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Table DS1. Overlap of individual PRO definitions with definitions of other PROs.

PRO / Reference	Definition	Concepts	Overlap			
			Treatment satisfaction	Subjective quality of life	Needs for care	Therapeutic relationship
<i>Treatment satisfaction</i>						
Ware et al. ¹⁵ : p. 247	"...a personal evaluation of health care services and providers."	Multidimensional satisfaction		+	+	+++
Ruggeri et al. ¹⁶ : p. 265	"...the effect of various factors such as subjects' previous experience with services, their attitudes toward life, self-esteem and illness behaviour."	Multidimensional satisfaction		+	++	+
<i>Subjective quality of life</i>						
Zautra & Goodhard ²⁷ : p. 4	"Essentially quality of life pertains to the 'goodness of life.' We will take the view that this 'goodness' resides in the quality of the life experience, both as subjectively evaluated and as objectively determined by an assessment of external conditions."	Life satisfaction	-		-	-
Bigelow et al. ⁸⁵ : p. 349	"...the social and environmental conditions required to fill basic human needs."	Role functioning	+		+++	+
Clare et al. ²⁸ : p. 325	"...the degree of personal satisfaction which he [i.e. the patient] derives from his role performance."	Role functioning	-		+	+
Lehman ³¹ : p. 52	"...the experience of general well-being as a product of personal characteristics, objective life conditions in various life domains, and satisfaction with life conditions in these various domains."	Life satisfaction	+		+	+
WHOQOL Group ⁸⁶ : p. 1403	"...an individual's perception of their position in life in the context of the culture and value systems in which they live and in relation to their goals, expectations, standards and concerns."	Hybrid satisfaction / role functioning	+		++	+
Hachey & Mercier ⁸⁷ : p. 2	"...is represented by an understanding of patients' needs and the impact of services on their life."	Competency	+++		+++	++

Note: Degree of overlap: very strong (+++), strong (++), moderate (+), none (-)

Table DS1 (cont.)

PRO / Reference	Definition	Concepts	Overlap			
			Treatment satisfaction	Subjective quality of life	Needs for care	Therapeutic relationship
<i>Subjective quality of life</i>						
Sintonen ⁸⁸ : p. 328	“...a multidimensional concept that encompasses the physical, emotional and social components associated with illness or treatment	Health-related quality of life	+++		++	++
Prieto et al. ³⁵ : p. 24	“...encompasses the entire range of human experience, including cultural, physical, psychological, interpersonal, spiritual, financial, political and temporal dimensions.”	Health-related quality of life	+		++	++
Priebe ⁸⁹ : p. 17	“...represents the person’s appraisal of their objective life conditions, mostly captured by rating scales of satisfaction with life domains and life as a whole.”	Life satisfaction	+		+	+
<i>Needs for care</i>						
Department of Health Social Services Inspectorate ²⁹ : p. 10	“...the requirement of individuals to achieve, maintain or restore an acceptable level of social independence or quality of life, as defined by the particular care agency or authority.”	Supply	–	+++		–
Stevens & Gabbay ²⁴ : p. 21	“The ability to benefit in some way from health care.”	Supply	++	++		+
Phelan et al. ¹⁷ : p. 589	“For people with a severe mental illness it is appropriate to expand this definition [i.e. from Stevens & Gabbay ²⁴ : p. 20, see above] to include social care as well as health care.”	Supply	++	++		+
Phelan et al. ¹⁷ : p. 590	“...a subjective concept, accepting that frequently there will be differing, but equally valid perceptions about the presence or absence of a specific need (Slade, 1994).”	Perceived need	–	++		–

Note: Degree of overlap: very strong (+++), strong (++), moderate (+), none (–)

Table DS1 (cont.)

