Mathematical processing of the questionnaire of subjective perception of anxiety as a tool for selecting treatment

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Abstract

Background: The increasing prevalence of anxiety disorders underscores the critical importance of effective assessment and management strategies. While established questionnaires like the Hamilton Anxiety Rating Scale (HARS) and the Beck Anxiety Inventory (BAI) are widely used, there remains a need for instruments that explore the nuanced, qualitative features of anxiety, which are essential for personalized treatment approaches.

Methods: This study presents findings based on the Brief Anxiety Structure Questionnaire (BASQ), which is designed to evaluate behavioral manifestations, cognitive aspects, and personality traits associated with generalized anxiety disorder (GAD). Data from a Phase III clinical trial of the anxiolytic Aviandr (maritupirdine) were analyzed using machine learning techniques to develop predictive models and construct an "ideal patient profile".

Results: Among the tested algorithms of machine learning, the decision tree model demonstrated the highest accuracy in identifying the most influential BASQ questions for therapy selection. The BASQ questionnaire revealed qualitative aspects of anxiety and personality traits, providing a deeper understanding of the structure of anxiety and supporting more personalized treatment strategies. Specific questions most strongly correlated with the effectiveness of Aviandr treatment were also identified.

Conclusion: The findings from this study suggest that integrating qualitative parameters into clinical assessment may optimize therapy for anxiety disorders. Future research will focus on further elucidating the relationship between patient anxiety characteristics and treatment effectiveness.

Keywords: Anxiety; psychometric properties; validity; test anxiety scale.

Introduction

In the modern world, the advancement of technology and the increasing amount of incoming information have contributed to a rise in mental health disorders, particularly anxiety disorders [1]. Anxiety disorders are frequent and enduring condition that significantly worsening the quality of life. Despite the availability of numerous treatment options, selecting the most appropriate approach for each individual case remains a crucial consideration. The symptom clusters, personality traits, and patient-held beliefs regarding therapeutic outcomes is of paramount importance in this condition, exceeding its relevance in other clinical domains [2]. Anxiety severity and its fluctuations are typically assessed through clinical and psychometric

evaluations, using objective methods such as instrumental diagnostics (MRI, PET-CT) and self-report questionnaires. [3,4,5]. Although objective methods provide valuable data, their interpretation does not consistently exceed the insights gained from clinical examination, and their application in routine practice is often constrained. Conversely, subjective methods, while influenced by the clinician's experience and expertise, offer significant contributions to a holistic anxiety assessment Commonly used quantitative measures of anxiety include the Hamilton Anxiety Rating Scale (HARS), the Sheehan Anxiety Rating Scale (ShARS), and the Beck Anxiety Inventory (BAI).The Spielberger-Hanin Anxiety Inventory (STAI) and the Four-Dimensional Symptom Questionnaire (4DSQ) for assessing stress, depression, anxiety, and somatization in autonomic and borderline psychosomatic disorders include some anxiety content assessment but are not specifically focused on this aspect.

Still, there is a lack of qualitative anxiety structure questionnaires that can detail the symptoms crucial for personalizing therapy in each case. Therefore, a questionnaire was developed to identify anxiety aspects significant for forming an individual therapeutic strategy, such as behavioral manifestations, hypochondriacal components regarding cognitive functions, personality traits in the context of anxiety disorders, and expectations of positive anxiety dynamics during anxiolytic therapy.

This study examines data from the Brief Anxiety Structure Questionnaire (BASQ), obtained during a clinical trial of Aviandr in patients with generalized anxiety disorder conducted in 2021-2023 (protocol CNS-CD0080045-06), as well as quantitative anxiety indicators using the Hamilton Anxiety psychometric scale (Hamilton M.The assessment of anxiety states by rating. Br J Med Psychol 1959; 32:50–55). Statistical analysis, based on machine learning methods, assessed the BASQ's capabilities, created an "ideal patient profile" for anxiety treatment, and identified response patterns in patients most suited for Aviandr.

Material and methods

Study Design and Participants

This research was conducted within the framework of a phase III clinical trial of the anxiolytic Aviandr (INN:maritupirdine), conducted in 2021-2023 (Russian Ministry of Health clinical trial approval No. 381 dated July 30, 2020, ClinicalTrials.gov ID: NCT04598867). This multicenter randomized placebo-controlled trial assessed Aviandr's efficacy and safety in patients with GAD. The study included 200 patients randomized in a 3:1:1 ratio into three treatment groups: 121 patients in the Aviandr group, 39 in the placebo group, and 40 in the active control group receiving Afobazol.

