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Perspective on shared decision-making for depression and anxiety disorders in clinical practice: a qualitative and quantitative exploration

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Chapter 5

Decision-making and the role of preferences in the treatment of Depression and Anxiety disorders: *A cross-sectional survey in specialized psychiatric care*

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ABSTRACT

Objective: To investigate treatment decision-making and the role of preferences in depression and anxiety disorders in specialized mental health care.

Methods: A survey study among 99 patients attending a specialized outpatient clinic for mood- and anxiety disorders using a two-part questionnaire (pre-post consultation). Part I included pre-consultation questions on the patients' treatment preferences, preferred decisional role, and baseline characteristics (e.g., health literacy, decision-making participation self-efficacy). Part II included post-consultation questions on experienced decisional role, treatment choice made, and aspects of the consultation/decision-making process (e.g., treatment options and -recommendations provided, trust in the clinician, decisional conflict).

Results: Most of the patients (83%) preferred a collaborative or autonomous decisional role, 37% experienced their preferred decisional role. Higher perceived self-efficacy in decision-making participation was associated with a stronger preferred and experienced collaborative decision-making role. An experienced collaborative decision-making role was associated with higher trust in the clinician and less decisional conflict. Treatment choices made were mostly associated with information on treatment options, but also treatment recommendations, and trust in the clinician, but not with patients' a priori treatment preferences. Concordance between treatment preferences and treatment choice was associated with patients' health literacy and self-efficacy.

Conclusions: Treatment decisions seem mostly based on the communication/information provided by the clinician within the consultation. The low concordance between preferred and experienced decision-making role and between treatment preferences and treatment choice, shows room for improvement with respect to collaborative decision-making. Patients' decision-making self-efficacy can be an important target to improve shared deliberation and decision-making.

INTRODUCTION

Depressive and anxiety disorders are highly prevalent in the general population and can cause a high degree of burden on patients and their relatives, as well as high societal costs¹⁻⁴. Selecting the optimal treatment for patients is an important first step in a patients' treatment course.

The recommended treatment options for these disorders are psychotherapy (e.g., Cognitive Behavioral Therapy (CBT)), medication (antidepressants), or a combination of both. Clinical guidelines describe a stepped-care approach that uses the range of these equally effective therapy options, depending on factors such as patient preference, illness severity, first episode or recurrence, and the response to previous treatments⁵⁻⁸.

Complying with the principles of patient-centered care and Evidence Based Medicine (EBM), current clinical guidelines advise clinicians to involve patients in the decisional process, to consider patient preferences, to respect patients' choices and thus to improve therapy adherence and treatment outcome⁵. However, guidelines do not stipulate how the most optimal treatment is selected for or with a patient in clinical practice and how clinicians (and patients) make treatment decisions⁹⁻¹³. Research shows, however that perceived patient involvement is not optimal and that concordance between preferred and experienced decision-making role and between preferred and received treatments is still low in clinical practice¹⁴⁻²⁰. Barriers to patient involvement that have been identified include: poor information exchange between patients and clinicians^{15,18}, patients' lack of self-confidence to engage in a conversation with the clinician about their treatment (decision-making participating self-efficacy), and patients' perceived poor ability to perform basic reading of health care information (health literacy)^{14,17,21-25}.

Research also shows that patients have preferences for involvement in the decision-making process (decisional role preferences) and identifiable treatment preferences^{4,26-34}. Collaborative decision-making, the congruence between preferred and perceived decision-making role, and the congruence between preferred treatment and selected treatment, have been suggested to be associated with higher treatment satisfaction, better treatment adherence, less drop-out from treatment, and consequently better treatment outcomes^{15,35-39}. Furthermore, meeting patients' desires with respect to their preferred decision-making role is associated with higher trust in the therapist and less decisional conflict, i.e. the personal uncertainty about which treatment option to choose^{37,40-42}.

Research on the extent to which clinicians involve their patients in the decision-making process is mainly performed in a heterogenous medical specialist setting^{25,43,44}. Relevant studies performed in mental health care are few, as are studies of determinants of low concordance between preferred and experienced decision-making role and between preferred and received treatments and its impact on patients' experience of the decision-making process (including treatment decisions).

Treatment decision-making in mental health care is a complex process and seems different from other settings^{16,45}. To improve patient involvement in decision-making in mental health care, more insight in the decisional process in this setting is needed.