PRO / Reference	Definition	Concepts	Overlap			
			<i>Treatment satisfaction</i>	<i>Subjective quality of life</i>	<i>Needs for care</i>	<i>Therapeutic relationship</i>
<i>Therapeutic relationship</i>						
Freud ²¹ : p.139	“...the first aim of treatment is to attach the person of the patient to the person of the therapist.”	Therapeutic alliance	+	–	–	
Sterba ²² : p. 119	“...the need for an alliance between the patient’s mature ego functioning and the working style of the therapist.”	Working alliance	+	+	–	
Bordin ¹⁸ : p. 253	“...makes it possible for the patient to accept and follow treatment faithfully.”	Pantheoretical	+	–	–	
Pinsof & Catherall ²⁰ : p. 139	“...that aspect of the relationship between the therapist system and the patient system that pertains to their capacity to mutually invest in, and collaborate on, the therapy.”	Systemic	+	–	–	
Priebe & Gruyters ¹⁹ : p. 552	“...the degree to which the patient experiences therapist and therapy as positive and helpful.”	Rogerian	++	+	+	

Note: Degree of overlap: very strong (+++), strong (++), moderate (+), none (–)

Table DS2. Characteristics and psychometric properties of measures to assess treatment satisfaction.

Instrument	Concept to be measured	Type	Content of domains^a	Response options	Number of items	Completion time, min	Psychometric properties assessed
Patient Satisfaction Questionnaire (PSQ) ⁹⁰	Not reported	Generic	Not reported	Likert scale	9	6	Discriminant validity ⁴⁴ , concurrent validity ⁹¹
Client Satisfaction Questionnaire (CSQ) ⁹²⁻⁹⁶	Not reported	Generic	Physical surroundings, support staff, kind/type of service, treatment staff, quality of service, quantity of service, outcome of service, procedures	Likert scale	3, 8, 18, 31	5-25 (depending on the version)	Internal consistency ^{92,93,95-97} , structural validity ^{92,97} , discriminant validity ⁴⁴ , concurrent validity ^{92,93}
Verona Service Satisfaction Scale (VSSS) ^{16,98-100}	Multidimensional satisfaction ^{15,16}	Generic and treatment-specific parts	Professionals' skills and behaviours, information, access, efficacy, types of intervention, relatives' involvement	Likert scale	32, 54, 82	25-40 (depending on the version)	Internal consistency ^{98, 100} , test-retest reliability ¹⁰⁰ , content validity ^{16,100,101} , structural validity ⁹⁹
Lund Patient Satisfaction Questionnaire (LPSQ) ¹⁰²	Not reported	Generic and treatment-specific parts	Qualities of the staff-patient relationship, ward atmosphere, information about illness and treatment, satisfaction with different types of treatments, qualities of treatment programme, restrictions and compulsory care, accessibility and availability	Likert scale	35, 48	30-40 (depending on the version)	Internal consistency ¹⁰² , content validity ¹⁰²

Table DS2 (cont.)

Instrument	Concept to be measured	Type	Content of domains^a	Response options	Number of items	Completion time, min	Psychometric properties assessed
Client Assessment of Treatment scale (CAT) ¹⁰³	Not reported	Generic and treatment-specific parts	Not reported	Visual analogue scale	7	5	Cross-cultural validity ¹⁰⁴ , predictive validity ¹⁰⁵
Psychiatric Care Satisfaction Questionnaire (PCSQ) ^{106,107}	Multidimensional satisfaction ^{15,16}	Generic	Views of general quality of service, attitudes towards psychiatric doctors in terms of professional qualities and competence, approach and personal qualities, communication and explanation, availability and convenience of contact	Likert scale	18	Not reported	Internal consistency ¹⁰⁷ , test-retest reliability ¹⁰⁷ , content validity ¹⁰⁷ , convergent validity ¹⁰⁷
Satisfaction with Antipsychotic Medication (SWAM) ¹⁰⁸	Not reported	Treatment-specific	Treatment acceptability, medication insight	Likert scale	2	Not reported	Internal consistency ¹⁰⁸ , structural validity on domain scores ¹⁰⁸
Medication Satisfaction Questionnaire (MSQ) ¹⁰⁹	Not reported	Treatment-specific	None	Likert scale	1	1	Test-retest reliability ¹⁰⁹ , convergent validity ¹⁰⁹ , concurrent validity ¹⁰⁹