The study consisted of screening and lead-in placebo periods (up to 2 weeks), an investigational therapy period (comparative phase) of 8 weeks, an open non-comparative period of 24 weeks (all groups received Aviandr), and a 4-week post-treatment observation period. The comparative phase had a double-blind design for Aviandr and placebo.

Ethical review and oversight were conducted by independent ethics committees of participating institutions (Protocol № 4137035-20-1/ЭС from 12.05.2020, The Ethics Review Committee of Ministry of Health of the Russian Federation and local ethics commitees of each clinical center). Informed consent forms were signed and dated by each patient before any study procedures. The consent process was detailed in primary documentation, including the patient's agreement to participate and the consent date.

This study aimed to evaluate the efficacy of Aviandr compared to placebo in patients with GAD by assessing changes from baseline in the total score on the Structured Interview Guide for the Hamilton Anxiety Scale (SIGH-A) after 8 weeks of treatment. Secondary endpoints included patient assessment using the BASQ at screening, week 8, and week 32. The present article details the results of the Brief Anxiety Structure Questionnaire (BASQ) assessments at Week 8 compared to baseline (Screening Visit). The primary study aim was to evaluate the qualitative characteristics of anxiety and, based on these findings, to develop an 'ideal patient profile' for optimal response to Aviandr.

Procedures

Qualitative anxiety assessment was performed using the Brief Anxiety Structure Questionnaire (BASQ), developed by Morozova M.A. and Rupchev G.E. [13]. Quantitative assessment of anxiety was conducted using the Hamilton Anxiety Scale, with results expressed as a total score. [12].

The analysis aimed to identify characteristics of anxiety states typical of patients responding to therapy. To exclude the placebo effect, differences between the Aviandr and placebo groups were assessed based on responses to the 25 questionnaire items. Responders were examined in the eighth week, the last week of the comparative study phase where both the drug and placebo were administered. Absolute and relative (percentage) frequencies were used to present data for patients in the Aviandr, placebo, and Afobazol groups (see Appendix, Table 6 and Figure 3), and Fisher's exact test was conducted to compare the Aviandr and placebo groups. A Fisher's exact test was chosen for the analysis due to the small sample sizes and the fact that the

contingency tables have cells with expected values less than 5.

To determine the questionnaire items most predictive of treatment response, data from the Aviandr group at Week 8 were analyzed, as the early effect observed at this time point was deemed clinically relevant.

Data interpretation and result validation were enhanced through the generation of pair plots, which graphically depict pairwise relationships between principal components. Figure 1 illustrates these relationships using a matrix of scatter plots with histograms (absolute frequency on the vertical axis, "No/Yes" responses on the horizontal axis) to represent the distribution of responses for each question.

Statistical Analysis

Significant features were identified using machine learning methods, facilitating the analysis of categorical data. The following models were employed:

- Logistic regression to assess the relationship between a binary dependent variable (whether a patient responded or not by Week 8) and one or more independent variables.
- Decision tree, which predicts the value of the target variable using a sequence of simple decision rules.
- Naive Bayes algorithm based on applying Bayes theorem with the "naive" assumption of conditional independence between each pair of features.
- k-Nearest Neighbors method, which has virtually no training phase and makes predictions based on distances from the input data vector to the sample object.
- Support Vector Machine (SVM) used for classification, regression, etc.
- The Random seed method was used to ensure result reproducibility, setting the initial state for generating random numbers used in training.

Based on predictive performance during training, the optimal models from each class were selected for further analysis. Table 2 summarizes the training results for these selected models, including the following key characteristics:

- Model accuracy (accuracy) – a parameter reflecting the proportion of true positive results among all positive model predictions, accounting for false positives.

If $\hat{y}_i$ is the predicted value of the i-th sample and yi is the corresponding true value, then the proportion of correct predictions compared to $nsamples$ is determined as:

$$accuracy(y, \hat{y}) = \frac{1}{n_{samples}} \sum_{i=0}^{n_{samples}-1} 1(\hat{y}_i = y_i), 1(x) - indicator\ function$$

- F1 score (F1-score) – a parameter that is the weighted harmonic mean of precision and recall, where precision was previously defined, and recall is a parameter reflecting the proportion of true positive results among all positive results in the sample, accounting for false negatives. The F1 score is determined by the following formula: F1 score = 2 * (Precision * Recall) / (Precision + Recall).