We used a naturalistic sample of outpatients with depression and/or anxiety disorders in specialist psychiatric care to investigate: the decision-making process underlying treatment decisions in the context of decisions to start or (dis)continue CBT/psychotherapy and/or medication; and the role of treatment- and decision-making preferences in the decisional process. The aims of this study were to explore:

1. Determinants of preferred and experienced decision-making role, and of their concordance, divided over three sub aims:
 - 1.1. Associations of **preferred decision-making role** with baseline patient characteristics (age, gender, patients' health literacy, decision-making participation self-efficacy) and baseline treatment preferences.
 - 1.2. Associations of **experienced decision-making role** with baseline patient characteristics, preferred decision-making role, treatment preferences, and characteristics of the decision-making process (trust in the clinician, and decisional conflict).
 - 1.3. Associations of the **concordance** between preferred and experienced decision-making role with baseline patient characteristics, preferred decision-making role, treatment preferences and characteristics of the decision-making process.
2. Determinants of treatment preferences and treatment choices, and of their concordance, also divided over three sub aims:
 - 2.1. Associations of baseline **treatment preference** with baseline patient characteristics.
 - 2.2. Associations of **treatment choices** with baseline patient characteristics, baseline treatment preferences, provided information (treatment options discussed and treatment recommendations of the clinician during the consultation), and with characteristics of the decision-making process.
 - 2.3. **Concordance** between treatment preferences and treatment-choice and its associations with baseline patient characteristics, provided information, experienced decisional role, and characteristics of the decision-making process.

MATERIALS AND METHODS

Study population and procedure

The study population consisted of adult psychiatric outpatients, aged 18 to 65 years, referred to a secondary care outpatient clinic for mood- and anxiety disorders at the Dutch Mental Health Care Provider GGZ Rivierduinen, between October 2014 and December 2015. Most patients visiting this clinic are referred by their general practitioner for specialized treatment and often received treatment in a primary care setting before referral²⁴. As part of the intake procedure, the clinician determines the primary clinical diagnosis and main focus

of treatment, and discusses treatment options⁴⁶. Patients were informed about the study by the researcher (SR) in the waiting room and were invited to participate. Patients eligible for this study were approached consecutively, until we included a total of 99 patients. All participants provided Informed Consent and were requested to complete a questionnaire (see Measures). The clinician could be a psychiatrist, a resident-in-training supervised by a psychiatrist, or a psychologist/psychotherapist.

The Medical Ethics Committee of the Leiden University Medical Centre (LUMC) approved the current study (P12.003).

Measures

For this survey study, we used a self-report questionnaire booklet, that consisted of two parts, administered before (Part I) and after (Part II) the intake-consultation (before treatment started). Variables were selected based on the results of a previous qualitative focus group study on this topic in a similar population^{24,47} and on relevant literature^{17,48}.

Part I of the questionnaire measured baseline patient characteristics (gender, age, Health Literacy [Set of Brief Screening Questions (SBSQ)]²², Self-efficacy in participating in decision-making [Decision Making Participating Self-Efficacy Scale (DEPS: “process” and “decision-making” scales)]²¹, Preferred decision-making role [Control Preference Scale (*CPSpre*)]³⁰ and Treatment Preference (CBT/Psychotherapy vs Medication, Combination vs CBT/Psychotherapy, Combination vs Medication, No Preference).

Part II of the questionnaire measured characteristics of the decision-making process (Trust in the clinician [Wake Forest Trust Scale (WF-D)]⁴⁹, Decisional Conflict [Decisional Conflict Scale (DCS)]^{42,50,51}, Experienced decision-making role [Modified Control Preference Scale (*CPSpost*)], Provided Information (Treatment Options Discussed and Treatment recommendations/advice of the clinician during the consultation), and Treatment Choice. Treatment Options discussed and Treatment choices were CBT/Psychotherapy, Combination, Medication, None. See Box S1 in the Supplemental Materials for more detailed information on the instruments.

Statistical analyses

Data are presented as *N* (%) or Mean ($\pm$ SD), as appropriate. For the analyses, answering categories of the *CPSpre* and *CPSpost* were recoded into three categories regarding decision-making role: “Patient’s decision” (active), “Shared decision” (collaborative), and “Clinician’s decision” (passive)^{14,52}. Concordance between preferred - and experienced decision-making role and Concordance between treatment-preference and treatment choice were only computed for patients who had a preference and for/with whom a treatment decision was made, respectively.

1. Baseline characteristics of patients were compared between the answering categories - “active”, “collaborative”, “passive”- for preferred (1.1) and experienced (1.2) decision-making role and answering categories -“yes/no”- for decisional role concordance (1.3).

Chi-square tests and univariable logistic (binary or multinomial) regression analyses were used to analyze associations of: preferred decision-making role with preferred treatment (1.1); experienced decision-making role with preferred decision-making role, preferred treatment, trust in the clinician and decisional conflict (1.2); decisional role concordance with preferred decision-making role, preferred treatment, trust in the clinician and decisional conflict (1.3).