^a Overlap in content of domains with measures intended to assess different PRO concepts:

Treatment satisfaction and SQOL: VSSS and CSQ domains overlap with QLQ, QOLI, LQOLP, and SQLS domains

Treatment satisfaction and needs: VSSS and LPSQ domains overlap with CAN and PNCQ domains

Treatment satisfaction and therapeutic relationship: CSQ, VSSS and LPSQ domains overlap with STAR, HAS, WAI, and TAS domains

Table DS3. Characteristics and psychometric properties of measures to assess SQOL.

Instrument	Concept to be measured	Type	Content of domains^a	Response options	Number of items	Completion time, min	Psychometric properties assessed
Social Maladjustment Schedule (SMS) ^{28,110}	Role functioning ²⁸	Generic	Housing, social role, economic situation, leisure/social activities, family and domestic relationships, marital situation	Likert scale	48	45	Structural validity ^{28,110}
Satisfaction with Life Domains Scale (SLDS) ^{111,112}	Life satisfaction ²⁷ ; Competency ⁸⁷	Generic	Housing, neighbourhood, food, clothing, health, living situation, friends, family, relations with others, day programming, spare time, fun, services and facilities in area, economic situation	Pictorial Likert scale	15	10	Test-retest reliability ^{113,114} , internal consistency ¹¹⁴ , concurrent validity ^{112,114}
Satisfaction With Life (SWL) scale ¹¹⁵⁻¹¹⁷	Life satisfaction ³¹	Generic	Living situation, social relationships, self and present life, work	Likert scale	8, 18, 21	Not reported	Internal consistency ¹¹⁵ , structural validity of domain scores ^{115,116}
Quality of Life Interview (QOLI) ^{31,32}	Life satisfaction ³¹	Generic	Living situation, family relations, social relations, leisure activities, finances, safety, work and school, health	Likert and visual analogue scales	143	45	Internal consistency ^{31,118-120} , test-retest reliability ^{31,45} , IRT item information ³⁶ , structural validity ^{30,36} , concurrent validity ¹²¹⁻¹²³
Client Quality of Life Interview (CQLI) ¹²⁴	Adaptive functioning ^{85,124}	Generic	Leisure and recreation, education and employment, finances, living situation, family, friends and community, ability to cope	Rating scale	65	30	Not reported
California Well-Being Project Client Interview (CWBPCI) ¹²⁵	Not reported	Generic	Happiness, health, income, work/achievement, comfort, social life, spiritual life, resources, food, accommodation, sexual life, creativity, basic human freedoms, warmth and intimacy, safety	Likert scale and open-ended questions	151	Not reported	Not reported

Table DS3 (cont.)