For analysis, the F1 score should be considered more significantly as it incorporates both types of errors – false positives and false negatives.

Results

Among the machine learning models evaluated for assessing specific questionnaire items, the decision tree model demonstrated superior performance, achieving the highest accuracy and an F1 score exceeding 0.7 (Table 1). This F1 score, considered indicative of good model performance, suggests that the decision tree model effectively identified significant features and satisfied established success criteria [18].

Table 1. Results of training machine learning models on individual questions.

Model	Accuracy	F1 parameter
Logistic regression	0.611570	<0.000001
Decision tree	0.619835	0.796296
Naive Bayes classifier	0.661157	0.549451
K-Nearest Neighbors	0.694215	0.79629
Support vector machines	0.685950	0.512821

Subsequently, the selected decision tree model was used to analyze the most significant parameters, defined as questionnaire responses. Table 2 Presents the feature weights, representing the relative importance of each. question as determined by the optimized decision tree model.

Analysis of Table 2 reveals specific questionnaire items with significant predictive value for treatment response. Patients providing a "Yes" response to these key questions were more likely to be classified as responders to Aviandr, suggesting that this drug may be particularly effective in addressing specific anxiety characteristics identified by these questions.

3, 5, and 8 most significant questions were categorized separately for subsequent qualitative analysis. The three most significant questions were numbered 1, 14, and 19. Comparing the questions with anxiety types in the questionnaire keys, we can conclude

that the medication will likely be more effective for patients with behavioral anxiety type and anankastic personality aspect, i.e., those answering "Yes" to questions 1 and 14.

Table 2. The importance of questions in a questionnaire based on the decision tree model.

Questions	Importance
Question 1	0,078643
Question 2	0,032699
Question 3	0,071248
Question 4	0,05895
Question 5	0,015531
Question 6	0,061803
Question 7	<0.000001
Question 8	0,021744
Question 9	0,015656
Question 10	0,017395
Question 11	0,011362
Question 12	0,066267
Question 13	0,012425
Question 14	0,102847
Question 15	0,014181
Question 16	0,071359
Question 17	0,042245
Question 18	0,027832
Question 19	0,074471
Question 20	0,064445
Question 21	0,007241
Question 22	0,044758
Question 23	0,032083
Question 24	0,017395
Question 25	0,037422

As shown in Figure 1, the distributions of responses to question 14 (Anankastic personality aspect) differed significantly between responders and non-responders. In contrast, the limited variability in responses to question 1, with a low frequency of 'No' answers, may reduce its statistical power. These observations suggest that question 14 is a more reliable parameter for assessing treatment response.

Question 19, representing the narcissistic personality aspect (assessed by eight questionnaire items), may possess predictive value regarding treatment response. Although further investigation is needed to establish a causal relationship, the differential distribution of responders based on "Yes" or "No" answers to question 19 (as shown in the histograms) suggests that this question should be considered when evaluating candidates for Aviandr treatment.

The next selection category comprised the five most significant questions: 1, 3, 14, 16, and 19. In addition to the previously identified questions, this category includes question 3 (resource anxiety type) and question 16 (narcissistic personality aspect). Notably, this is the second instance in our research of the narcissistic personality aspect emerging as a significant predictor, indicating a possible association with favorable treatment outcomes.

While question 3 is related to the resource anxiety type, question 2, which also corresponds to this type, contributes less to predicting treatment outcome. This suggests that question 3, or a similar construct, may be more relevant than the resource anxiety type as a whole. This difference in predictive power could be attributed to the fact that question 3 reflects an individual's ability to experience enjoyment despite anxiety, while question 2 pertains to social support, representing distinct aspects of resource availability.

An expanded set of eight questions, identified as having the highest predictive value, was analyzed to determine the potential utility of incorporating the narcissistic anxiety type in individual treatment approaches. This expanded set included questions 6, 12, and 20, which address reactive elements of anxiety, narcissistic personality traits, and patient expectations for therapeutic outcomes, in addition to the previously analyzed questions.

The histograms revealed no substantial differences in distributions that would significantly affect the results, leading us to conclude that these questions exhibit less importance compared to those previously

analyzed.

A similar analytical approach was used to assess the significance of different types of anxiety and personality traits. To facilitate comparison across categories, the data were aggregated and normalized by the number of questions in each category. Table 3 summarizes the performance of the machine learning algorithms, as measured by accuracy and F1 score.