2) Baseline characteristics of patients were compared between the answering categories, -“CBT/psychotherapy”, “Combination”, “Medication”, “no preference/no decision- for treatment preference (2.1) and treatment choice (2.2) and between the answering categories -“yes/no”- for treatment choice concordance (2.3). Chi-square tests and univariable and (binary or multinomial) logistic regression analyses were used to analyze associations of treatment choices with: preferred treatment, treatment options discussed, treatment advice, trust in the clinician, and decisional conflict (2.2); and of treatment choice concordance with: experienced decision-making, treatment options discussed, treatment recommendation/advice, trust in the clinician, and decisional conflict (2.3). Statistical analyses were performed using IBM SPSS Statistics Version 26.0⁵³.

RESULTS

Part I. Pre-consultation patient characteristics and preferences.

Results of the pre-consultation measurements are shown in Table S1 and Box S1 provides information for the interpretation, see Supplemental Materials. The mean age of participants was 35,5 years (SD=13.5), range 18-63 years and 54% were female. Mean Health Literacy was 2.40 (0.5), range 0.7 – 3.3, and mean Decision-making participating Self-efficacy (in short Self-efficacy) was 76.6 (12.2), range 40 -100 Most patients (47%) preferred a collaborative decision-making role, 36% preferred an active role, and 13% preferred a passive role. Most patients preferred Combination therapy (42%) or CBT/psychotherapy (34%), 6% preferred Medication, and 10% had no (clear) treatment preference.

Part II. Post-consultation provided information, characteristics of the consultation, decision-making process, experienced roles, and treatment choices.

Results of the post-consultation measurements are shown in Table S2, see Supplemental Materials. Seventy-seven patients (77%) completed Part II of the questionnaire. Reason for not completing was a lack of energy or motivation after the (long) consultation (intake procedure) in combination with the length and/or difficulty of the second part of the questionnaire.

Regarding experienced involvement in the decision-making, patients mostly experienced: a passive role (41%) or a collaborative role (40%), followed by an active role (19%).

Regarding treatment options discussed with and provided treatment recommendations by the clinician during the consultation, patients discussed: "Combination therapy" (30%), "CBT/Psychotherapy" (20%), "Medication only" (16%), "No treatment options" (13%), "Medication only and CBT/Psychotherapy separately" (12%), "All treatment options" (7%), "Medication only and combination separately" (1%) or "CBT/Psychotherapy only and combination separately" (1%). Patients were recommended "CBT/psychotherapy" (32%), followed by "Combination therapy" (29%) and "Medication" (20%).

Regarding treatment choices, selected treatments were: "CBT/psychotherapy" (28%), "Combination" (22%), "Medication" (16%), "Another treatment" (12%) or no decision was made yet (22%).

On average, patients reported medium trust in the clinician (in short Trust) (Mean = 3.4 (SD=0.57)) and reported little decisional conflict (Mean = 35.4 (SD = 13.82)).

Preferred and Experienced decision-making roles, Concordance, and associated variables (1)

Table 1 shows associations of Preferred and Experienced decision-making role with baseline patient characteristics and experienced decision-making role with characteristics of the decision-making process. No significant associations were found between patients' preferred decision-making roles and patient characteristics (age, gender, Health Literacy, Self-efficacy), except for Self-efficacy ($\chi^2=10.86$, $p<.01$), with highest scores for patients preferring an active role, and lowest for patients preferring a passive role. No significant associations were found between patients' experienced decision-making roles and patient characteristics, except again for Self-efficacy ($\chi^2=7.60$, $p<.05$), with highest scores for an experienced active role, and lowest for a passive role.

Experienced decision-making roles were significantly associated with trust ($\chi^2= 13.38$, $p<.01$) and decisional conflict ($\chi^2= 8.61$, $p<.05$). The highest trust scores were seen for a collaborative experienced decision-making role, the lowest for a passive role. The highest decisional conflict score was seen for a passive role.

Concordance of preferred-decision-making-role-with-experienced-decision-making-role was 37%. Most of the discordance occurred in the cases that patients experienced a passive role.

Table 2 shows associations of Concordance of Preferred and Experienced decision-making roles with baseline patient characteristics and characteristics of the decision-making process. No significant associations were found.