Instrument	Concept to be measured	Type	Content of domains^a	Response options	Number of items	Completion time, min	Psychometric properties assessed
Lancashire Quality of Life Profile (LQOLP) ¹²⁶⁻¹²⁸	Life satisfaction ³¹ ; Adaptive functioning ^{85,112}	Generic	Work, finances, social relations, leisure, living situation, safety, family relations, religion, health	Likert scale	100	55	Internal consistency ¹²⁷⁻¹³¹ , test-retest reliability ^{130,131} , structural validity ^{131,132}
EuroQOL-5D (EQ-5D) ^{33,34}	Health-related quality of life ^{33,35}	Generic, utility	Mobility, self-care, usual activities, pain/discomfort, anxiety/depression	Likert scale	15	5	Structural validity ^{35,133} , concurrent validity ^{134,135} , cross-cultural validity ³⁵ , responsiveness ¹³⁶⁻¹³⁸
Oregon Quality of Life Questionnaire (OQLQ) ^{85,139}	Role functioning ⁸⁵	Generic	Psychological distress, psychological well-being, tolerance of stress, total basic need satisfaction, independence, interpersonal interactions, spouse role, social support, work at home, employability, work on the job, meaningful use of time, negative consequences of alcohol use, negative consequences of drug use	Rating and Likert scale	263	45	Internal consistency ¹³⁹ , concurrent validity ¹³⁹
Medical Outcomes Study 36 Item Short Form Health Survey (SF-36) ¹⁴⁰⁻¹⁴²	Health-related quality of life ¹⁴⁰	Generic	Physical functioning, role physical, bodily pain, general health, vitality, social functioning, role emotional, mental health	Likert scale	12, 36	5-10	Internal consistency ¹⁴³⁻¹⁴⁶ , test-retest reliability ¹⁴⁷ , structural validity ¹⁴³⁻¹⁴⁵ , concurrent validity ¹⁴⁴
15D ^{88,148}	Health-related quality of life ^{88,148}	Generic, utility	Mobility, vision, hearing, breathing, sleeping, eating, speech, elimination, usual activities, mental function, discomfort and symptoms, depression, distress, vitality, sexual activity	Rating and ratio scales	15	5-10	Responsiveness ¹³⁷
Subjective Well-Being under Neuroleptics Scale (SWN) ¹⁴⁹⁻¹⁵²	Subjective effects of neuroleptics	Disease-specific	Mental functioning, social integration, emotional regulation, physical functioning, self-control	Likert scale	5, 20, 38	5-20 (depending on the version)	Internal consistency ^{149,150,153,154} , structural validity ¹⁵⁵ , concurrent validity ^{149,150}

Table DS3 (cont.)

Instrument	Concept to be measured	Type	Content of domains^a	Response options	Number of items	Completion time, min	Psychometric properties assessed
Health Utilities Index Mark 3 (HUI3) ^{156,157}	Health-related quality of life ¹⁵⁷	Generic, utility	Vision, hearing, speech, ambulation, dexterity, emotion, cognition, pain	Likert scale	8	5	Convergent validity ¹⁵⁸
Quality of Life Questionnaire (QLQ) ¹⁵⁹	Life satisfaction ³¹	Generic	Living situation, finances, family, social life, leisure, living situation, health, access to medical care	Likert scale	24	10	Internal consistency ¹⁵⁹ , structural validity ¹⁵⁹
World Health Organization Quality of Life Instrument (WHOQOL) ^{86,160,161}	Hybrid satisfaction/role functioning ⁸⁶	Generic	Physical, psychological, social relationships, environment	Likert-type scale	26, 100	Not reported	Internal consistency ^{46,162-165} , convergent validity ¹³⁸ , responsiveness ¹³⁸ , concurrent validity ¹³⁸
Manchester Short Assessment of Quality of Life (MANSA) ¹⁶⁶	Life satisfaction ³¹	Generic	Work, finances, friends, leisure, accommodation, people that the patient lives with, safety, sex life, family relations, physical health, mental health	Likert scale	25	Not reported	Convergent validity ¹⁶⁶ , discriminant validity ⁴⁴
Schizophrenia Quality of Life Scale (SQLS) ⁴⁷	Not reported	Disease-specific	Psychosocial, motivation and energy, symptoms and side effects	Likert-type scale	30	5-10	Internal consistency ^{47,167-171} , structural validity ^{168,167,169} , concurrent validity ^{47,170}
Impact of Weight on Quality of Life-Lite (IWQOL-Lite) ¹⁷²	Weight-related quality of life ¹⁷²	Disease-specific	Physical function, self-esteem, sexual life, work, and public distress	Likert scale	31	Not reported	Internal consistency ^{172,173} , test-retest reliability ^{172,173} , concurrent validity ^{172,173}
Quality of Life Enjoyment and Satisfaction Questionnaire (Q-LES-Q) ^{48,174}	Enjoyment / satisfaction ⁴⁸	Generic	Physical health, subjective feelings, leisure activities, social relationships, general activities, satisfaction with medication, life satisfaction	Likert scale	93, 18	10-45, (depending on the version)	Internal consistency ^{49,174-177} , test-retest reliability ¹⁷⁴ , convergent validity ^{72,178}