Figure 1. Illustrates the use of pair plots to visualize response patterns on the qualitative anxiety questionnaire. The diagonal elements of the plot matrix present histograms showing the distribution of responders (left column) and non-responders (right column) based on "No" and "Yes" responses to each questionnaire item.

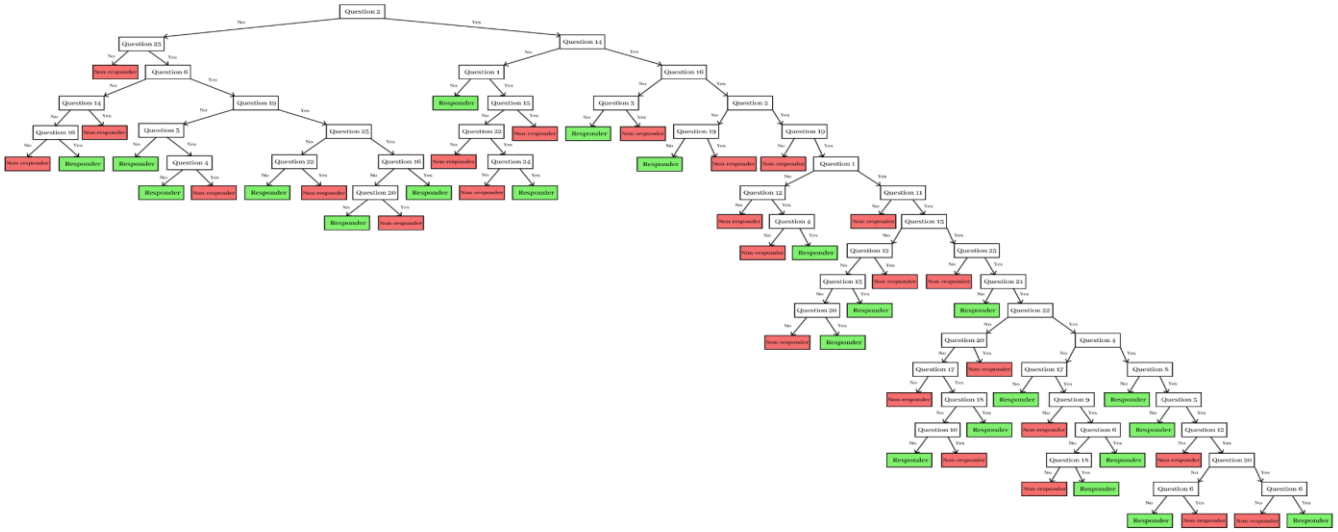


Figure 2. The scheme of the drug outcome prediction model based on decision tree training

Table 3. Machine learning model training results for the groups of questions.

Model	Accuracy	F1 parameter
Logistic regression	0.611570	<0.000001
Decision tree	0.619835	0.041667
Naive Bayes classifier	0.652893	0.300000
K-Nearest Neighbors	0.611570	0.145455
Support vector machines	0.636364	0.352941

The accuracy and F1 scores reported in Table 3 indicate that these models exhibited limited predictive power. Despite this limitation, we explored the relative importance of question groups for comparison with previous findings. Given its superior F1 score and competitive accuracy, the support vector machine (SVM) model was selected for this analysis. The weights assigned to each question group by the SVM model are detailed in Table 4.

The analysis identified obsessive and anankastic personality traits as the most significant factors influencing successful treatment outcomes. This finding is consistent with the distinct response distributions observed in the corresponding question groups (Figure 3), further supporting the critical role of these dimensions in predicting therapeutic efficacy.

Discussion

While medication prescription based on the most significant questions from the qualitative anxiety questionnaire offers a rapid assessment of drug effectiveness, the prediction scheme presented in Figure 2, derived from the decision tree model, may provide a more comprehensive evaluation. This scheme allows clinicians to predict treatment outcome for individual patients by following the decision-making process outlined using the key questionnaire items. This approach has the potential to predict Aviandr effectiveness with high accuracy and inform treatment decisions.

Table 4. The importance scores for groups of questions within the questionnaire, as determined by the support vector machine method.

