining factor for AN, because AN provides opportunities to avoid feared situations beyond those related to weight and shape. The analysis further showed that two of the three families found a cognitive-behavioural module targeting anxiety helpful, and supporting recovery from AN.

The descriptions of anxiety disorders as hampering the YPs' recovery from AN may appear contrary to the recommendation of postponing treatment of comorbid disorders until AN is resolved (Lock & Nicholls, 2020). However, testimonies from the three families point to the necessity of addressing comorbid anxiety earlier, as it appears to hamper work on YPs' autonomy and self-efficacy in phase two of FBT. Furthermore, we consider the add-in module in line with the central FBT principle of parent empowerment to support their YP since the families described the add-in module as helpful in creating a shared language and shared strategies towards anxiety, such as the stepladder approach to hierarchical exposure.

It is important to bear in mind that these findings are derived from qualitative analysis of a small number of interviews. The validity of qualitative analyses is not based on statistical significance but on rich descriptions that exemplify the focus area of study and allow generation of hypotheses for further testing.

Two aspects of the analysis add to our understanding of what families may need when progress in FBT seems hampered by comorbid anxiety disorders. One aspect is the active involvement of the YPs in goals that seem relevant to them, and the other is the families' need to "feel seen" by the treatment team when addressing what is relevant to the specific family.

We hypothesize that the active involvement of YPs in setting attainable goals in the add-in module may have been easier to achieve when addressing anxiety rather than AN. Anxiety is most often ego-dystonic, whereas the YP may be ambivalent regarding AN. Interestingly, two of the YPs described being more motivated to work towards healthy eating and letting go of AN in the process of tackling anxiety. Cognitive-behavioural therapy rests on a collaborative process of goal setting and empiricism, techniques that explicitly engage the YPs (Tee & Kazantzis, 2011). This is not in contrast to the stance of phase two of FBT, but the FBT model provides fewer techniques for engaging the YP in phase two, and there may be a risk that families and therapists unwillingly continue the strong emphasis of parent-led change from phase one into the later phases of FBT. This might be a focus for further studies on the processes of change in FBT. The present study serves to highlight the importance of increasing the YPs' beliefs in their ability to cope with difficult situations via individual and relevant goals and underlines that an increased self-efficacy may support AN recovery as well. In extension, early screening for anxiety or another comorbidity that interfere with YP's self-efficacy and addressing it might add to outcomes of FBT.

Lastly, all three participating families noted the importance of "being seen". Two families experienced this when the treatment team deviated from standard FBT and addressed comorbid anxiety. The third family experienced the add-in module to be yet another manual not fitting their family and didn't feel seen until treatment deviated from the add-in manual. These descriptions underline the notion that "*one size does not fit all*" when it comes to adolescent AN treatment. Additionally, they touch upon the therapeutic dilemma that individualized adaptations may support alliance building on the one hand, but on the other hand there is a risk of hampering effectiveness of an evidence-based treatment model when adapting it. . We argue that a good match between a treatment approach and a specific family is essential and addressing comorbid anxiety within the framework of FBT may be a means to this end for some, albeit not for all YPs with AN and comorbid anxiety.

Table 1: Descriptive information on informants

Pseudonym of young person	Amanda	Beth	Claire
Age at treatment start	12	17	16
Primary diagnosis of ED (ICD-10)	F50.1 atypical AN	F50.0 AN	F50.1 atypical AN
Reason for not fulfilling a typical AN diagnosis of F50.0 (ICD-10)	weight loss less than 15% of body weight, still menses		still menses
Comorbid anxiety diagnosis (ICD-10)	F93.8 Other childhood emotional disorders	F41.1 Generalized anxiety disorder	F40.1 Social phobia
Additional Comorbid diagnoses (ICD-10)			F43.2 Adjustment disorder with depressive symptoms F98.8 Attention deficit disorder
Interview format	parent and YP together	parents and YP separately	parents and YP separately
Months of standard FBT prior to anxiety add-in module	9.5	2.5	2.5
Number of anxiety add-in module sessions completed	12	5	12
Months to complete successful ED treatment after ending anxiety add-in module	0	Unknown [†]	3
Medication for anxiety (SSRI)	no	yes	Yes

Legend: ED= eating disorder; AN= anorexia nervosa; ICD-10= International Classification of Diseases, 10th edition