^aOverlap in content of domains with measures intended to assess different PRO concepts:

SQOL and treatment satisfaction: QLQ, QOLI, LQOLP, and SQLS domains overlap with VSSS and CSQ domains

SQOL and needs: SMS, SLDS, QOLI, CQLI, CWBPCI, LQOLP, OQLQ, QLQ, WHOQOL, and MANSA domains overlap with CAN and PNCQ domains

Table DS4. Characteristics and psychometric properties of measures to assess needs.

Instrument	Concept to be measured	Type	Content of domains	Response options	Number of items	Completion time, min	Psychometric properties assessed
Camberwell Assessment of Need (CAN) ¹⁷	Supply ¹⁷ / Perceived need ¹⁷	Generic / disease-specific	Accommodation, food, looking after the home, self care, daytime activities, physical health, psychotic symptoms, information, psychological distress, safety to self, safety to others, alcohol, drugs, company, intimate relationships, sexual expression, childcare, basic education, telephone, transport, money and benefits	Checklist	22, 66	10-30 (depending on the version)	Internal consistency ^{17,179-181} , test-retest reliability ^{17,179-182} , face validity ^{17,179,181} , content validity ^{17,179,181} , concurrent validity ^{17,179,181} , discriminant validity ⁴⁴ , predictive validity ¹⁸³
Perceived Need for Care Questionnaire (PNCQ) ¹⁸⁴	Not reported	Generic	Drugs, information, psychotherapy, social intervention, skills training	Likert-type scale	8	2	Convergent validity ¹⁸⁴
Two-Way Communication Checklist (2-COM) ^{185,186}	Not reported	Generic / disease-specific	Not reported	Likert-type scale	19	10-15	Internal consistency ^{185,186} , test-retest reliability ^{185,186} , face validity ^{185,186} , concurrent validity ^{185,186,187}
Needs Assessment Scale (NAS) ³⁷	Not reported	Generic / disease-specific	Accommodation, food, looking after the home, self care, daytime activities, physical health, psychotic symptoms, information, psychological distress, safety to self, safety to others, alcohol, drugs, company, intimate relationships, sexual expression, childcare, basic education, telephone, transport, money and benefits	Likert-type scale	44	Not reported	Structural validity of subscales ³⁷ , concurrent validity ³⁷

^a Overlap in content of domains with measures intended to assess different PRO concepts:

Needs and treatment satisfaction: CAN and PNCQ domains overlap with VSSS and LPSQ domains

Needs and SQOL: CAN and PNCQ domains overlap with SMS, SLDS, QOLI, CQLI, CWBPCI, LQQLP, OQLQ, QLQ, WHOQOL, and MANSAs domains

Table DS5 Characteristics and psychometric properties of measures to assess the therapeutic relationship.