Table 1 Baseline patient characteristics by Preferred Decision-making role*. [1.1]
Baseline patient characteristics and decision-making characteristics by Experienced Decision-making role*. [1.2]

PATIENT CHARACTERISTICS		Preferred Decision-making role (N=95, missing 4**)				Experienced Decision-making role (N=75, missing 24**)					
		Active	Collaborative	Passive	X ²	p	Active	Collaborative	Passive	X ²	p
Gender (N [*])											
male		18	16	5	1.51	0.47	10	16	12	3.45	0.18
female		18	28	7			4	14	17		
Age (Mean (SD))		36.4 (12.2)	34.5 (14.3)	32.5 (4.0)	0.92	0.63	34.1 (13.0)	34.9 (14.3)	34.7 (13.3)	0.03	0.99
Health Literacy ¹ (Mean (SD))		2.4 (0.4)	2.4 (0.5)	2.3 (0.4)	0.44	0.80	2.4 (0.5)	2.4 (0.5)	2.4 (0.4)	0.63	0.73
Self-efficacy ² (Mean (SD))		76.0 (13.4)	76.6 (11.8)	76.4 (12.0)	0.09	0.96	74.9 (12.4)	77.4 (10.6)	74.3 (13.0)	1.11	0.57
DEPS process		68.1 (17.1)	71.3 (14.9)	75.0 (16.4)	2.23	0.33	67.0 (14.6)	71.6 (14.0)	68.8 (16.8)	1.01	0.61
DEPS decision		75.0 (17.9)	68.5 (19.2)	52.5 (21.9)	10.86	<0.01	75.0 (21.9)	72.4 (18.1)	60.8 (18.2)	7.60	<0.05
PREFERENCES											
Role preference ³ (N)										9.12	0.06
active							8	13	6		
collaborative							6	13	17		
passive							0	3	7		
Treatment Preference (N)					5.75	.452				4.13	.659
CBT/psych.		17	13	4			5	11	10		
combination		13	21	7			5	11	16		
medication		3	3	0			2	1	1		
no. pref		3	9	2			2	6	4		
DECISION-MAKING CHARACTERISTICS											
Trust ⁴ (Mean (SD))							3.5 (0.3)	3.6 (0.4)	3.1 (0.7)	13.38	<0.01
Decisional Conflict ⁵ (Mean (SD))							29.9 (10.7)	32.3 (12.9)	41.1 (14.4)	8.61	<0.05

*Using Chi-square and univariable multinomial regression analyses. **Missing values may vary in combination with different variables.

¹Set of Brief Screening Questions (SBSQ), ²Decision-making Participation Self-efficacy (DEPS), ³Control preference scale (CPSpre), ⁴Wake Forest Trust Scale (WF-D), ⁵Decisional Conflict Scale (DCS).

Table 2 Associations with Decisional Role Concordance* (using univariable binary logistic analyses). [1.3]

BASELINE CHARACTERISTICS	Concordance preferred – experienced decision-making role (N=73)*		
	Univariable Analyses		
	OR	95% CL	p
<i>male</i>	1.10	0.43 - 2.84	0.84
<i>female (ref)</i>			
Age	0.97	0.94 - 1.01	0.16
Health Literacy¹	0.38	0.12 - 1.15	0.09
Self – Efficacy²	0.99	0.96 - 1.04	0.92
<i>DEPS process</i>	1.00	0.97 - 1.03	0.88
<i>DEPS decision</i>	0.88	0.97 - 1.02	0.68
PREFERENCES			
Treatment preference			
<i>psych</i>	0.53	0.13 - 2.13	0.37
<i>med.</i>	1.00	0.10 - 9.61	1.00
<i>combi</i>	0.52	0.14 - 2.01	0.35
<i>no pref. (ref)</i>			
DECISION-MAKING CHARACTERISTICS			
Trust in clinician⁴	1.62	0.66 - 3.98	0.29
Decisional Conflict⁵	0.98	0.94 - 1.01	0.20

* Concordance was calculated with only the patients with a preferred and experienced decision-making role (N=73).

¹ Set of Brief Screening Questions (SBSQ), ²Decision-making Participation Self-efficacy (DEPS), ³Control preference scale (CPSpre),

⁴ Wake Forest Trust Scale (WF-D), ⁵Decisional Conflict Scale (DCS).

Preferred Treatment, Treatment Choices, Concordance, and associated variables (2)

Table 3 shows associations of treatment preferences with baseline characteristics, and associations of treatment choices with baseline characteristics, provided information and decision-making characteristics. Analyses showed no associations of baseline characteristics (age, gender, Health Literacy, Self-efficacy) with treatment preferences or treatment choices. Associations were found for treatment choices with treatment options discussed ($\chi^2= 96.98$, $p<.001$) and TA ($\chi^2= 131.71$, $p<.001$), with most patients receiving the treatment that was discussed/recommended. Also, associations were found for the decision-making characteristic trust ($\chi^2= 11.8$, $p<.01$), with lowest trust scores for patients receiving combination therapy.

Concordance could only be calculated for patient with an identifiable a priori treatment preference and if a treatment choice was made. In 23 patients (57%), treatment preferences

and treatment choices were concordant ($N=40$). Disconcordance was highest when the resulting treatment choice was “Medication”.