Groups of questions	Importance
Behavioral type of anxiety	-0.20184955
Resource type of anxiety	-0.35781066
Alexithymia	-0.20570613
Cognitive type of anxiety	-0.49396519
Reactive states	0.03020289
Obsessive-compulsive personality	0.39597201
Depressive personality	-0.16978004
Narcissistic personality	0.02006781
Anankastic Personality	0.25710168

The prediction scheme (Figure 2) offers an alternative approach to treatment prediction that can be implemented manually in situations where the electronic model is unavailable. While both methods can be used, the electronic model is the recommended approach due to its greater ease of use, improved efficiency, and reduced risk of errors associated with manual interpretation and application.

Selecting appropriate treatments for anxiety disorders is challenging due to the inter-individual variability in response to psychopharmacological agents. This may be partially attributed to the reliance on psychometric tools that assess global anxiety levels but fail to capture nuanced qualitative features, which are critical determinants of therapeutic efficacy. Furthermore, transient anxiety experienced during assessment may introduce bias and distort test results.

This study investigated the potential of the Brief Anxiety Structure Questionnaire (BASQ) to generate patient profiles predictive of successful treatment outcomes with Aviandr. BASQ responses were analyzed to identify significant personality aspects and anxiety types associated with favorable treatment response. This analysis led to the development of a decision-making tool designed to predict drug efficacy based on patient BASQ responses.

Analysis revealed a specific pattern of responses to the Brief Anxiety Structure Questionnaire (BASQ) that was associated with increased likelihood of successful Aviandr treatment. Key elements of this pattern included the absence of subjective anhedonia (question 3) and the presence of elevated anxiety in response to situations involving decision-making (question 14), fear of potential public embarrassment (question 16), and concealment of feelings of irritation or anger (question 19). This unique combination of anxiety-related traits, which is not routinely assessed by standard diagnostic instruments for anxiety disorders, was found to be a significant predictor of positive therapeutic response. Based on these observations, we propose that anxiolytic drug may not solely target anxiety symptoms, but also influence internal tension that is related to specific personality responses and coping mechanisms.

Given its self-administered format and minimal burden on clinicians, this questionnaire offers a potentially valuable tool for personalizing therapy and improving outcomes in psychiatric and psychological practice. While this study focused solely on Aviandr, future research should explore the broader applicability of these findings to psychopharmacotherapy, examining the impact of different medications on patients with varying personality aspects and anxiety types.

Moreover, the BASQ has the potential to inform both pharmacotherapeutic and psychotherapeutic treatment strategies. The individual structural and dynamic components of anxiety identified by the BASQ could serve as targets for cognitive restructuring in cognitive-behavioral therapy and other psychotherapeutic approaches.

Furthermore, the decision tree framework derived from the anxiety data could guide therapeutic interventions, enabling clinicians to focus on specific questionnaire items to identify relevant issues for each patient or to gain a more comprehensive understanding of the topic.

Future Research

Future research will investigate the relationship between baseline patient characteristics and drug tolerability, adverse events correlating with personality traits, and the specific type of anxiety presented. These

investigations aim to elucidate the influence of patient-specific factors on treatment outcomes, ultimately informing the development of more personalized and effective therapeutic strategies for anxiety disorder management.