Instrument	Concept to be measured	Type	Content of domains	Response options	Number of items	Completion time, min	Psychometric properties assessed
Integrative Psychotherapy Alliance Scale (IPAS) ²⁰	Pantheoretical ¹⁸	Generic	Goals, bonds, tasks	Likert scale	25	10	Not reported
Working Alliance Inventory (WAI) ¹⁸⁸	Pantheoretical ¹⁸	Generic	Goals, bonds, tasks	Likert scale	36, 12	10	Internal consistency ¹⁸⁹ , concurrent validity ¹⁸⁹ , structural validity ¹⁹⁰ , predictive validity ¹⁸⁹
Therapeutic Alliance Scale (TAS) ¹⁹¹	Not reported	Generic	Confidence, quality of the relationship	Likert scale	2	1	Not reported
Helping Alliance Scale (HAS) ¹⁹	Rogerian ¹⁹	Generic	Feeling understood, feeling respected, receiving the right care	Visual Analogue Scale	6	5	Convergent validity ¹⁹² , concurrent validity ¹⁹³ , discriminant validity ⁴⁴
California Psychotherapy Alliance Scales (CALPAS) ¹⁹⁴	Hybrid ^{18,21,22}	Generic	Therapeutic alliance, working alliance, therapists' understanding and involvement, patient-therapist agreement on goals and strategies	Likert scale	31, 24	10	Not reported
Scale to Assess the Therapeutic Relationship (STAR) ¹⁹⁵	Not reported	Generic	Positive collaboration, positive clinician input, non-supportive clinician input	Likert scale	12	5-10	Test-retest reliability ¹⁹⁵ , structural validity of subscales ¹⁹⁵

^a Overlap in content of domains with measures intended to assess different PRO concepts:

Therapeutic relationship and treatment satisfaction: STAR, HAS, WAI, and TAS domains overlap with CSQ, VSSS and LPSQ domains

- 85 Bigelow D, Brodsky G, Steward L, Olson M. The concept and measurement of quality of life as a dependent variable in evaluation of mental health services, In *Innovative approaches to mental health evaluation* (eds G Stahler, W Tash): 345-66. Academic Press, 1981.
- 86 World Health Organization Quality of Life (WHOQOL) group. The WHOQOL Assessment: position paper from the World Health Organization. *Soc Sci Med* 1995; 41: 1403-9.
- 87 Hachey R, Mercier C. The impact of rehabilitation services on the quality of life of chronic mental patients. *Occup Therapy Ment Health* 1993; 12: 1-26.
- 88 Sintonen H. The 15D instrument of health-related quality of life: properties and applications. *Ann Med* 2001; 33: 328-60.
- 89 Priebe S. Social outcomes in schizophrenia. *Br J Psychiatry* 2007; 191 (suppl 50): s15-20.
- 90 Tyrer P, Remington M. Controlled comparison of day-hospital and outpatient treatment for neurotic disorders. *Lancet* 1979; 313: 1014-6.
- 91 Shipley K, Hilborn B, Hansel A, Tyrer J, Tyrer P. Patient satisfaction: a valid index of quality of care in a psychiatric service, *Acta Psychiatr Scand* 2000; 101: 330-3.
- 92 Larsen D, Attkisson C, Hargreaves W, Nguyen T. Assessment of client/patient satisfaction in human service programs: Development of a general scale. *Eval Progr Plan* 1979; 2: 197-207.
- 93 Attkisson C, Zwick R. The Client Satisfaction Questionnaire: Psychometric properties and correlations with service utilization and psychotherapy outcome. *Eval Progr Plan* 1982; 5: 233-7.
- 94 Attkisson C. Client satisfaction questionnaire (CSQ-8). In *Measures for clinical practice: A sourcebook* (eds K Corcoran, J Fischer): 120-122. The Free Press, 1987.
- 95 Attkisson C, Greenfield T. The Client Satisfaction Questionnaire-8 and the Service Satisfaction Questionnaire-30. In *Psychological testing: treatment planning and outcome assessment* (ed M Maruish): 402-20. Lawrence Erlbaum Associates, 1994.
- 96 Levois M, Nguyen T, Attkisson C. Artifact in client satisfaction assessment: Experience in community mental health settings. *Eval Progr Plan* 1981; 4: 139-50.
- 97 Nguyen T, Attkisson C, Stegner B. Assessment of patient satisfaction: development and refinement of a service evaluation questionnaire. *Eval Progr Plan* 1983; 6: 299-313.
- 98 Ruggeri M, Dall'Agnola R. The development and use of the Verona Expectations for Care Scale (VECS) and the Verona Service Satisfaction Scale (VSSS) for measuring expectations and satisfaction with community-based psychiatric services in patients, relatives and professionals. *Psychol Med* 1993; 23: 511-23.
- 99 Ruggeri M, Dall'Agnola R, Bisoffi G, Greenfield T. Factor analysis of the Verona Service Satisfaction Scale-82 and development of reduced versions. *Int J Meth Psychiatr Res* 1996; 6: 23-38.