[†]Continued ED treatment in the Adult Mental Health Services

Table 2: Exemplary quotations from qualitative interviews

Quotation number	Quotation
Q1	<i>"It also escalated. Every time [Amanda] was pressured to eat more, or well...every time we pressured her just a little, then she got so much anxiety"</i> Amanda's mother
Q2	<i>"It is just a completely different kind of anxiety, panic anxiety, that she suddenly started getting. We haven't experienced that at any time....It just got like really full blown after the eating disorder...I think the more we experience the eating disorder to maybe move a bit out of our home, then it is like, then panic and anxiety comes, right?"</i> Beth's mother
Q3	<i>"And the anxiety attacks were centered around the eating disorder, and they didn't get any better [during FBT]. I got knowledge on how I could manage a specific panic attack, but I just didn't get any tools to prevent it, or to understand what happened"</i> Amanda's mother
Q4	<i>"We also worked on a step ladder, where you should get higher and higher up, and you should like go out with friends and it was like part of being free, and something like that. But then anxiety came upon me, which gave me the fear that something would happen if I went out, then I will start feeling pain in my body or then I will die, and then I might as well stay at home...so that definitely made it more difficult to get well"</i> Beth
Q5	<i>"We have completed homework and in that way we followed it [the add-in module] and had some good talks because it has also opened up for something, because I could then talk with [Beth] in a different way, because we had sat in this room and listened to something together and then I could better be curious"</i> Beth's mother

Q6	<p><i>"I really think it has become easier to tackle [the anxiety], and I talk more with my mother about what it is that I worry about. Before I just couldn't...it was just too much. But concerning my worries I can now talk with others about my worries in a way so that they can help me"</i></p> <p>Amanda</p>
Q7	<p><i>"I don't think she would have gotten well...without it [the add-in module]"</i></p> <p>Amanda's mother</p> <p><i>"I am sure that [Claire] would not have gotten to this point without it [the add-in module]"</i></p> <p>Claire's mother</p>
Q8	<p><i>"Now that I had achieved the small victories, I also felt more like I could achieve the bigger goal about eating, because it sounded completely impossible in the beginning. Yes, the small victories made the goal concerning eating in class more realistic"</i></p> <p>Amanda</p>
Q9	<p><i>"We had to follow a lot of papers, and there was like a plan for what you should go through. And I just could feel after the three first sessions that nothing happened. Everything focused on me finding my problem, but part of my problem is that it starts with me feeling it [anxiety] in my body, and then it goes on, so...I didn't know what the problem was, I only knew that my body triggered a lot of it. So it was a bit like...it just didn't work for me. It [the add-in module] didn't really match my anxiety illness"</i></p> <p>Beth</p>
Q10	<p><i>"If I could change something about it [the add-in module] for others, then it would be to look more at the individual, rather than at the illness as something you need to follow in a book. But I was lucky, since I got the form altered a little bit"</i></p> <p>Beth</p>
Q11	<p><i>"It was really the social part to me wanting to get my life back, because I really didn't feel that I had a life back then. And then we got to talk more about that, especially in the add-in, but before that, we stuck a lot to the phase we were in. And that I really found difficult, because I was not at all motivated to look at that [weight] curve, to see the weight go up, it was like the contrary. So, it would really have been awesome if it was more focused. And we did that maybe a little bit, we talked about what I wanted to, but I wasn't allowed to do anything. So, I think it would have helped, if I was allowed to do a bit more and could see the positive side"</i></p> <p>Claire</p>
Q12	<p><i>"Well I think, that it [the daughter's belief in being able to overcome difficult situations] came rather late in treatment, but it's due to...these assignments that are being carried out where she has to... get her own experiences and experiences of course takes time. So it came in the last part of treatment, if you can say it like that...then we could look back, like: "do you remember when we sat here, now you can, like..." I mean... and then I think she starts realizing: "what earlier seemed like just a talk I can actually now see, without me being able to counterargue, that it actually has an effect..." And that is what we need to continue working on. That is what we feel leads to an immense change, like...it is about expressing that it is difficult, and then afterwards finding out "okay now I have actually progressed"</i></p> <p>Claire's father</p>
Q13	<p><i>"Interms of the eating disorder [the treatment before the add-in], then it was like one big step after the other, and it was like impossible to obtain a goal. In terms of the anxiety [the add-in module] then it was more like there was a small step, then a bit bigger step, and then it varied a bit how big the steps were"</i></p> <p>Amanda</p>

Q14	<p>"Yes, and I got the chance to actually do some of the things that I actually wanted to, although I was super afraid of it, I was allowed to...the more things I wanted to do and I was allowed to do, the more I also believed in myself and I could take it with me to the other things, if that makes sense"</p> <p>Claire</p>
Q15	<p>"I think most of it has gotten better. I also really feel it when I go to school or work. It [anxiety medication] has just helped me so much to be able to think about something different than what the anxiety gets you thinking"</p> <p>Beth</p>

Data availability statement

Qualitative interview raw data will not be made available, but anonymized citations and codes from thematic analysis may be shared upon reasonable request.

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Competing interests

The authors have no relevant financial or non-financial interests to disclose.

Author contributions

MB & ILH designed the intervention, VVO and RG developed the interview guide and collected, analyzed, and summarized data, ILH and SHP discussed the findings and related them to existing literature, VVO and RG and MB wrote the main manuscript, all authors reviewed the manuscript.

Consent to participate

All participants gave informed consent and read the manuscript draft.

Ethics approval

The Danish Data Protection Agency approved the main study of which this study was part. All data was managed according to the prescription of the Data Protection Agency.

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