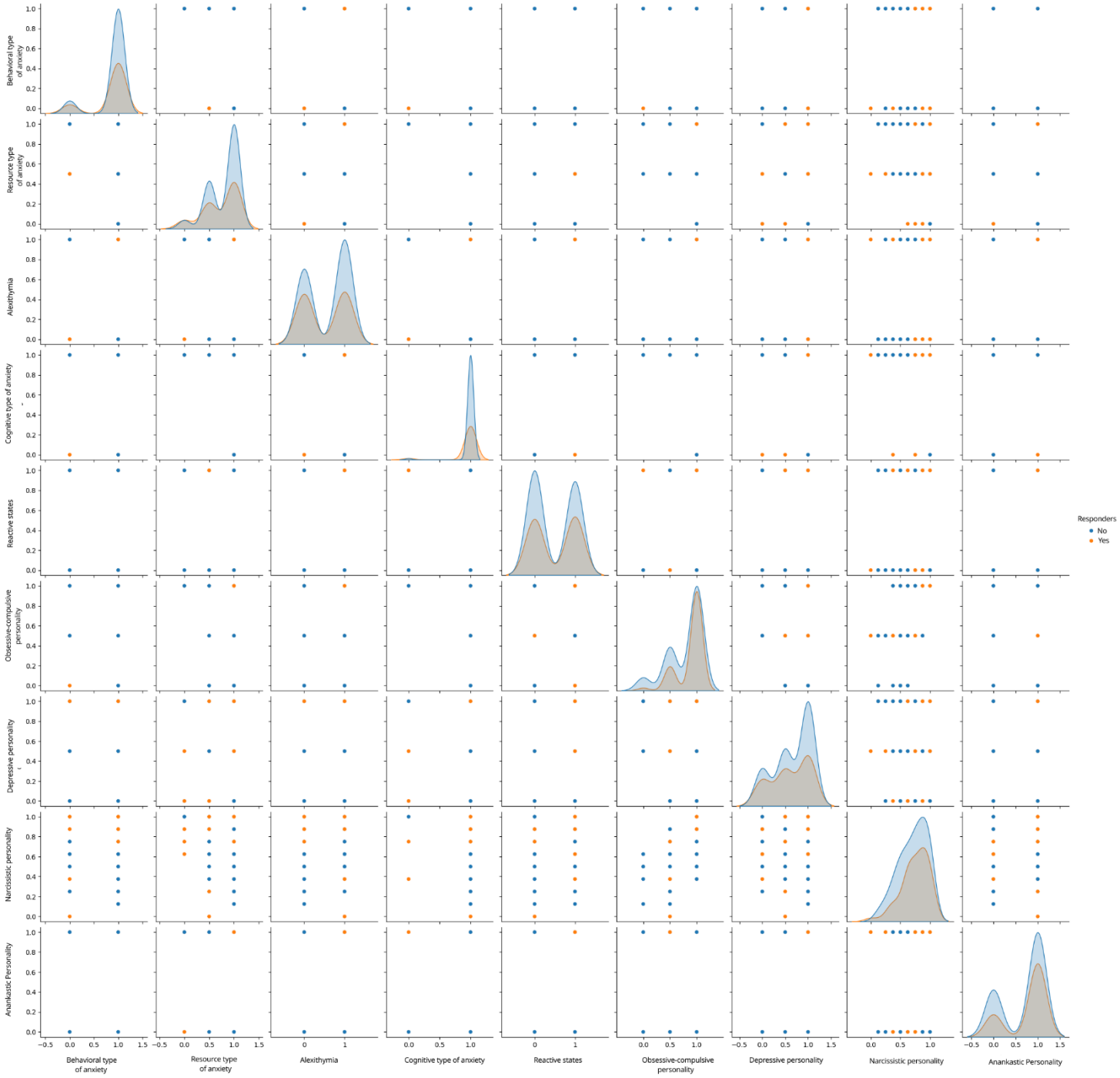
Appendix

Table 5. Descriptive statistics on the questionnaire for assessing the quality of anxiety, divided into responders and non-responders in Week 8 of the study.

Question/Variant of answer, Responder/Not responder	Aviandr® (%)	Aphobazol® (%)	Placebo (%)	p-value for the groups Aviandr® and Placebo (Fisher's exact test)
Question 1. I'm often told that I worry about the little things.				
Yes, Not Responder	66(54.55%)	25(62.50%)	29(74.36%)	0,0442
Yes, Responder	40(33.06%)	9(22.50%)	5(12.82%)	
No, Not Responder	8(6.61%)	4(10.00%)	4(10.26%)	
No, Responder	7(5.79%)	2(5.00%)	1(2.56%)	
Question 2. My loved ones rather understand and support me.				
Yes, Not Responder	58(47.93%)	18(45.00%)	23(58.97%)	0,0265
Yes, Responder	29(23.97%)	10(25.00%)	5(12.82%)	
No, Not Responder	16(13.22%)	11(27.50%)	10(25.64%)	
No, Responder	18(14.88%)	1(2.50%)	1(2.56%)	
Question 3. Despite my anxiety, I can enjoy life.				
Yes, Not Responder	60(49.59%)	21(52.50%)	25(64.10%)	0,0407
Yes, Responder	40(33.06%)	8(20.00%)	5(12.82%)	
No, Not Responder	14(11.57%)	8(20.00%)	8(20.51%)	
No, Responder	7(5.79%)	3(7.50%)	1(2.56%)	
Question 4. I often find it difficult to put my feelings into words.				
Yes, Not Responder	43(35.54%)	20(50.00%)	21(53.85%)	0,0409
Yes, Responder	24(19.83%)	5(12.50%)	2(5.13%)	
No, Not Responder	31(25.62%)	9(22.50%)	12(30.77%)	
No, Responder	23(19.01%)	6(15.00%)	4(10.26%)	
Question 5. When I am anxious, I find it difficult to concentrate.				
Yes, Not Responder	73(60.33%)	28(70.00%)	32(82.05%)	0,023
Yes, Responder	45(37.19%)	11(27.50%)	6(15.38%)	
No, Not Responder	1(0.83%)	1(2.50%)	1(2.56%)	
No, Responder	2(1.65%)	0(0.00%)	0(0.00%)	
Question 6. My anxiety is more provoked by external circumstances.				
Yes, Not Responder	35(28.93%)	14(35.00%)	19(48.72%)	0,0306
Yes, Responder	24(19.83%)	4(10.00%)	2(5.13%)	
No, Not Responder	39(32.23%)	15(37.50%)	14(35.90%)	
No, Responder	23(19.01%)	7(17.50%)	4(10.26%)	
Question 7. My anxiety increases when I feel like I don't look well.				
Yes, Not Responder	41(33.88%)	14(35.00%)	22(56.41%)	0,0347
Yes, Responder	29(23.97%)	6(15.00%)	4(10.26%)	
No, Not Responder	33(27.27%)	15(37.50%)	11(28.21%)	
No, Responder	18(14.88%)	5(12.50%)	2(5.13%)	
Question 8. My anxiety increases when I think I'm being ignored.				
Yes, Not Responder	50(41.32%)	18(45.00%)	24(61.54%)	0,0535