Table 4 shows associations of concordance between treatment-preferences-and-treatment-choice with baseline patient characteristics and with characteristics of the decision-making with. Associations were found for Health Literacy ($OR= 7.06, p<.05$) and Self-efficacy ($OR= 1.04, p<.05$): patients with high Health Literacy scores and patients that scored high on the DEPS were more likely to receive their preferred treatment (concordance between treatment-preferences-and-treatment-choice).

Table 3 Baseline patient characteristics by Treatment Preferences^{*}: [2.1]
Baseline patient characteristics provided information and decision-making characteristics by Treatment Choices^{*}: [2.2]

PATIENT CHARACTERISTICS	Treatment Preferences (N=96)**				Treatment Choices (N=67)**							
	CBT/Psych.	Comb.	Med.	No pref.	X ²	p	CBT/Psych	Comb.	Med.	No dec.	X ²	p
Gender (N)					2.32	0.51					2.77	0.43
male	15	15	4	6			8	7	7	10		
female	19	26	2	6			13	9	4	7		
Age (Mean (SD))	33.3 (11.6)	35.7 (14.9)	35.2 (11.1)	36.4 (14.4)	0.83	0.84	32.9 (11.3)	33.8 (14.8)	40.8 (10.7)	34.8 (15.4)	2.52	0.47
Health Literacy ¹ (Mean (SD))	2.4 (0.4)	2.4 (0.4)	2.2 (0.5)	2.4 (0.7)	1.42	0.70	2.4 (0.6)	2.5 (0.3)	2.3 (0.5)	2.4 (0.4)	2.15	0.54
Decision-making Participation Self-efficacy ² (Mean (SD))	76.9 (14.7)	75.3 (11.3)	80.7 (8.5)	77.9 (9.3)	1.35	0.71	75.8 (12.2)	76.0 (12.7)	75.3 (13.8)	77.2 (9.0)	0.22	0.98
DEPS process	71.1 (18.2)	69.4 (15.0)	76.0 (10.8)	72.8 (13.1)	1.33	0.72	68.45(16.7)	69.92(16.7)	70.31(16.7)	72.4 (11.1)	0.68	0.88
DEPS decision	71.3 (23.9)	66.1 (18.2)	75.0 (15.8)	69.2 (15.0)	1.99	0.58	70.23(15.0)	70.00(19.4)	64.6(24.9)	67.7 (23.0)	0.75	0.86
PREFERENCES												
Treatment Preferences ³											13.26	.15
CBT/psychotherapy							10	1	4	6		
combination							8	11	3	7		
medication							1	0	2	1		
no preference							2	4	3	3		

PROVIDED INFORMATION

Treatment Options Discussed

CBT/psychotherapy
medication
combination
psych.& med.
psych. & combi
combi. & med.
all
none

11	0	0	0	3	96.98	<.001
0	1	9	0	0		
4	13	0	0	4		
5	0	2	2	2		
0	1	0	0	0		
0	0	1	0	0		
1	2	0	0	1		
0	0	0	0	7		

Treatment Advice

CBT/psychotherapy
combination
medication
no advice
none/else

21	0	0	0	2	131.71	<.001
0	15	1	1	4		
0	2	11	1	1		
0	0	0	0	9		

Trust⁴ (Mean (SD))

3.5 (0.3)	3.0 (0.8)	3.6 (0.1)	3.6 (0.5)	11.8	<0.01
33.8 (10.5)	38.4 (13.1)	27.1 (17.1)	38.9 (11.9)	6.86	0.08

Decisional Conflict⁵ (Mean (SD))

⁵Using Chi-square analyses and univariable multinomial regression analyses. ⁶Missing values may vary due to the combination of variables.

¹Set of Brief Screening Questions (SBSQ), ²Decision-making Participation Self-efficacy (DEPS), ³Control preference scale (CPSpre), ⁴Wake Forest Trust Scale (WF-D), ⁴Decisional Conflict Scale (DCS).

Table 4 Associations with Concordance of treatment preference and choice (using univariable binary logistic analyses). [2.3]

BASELINE CHARACTERISTICS, PREFERRED TREATMENT, EXPERIENCED ROLE & DECISION-MAKING CHARACTERISTICS	Concordance treatment preferences – treatment choices (N=40) *		
	OR	Univariable Analyses 95% CL	p
Gender	0.57	0.16-2.03	0.39
Age	0.96	0.91-1.01	0.15
Health Literacy¹	7.06	1.10-45.34	<0.05
Self – Efficacy²	1.03	0.98-1.08	0.29
<i>DEPS process</i>	1.02	0.98-1.06	0.36
<i>DEPS decision</i>	1.04	1.00-1.08	<0.05
Preferred treatment			
<i>psych</i>	2.00	0.51 – 7.80	0.32
<i>Med.</i>	2.00	0.16 – 25.40	0.59
<i>Combi (ref.)</i>			
Experienced decisional role ³			
<i>active</i>	1.67	0.29 – 9.71	0.57
<i>collaborate</i>	3.44	0.79 – 15.02	0.10
<i>passive (ref.)</i>			
Trust in clinician⁴	0.60	0.19-1.87	0.38
Decisional Conflict⁵	0.97	0.92-1.02	0.25

* Concordance was calculated with only the patients with a defined treatment preference and treatment decision (N=40).