Yes, Responder	32(26.45%)	8(20.00%)	4(10.26%)	
No, Not Responder	24(19.83%)	11(27.50%)	9(23.08%)	
No, Responder	15(12.40%)	3(7.50%)	2(5.13%)	
Question 9 My anxiety is heightened when I am unable to present myself in the best possible light.				
Yes, Not Responder	50(41.32%)	20(50.00%)	27(69.23%)	
Yes, Responder	38(31.40%)	8(20.00%)	5(12.82%)	
No, Not Responder	24(19.83%)	9(22.50%)	6(15.38%)	0,0101
No, Responder	9(7.44%)	3(7.50%)	1(2.56%)	
Question 10. My anxiety increases when I can't complete a task strictly according to the instructions.				
Yes, Not Responder	50(41.32%)	20(50.00%)	27(69.23%)	
Yes, Responder	38(31.40%)	8(20.00%)	5(12.82%)	
No, Not Responder	24(19.83%)	9(22.50%)	6(15.38%)	0,019
No, Responder	9(7.44%)	3(7.50%)	1(2.56%)	
Question 11. My anxiety increases when something doesn't go according to plan.				
Yes, Not Responder	66(54.55%)	27(67.50%)	31(79.49%)	
Yes, Responder	45(37.19%)	11(27.50%)	6(15.38%)	
No, Not Responder	8(6.61%)	2(5.00%)	2(5.13%)	0,0332
No, Responder	2(1.65%)	0(0.00%)	0(0.00%)	
Question 12. My anxiety increases when I compare myself to others.				
Yes, Not Responder	37(30.58%)	20(50.00%)	24(61.54%)	
Yes, Responder	22(18.18%)	6(15.00%)	3(7.69%)	
No, Not Responder	37(30.58%)	9(22.50%)	9(23.08%)	0,0063
No, Responder	25(20.66%)	5(12.50%)	3(7.69%)	
Question 13. My anxiety increases when I am criticized.				
Yes, Not Responder	55(45.45%)	23(57.50%)	27(69.23%)	
Yes, Responder	40(33.06%)	10(25.00%)	5(12.82%)	
No, Not Responder	19(15.70%)	6(15.00%)	6(15.38%)	0,0374
No, Responder	7(5.79%)	1(2.50%)	1(2.56%)	
Question 14. My anxiety increases when I need to make my own decision.				
Yes, Not Responder	51(42.15%)	24(60.00%)	22(56.41%)	
Yes, Responder	36(29.75%)	4(10.00%)	5(12.82%)	
No, Not Responder	23(19.01%)	5(12.50%)	11(28.21%)	0,057
No, Responder	11(9.09%)	7(17.50%)	1(2.56%)	
Question 15. My anxiety increases when I think that people doubt my competence.				
Yes, Not Responder	58(47.93%)	23(57.50%)	24(61.54%)	
Yes, Responder	34(28.10%)	5(12.50%)	5(12.82%)	
No, Not Responder	16(13.22%)	6(15.00%)	9(23.08%)	0,0468
No, Responder	13(10.74%)	6(15.00%)	1(2.56%)	
Question 16. My anxiety increases when I think I might fail.				
Yes, Not Responder	59(48.76%)	22(55.00%)	31(79.49%)	
Yes, Responder	41(33.88%)	8(20.00%)	5(12.82%)	
No, Not Responder	15(12.40%)	7(17.50%)	2(5.13%)	0,0083
No, Responder	6(4.96%)	3(7.50%)	1(2.56%)	

Question 17. My anxiety increases when I think that I might cause others trouble.				
Yes, Not Responder	52(42.98%)	21(52.50%)	23(58.97%)	0,0462
Yes, Responder	30(24.79%)	6(15.00%)	5(12.82%)	
No, Not Responder	22(18.18%)	8(20.00%)	10(25.64%)	
No, Responder	17(14.05%)	5(12.50%)	1(2.56%)	
Question 18. My anxiety increases when I feel like I'm not taking enough care of my loved ones.				
Yes, Not Responder	47(38.84%)	21(52.50%)	18(46.15%)	0,0384
Yes, Responder	27(22.31%)	6(15.00%)	3(7.69%)	
No, Not Responder	27(22.31%)	8(20.00%)	15(38.46%)	
No, Responder	20(16.53%)	5(12.50%)	3(7.69%)	
Question 19. My anxiety increases when I have to restrain my irritation or discontent.				
Yes, Not Responder	60(49.59%)	24(60.00%)	25(64.10%)	0,0313
Yes, Responder	42(34.71%)	9(22.50%)	5(12.82%)	
No, Not Responder	14(11.57%)	5(12.50%)	8(20.51%)	
No, Responder	5(4.13%)	2(5.00%)	1(2.56%)	
Question 20. I am worried that anti-anxiety treatment may cause daytime drowsiness.				
Yes, Not Responder	25(20.66%)	12(30.00%)	14(35.90%)	0,0373
Yes, Responder	14(11.57%)	4(10.00%)	1(2.56%)	
No, Not Responder	49(40.50%)	17(42.50%)	19(48.72%)	
No, Responder	33(27.27%)	7(17.50%)	5(12.82%)	
Question 21. I think the treatment will reduce anxiety levels.				
Yes, Not Responder	74(61.16%)	29(72.50%)	33(84.62%)	0,0116
Yes, Responder	46(38.02%)	11(27.50%)	6(15.38%)	
No, Not Responder	0(0.00%)	0(0.00%)	0(0.00%)	
No, Responder	1(0.83%)	0(0.00%)	0(0.00%)	
Question 22. I think that will completely get rid of my anxious thoughts.				
Yes, Not Responder	43(35.54%)	14(35.00%)	20(51.28%)	0,0556
Yes, Responder	34(28.10%)	10(25.00%)	5(12.82%)	
No, Not Responder	31(25.62%)	15(37.50%)	13(33.33%)	
No, Responder	13(10.74%)	1(2.50%)	1(2.56%)	
Question 23. I think it will strengthen my resistance to stress.				
Yes, Not Responder	65(53.72%)	28(70.00%)	31(79.49%)	0,0343
Yes, Responder	44(36.36%)	10(25.00%)	6(15.38%)	
No, Not Responder	9(7.44%)	1(2.50%)	2(5.13%)	
No, Responder	3(2.48%)	1(2.50%)	0(0.00%)	
Question 24. I think it will increase my efficiency.				
Yes, Not Responder	63(52.07%)	26(65.00%)	29(74.36%)	0,0487
Yes, Responder	44(36.36%)	11(27.50%)	6(15.38%)	
No, Not Responder	11(9.09%)	3(7.50%)	4(10.26%)	
No, Responder	3(2.48%)	0(0.00%)	0(0.00%)	
Question 25. I think it will improve attention and memory.				
Yes, Not Responder	62(51.24%)	27(67.50%)	32(82.05%)	0,0072
Yes, Responder	41(33.88%)	8(20.00%)	6(15.38%)	



No, Not Responder	12(9.92%)	2(5.00%)	1(2.56%)
No, Responder	6(4.96%)	3(7.50%)	0(0.00%)

Figure 3. The graph of pairs for a questionnaire on the quality of anxiety with a distribution into responders and non–responders, groups of questions by types of anxiety and personal aspects. Horizontally, 0 corresponds to the answer "No" to all questions such as anxiety or personality, and 1 corresponds to the answer "Yes"; the distribution goes beyond (0,1) due to the peculiarities of the construction.

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