¹ Set of Brief Screening Questions (SBSQ), ²Decision-making Participation Self-efficacy (DEPS), ³ Modified Control preference scale (CPSpost), ⁴Wake Forest Trust Scale (WF-D), ⁵Decisional Conflict Scale (DCS).

DISCUSSION

To our knowledge, this study is the first to investigate treatment- and decision-making preferences in relation to experienced decision-making role and actual treatment choices, measured before and after the intake-consultation, in the context of decisions to start (or (dis)continue) treatment for depression and anxiety disorders in an adult patient group in specialist mental health care. Our study shows that most patients preferred a collaborative decision-making role, and that they were confident about their ability to understand medical information and to engage in a conversation with their clinician. An experienced collaborative decision-making role was associated with trust in the clinician and less decisional conflict. Yet, many patients experienced a passive decision-making role, i.e., the decision was made by the clinician alone. Additionally, our study shows that patients have a priori treatment preferences. Treatment choices seemed mostly according to clinical guideline recommendations and were not significantly influenced by patients' a priori treatment preferences. Furthermore, treatment choice was only associated with the information provided by the clinician during the intake-consultation, i.e., treatment options and treatment recommendation. These findings reflect the substantial role that clinicians have in the treatment decision-making process.

Our findings support the results of a previous qualitative study on shared decision-making we conducted in the same setting²⁴, which found that most patients and clinicians want to engage in collaborative decision-making but its implementation in daily practice remains challenging. According to both patients and clinicians in that study, collaborative decision-making required a good patient-clinician relation, having treatment options, and patients to have the capacity to understand information and make treatment decisions. Our previous findings on treatment selection in the same setting⁴⁷ indicated that treatment choices were explained not so much by patient characteristics but by clinical factors (i.e. symptom severity and previous experiences/prescriptions), indicating that clinicians' professional preferences played an important role in treatment selection. By providing selective information on treatment options, clinicians can also (unintentionally) steer the decision in the direction of their treatment advice^{16,47,54,55}.

The concordance between preferred and experienced decision-making role and between treatment preferences and treatment choice was poor in our study. Concordance of decisional roles was reported in less than half of the cases. Concordance of treatment preferences with treatment choices was seen in approximately 6 out of 10 cases, mostly in patients with higher perceived ability to understand medical information and to take responsibility for the treatment decision, which may also reflect assertiveness and prior knowledge of or experience with the available treatment options.

These findings regarding concordance of preferred and experienced decision-making role are partly consistent with other studies^{20,44}, including a study in an outpatient psychiatric care setting³². In most studies, patients also preferred a collaborative decision-making role,

but they often experienced less involvement^{32,48}. De las Cuevas et al.³² found that patients least preferred an active role (patient decides alone), as opposed to our finding that patients want an active or collaborate role and least preferred a passive role (clinician decides). This could possibly be explained by population differences between studies and the fact that De las Cuevas et al.⁽³²⁾ did not study the a priori preferences and the consultation directly. Moreover, they included patients with different psychiatric disorders and found that diagnosis influenced concordance²⁰.

In our study, patients who wanted an active role were less likely to get what they preferred. This could mean that decisional role concordance has more to do with the patient's role preferences matching the decision-making style of the clinician instead of the other way around, i.e., the clinician actually adapting his decision-making style to the wish of the patient. Driever et. al. ((2022) found that clinicians' self-reported usual decision-making style in different secondary care settings was not associated with the (actual) observed patient involvement. Also, clinicians tend to overestimate the extent to which they apply shared decision-making⁴³. Concordance between preferred and chosen treatment was associated with patients' self-efficacy pre-consultation. This seems to imply that patients who believe that their own behavior can influence outcome, seek a collaborative role which may in turn influence the clinician's acceptance of this collaboration, as seen by de las Cuevas³². Self-efficacy was found to be a precondition for shared decision-making from a clinicians' perspective²⁴. Clinicians' often revert to paternalistic decision-making, because of their perception that patients are incapable of making the decision²⁵. The severity of the illness and associated symptoms, such as doubting and indecisiveness, can influence this perception. The willingness/attitude of patients to take responsibility for their treatment might influence the way clinicians evaluate the patient's decision-making capacity in a positive way and motivate clinicians to accept patients' treatment preferences as an appropriate treatment option. Thus, become more receptive towards patients' preferences. A strength of the present study is that we used data from a naturalistic treatment-seeking patient population in a secondary mental health care setting, measured before and after the intake consultation. In addition, we were able to measure several variables that are important in treatment decision-making according to previous qualitative research in the same setting.

There are also limitations. First, our study population was relatively small given the number of variables we examined, resulting in small subgroups for analyses. Some of our outcome variables consisted of three or more categories, which resulted in low frequencies in some cells. This explains the wide confidence intervals, and therefore some outcomes should be interpreted with caution. Moreover, concordance between choice and preference could only be determined in less than half of the patients, due to missing values and because the treatment decision had not been made yet in one in five patients. Also, 20% of the patients did not complete the second part of our questionnaire, which could have biased our results (e.g., these patients might have had more severe symptoms, or were less assertive).

However, post hoc analyses to compare pre- and post- consultation groups did not reveal significant differences. Second, due to our study design, we don't know whether our findings are generalizable to another health care setting. Nor is it possible to draw conclusions on causal relationships regarding provided information and decision-making characteristics (measured post-consultation). Third, information on clinical factors (e.g., diagnosis, illness severity, treatment history) and clinician characteristics was not available. As a result, we do not know for certain if and how these factors influenced treatment decision-making. Fourth, our data were collected in 2014–2015 and our findings may be somewhat outdated. However, until this date no additional research on the specific topic (and population) of our study has been published. From recent research in the Netherlands, we know that the situation regarding collaborative decision-making has not changed much. Studies on shared decision making and patient involvement in different settings show that patient involvement is still limited in clinical practice, and that care is rarely adjusted to patient preferences^{15,25,43,44,56,57}. Therefore, our results can make a valuable contribution to patient involvement and (shared) decision-making in mental health care.

CONCLUSION

In conclusion, this study highlights that patients' decision-making role- and treatment preferences are rarely incorporated in the treatment decision-making process in an outpatient mental health care setting. Our study indicates that in patients with higher health literacy and higher self-efficacy, treatment decisions are more often shared. Therefore, patients' self-efficacy regarding decision-making participation may be an important factor in improving collaborative deliberation and decision-making in a mental health setting. This study also underlines the importance of targeting clinicians' communication and (shared) decision-making skills to improve the implementation of collaborative treatment decision-making in clinical practice in this setting.

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SUPPLEMENTARY MATERIAL

Measures

For this survey study, we used a self-report questionnaire booklet, that consisted of two parts, administered before (Part I) and after (Part II) the intake-consultation (before treatment started).

The following widely used (validated) questionnaires were included to measure:

Health Literacy, the Set of Brief Screening Questions [SBSQ]

Self-efficacy in participating in decision-making, the Decision Making Participating Self-Efficacy Scale [DEPS], divided into two dimensions: “process” and “decision-making” scales]

Preferred decision-making role, the Control Preference Scale [*CPSpre*]

Trust in the clinician, the Wake Forest Trust Scale [WF-D]⁴⁹

Decisional Conflict, the Decisional Conflict Scale [DCS]

Experienced decision-making role, the Modified Control Preference Scale [*CPSpost*]

Box S1 provides more detailed information on the instruments used in this survey, including references of the original scales.

RESULTS

Table S1 shows the results of the pre-consultation measurements, consisting of baseline patient characteristics of N=99 participants, i.e., gender, age, Health Literacy, and decision-making self-efficacy and patients’ preferences regarding their decision-making role and treatment modality. For some variables categories were calculated.

Table S2 shows the results of the post-consultation measurements of N=77 participants consisting of provided information (i.e., treatment options discussed and treatment recommendation from the clinician) and characteristics of the consultation (i.e. trust in the clinician and decisional conflict, experienced decision-making role and selected treatment (treatment choices)).

Box S1 Overview of (validated) instruments included in the questionnaire booklet.

Instrument	Measure	Items	Scale	Score
<i>PART I pre-consultation</i>				
SBSQ	Health Literacy Set of Brief Screening Questions(1)	perceived level of Health Literacy	3	5-point Likert scale from 0 to 4. An average score of two indicates “inadequate health literacy”, and a score higher than two indicates “adequate health literacy”
DEPS	Decision Making Participating Self-efficacy Scale(2)	self-confidence to engage in a conversation with the clinician about their treatment	5	5 response options “not at all” to “completely” confident A higher score indicates higher self-confidence. Two separate indicators of self-efficacy: participating in the deliberation process (items 1–4) and taking responsibility for the final decision (item 5) were also created.
CPS	Control Preferences Scale(3)	preferred decision-making role	1	5-point Likert scale, with different roles “patient alone” to “clinician alone” categorical
<i>PART II post-consultation</i>				
CPSpost	Modified Control Preference Scale(4)	experienced decision-making role	1	5-point Likert scale, with different roles “patient alone” to “clinician alone” categorical
DCS	Decisional Conflict Scale(5–7)	uncertainty about which option to choose	16	5-point Likert scale, “completely agree” to “completely disagree” Scores under 25 (no to little DC), from 25 up to and including 37.5 (some degree of DC), and scores higher than 37.5 (clinically significant or high degree of DC).
WF-D	Wake Forest Physician Trust Scale(8)	trust in their clinician	10	5-point Likert scale “totally agree” to “totally disagree” A higher score indicates more trust. Mean score

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Table S1 Pre-consultation measurements (N=99): Baseline patient characteristics & preferences.

PART I PRE-CONSULTATION MEASUREMENTS (N= 99)			
Patient Characteristics & Preferences		N (%) / M(SD)	Categories
Gender N (%)		N (%)	
Age	male	53 (54%)	
	female	43 (43%)	
	Mean (SD) Range	35,5 (13,5) 18-63	
		Age cat.*	
		1. <26 yrs	33 (33.3%)
		2. 26-40 yrs	28 (28.3 %)
		3. >40yrs	33 (33.3%)
Health Literacy [SBSQ] ¹		HL cat.* (adequacy)	
	Mean (SD)	2,40 (0,5)	adequate 71 (71,7%)
	Range	0,7 – 3,3	inadequate 24 (24,2%)
Decision-making Participation Self-efficacy [DEPS] ²			
Process	Mean (SD)	76,6 (12,2)	
	Range	40 – 100	
	Mean (SD) range	70.9 (15,7) 25-100	
Decision	Mean (SD)	68,9 (19,9)	
	range	25-100	

Categorised variable of Age, Health Literacy, Preferred decision-making role, Treatment preferences, respectively.

Set of Brief Screening Questions (SBSQ).² Decision-making Participation Self-efficacy (DEPS),³ Control preference scale (CPSpre).⁴ Categorical variable of Age, Health Literacy, Preferred decision-making role, Treatment preferences, respectively.

Table S2 Post-consultation measurements (N=77, 22 missing): Provided Information and characteristics of the decision-making process.

PART II POST-CONSULTATION MEASUREMENTS (N=77, missing N=22*)	
Provided information	N (valid %) / M (SD)
Treatment options discussed	
CBT/psychotherapy medication combination	15 (19.7%)
medication and psychotherapy/CBT separately	12 (15.8%)
psychotherapy and combination separately	23 (30.3%)
medication and combination separately	9 (11.8%)
all options separately	1 (1.3%)
none	1 (1.3%)
(missing N=23)	5 (6.6%)
10 (13.2%)	
Treatment Recommendation from clinician	
medication	15 (19.7%)
CBT/psychotherapy/combination	24 (31.6%)
no advice	22 (28.9%)
other	10 (13.2%)
(Missing N=23)	5 (6.6%)
Decision-making characteristics	M (SD)
Experienced DM role [CPS_{post}]¹	
A- I made the decision myself	9 (11.8%)
B- I made the final decision after seriously considering my clinician's opinion	5 (6.6%)
C- My clinician and I made the decision together	30 (39.5%)
D- My clinician made the final decision, but seriously considered my opinion	17 (22.4%)
E- My clinician made the decision	14 (18.4%)
(Missing N=24)	
CPS_{post} cat.²	
active	14 (18.7%)
collaborative	30 (40.0%)
passive	31 (41.3%)
Concordance³ CPS_{Spre} – CPS_{post}	
yes	28 (37.3%)

Treatment Choices

medication
CBT/psychotherapy
combination
no decision
other
(Missing N=23)

12 (15.8%)
21 (27.6%)
17 (22.4%)
17 (22.4%)
9 (11.7%)

Concordance TC – Tp^d 23 (57%)^{**}

Trust in physician [WF-D]⁵

Mean (SD)
Range
(Missing N=23)

3,4 (0,57)
1,4 – 4,4

Decisional Conflict [DCS]⁶

Mean + SD
Range
(Missing N=32)

35,4 (13.82)
1,6 - 68,8

^{*} seventy-seven patients completed part II of the questionnaire. ^{**} concordance was calculated with only the cases that had a clear preference and a decision was made (N=40).
¹Modified control preference scale (CPSpost), ²Categorical variable of experienced decision-making role and preferred decision-making role respectively, ³Computed variable concordance of preferred and experienced decision-making, ⁴ Computed variable concordance of treatment choice with preferred treatment, ⁵Wake Forest Trust Scale (WF-D), ⁶Decisional Conflict Scale (DCS).

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