- 100 Ruggeri M, Lasalvia A, Dall'Agnola R, van Wijngaarden B, Knudsen H, Leese M, et al. Development, internal consistency and reliability of the Verona Service Satisfaction Scale--European Version. EPSILON Study 7. European Psychiatric Services: Inputs Linked to Outcome Domains and Needs. *Br J Psychiatry* 2000; 177 (suppl 39): s41-8.
- 101 Henderson C, Hales H, Ruggeri M. Cross-cultural differences in the conceptualisation of patients' satisfaction with psychiatric services - Content validity of the English version of the Verona service satisfaction scale. *Soc Psychiatry Psychiatr Epidemiol* 2003; 38; 142-8.
- 102 Hansson L, Hoeglund E. Patient satisfaction with psychiatric services. The development, reliability and validity of two patient satisfaction questionnaires for use in inpatient and outpatient settings. *Nord J Psychiatry* 1995; 49; 257-62.
- 103 Priebe S, Gruyters T. Patients' assessment of treatment predicting outcome. *Schizophr Bull* 1995; 21: 87-94.
- 104 Richardson M, Katsakou C, Torres-González F, Onchev G, Kallert T, Priebe S. Factorial validity and measurement equivalence of the Client's Assessment of Treatment Scale for psychiatric inpatient care - a study in three European countries. *Psychiatry Res* 2011; 118: 156-60.
- 105 Priebe S, Katsakou C, Amos T, Leese M, Morriss R, Rose D, et al. Patients' views and readmissions 1 year after involuntary hospitalisation. *Br J Psychiatry* 2009; 194: 49-54.
- 106 Barker D, Shergill S, Higginson I, Orrell M. Patients' views towards care received from psychiatrists. *Br J Psychiatry* 1996; 168: 641-6.
- 107 Barker D, Orrell M. The Psychiatric Care Satisfaction Questionnaire: a reliability and validity study. *Soc Psychiatry Psychiatr Epidemiol* 1999; 34: 111-6.
- 108 Rofail D, Gray R, Gournay K. The development and internal consistency of the Satisfaction with Antipsychotic Medication scale. *Psychol Med* 2005; 35: 1063-72.
- 109 Vernon M, Revicki D, Awad A, Dirani R, Panish J, Canuso C, et al. Psychometric evaluation of the Medication Satisfaction Questionnaire (MSQ) to assess satisfaction with antipsychotic medication among schizophrenia patients. *Schizophr Res* 2010; 118: 271-8.
- 110 Clare A, Cairns V. Design, development and use of a standardized interview to assess social maladjustment and dysfunction in community studies. *Psychol Med* 1978; 8: 589-605.
- 111 Andrews F, Withey S. *Social indicators of well-being*. Plenum Press, 1976.
- 112 Baker F, Intagliata J. Quality of life in the evaluation of community support systems. *Eval Progr Plan* 1982; 5: 69-79.
- 113 Becker M, Diamond R, Sainfort F. A new patient focused index for measuring quality of life in persons with severe and persistent mental illness. *Qual Life Res* 1993; 2; 239-51.
- 114 Carlson J, Ochoa S, Haro J, Escartin G, Ahuir M, Gutierrez-Zotes A, et al. Adaptation and validation of the quality-of-life scale: Satisfaction with Life Domains Scale by Baker and Intagliata. *Comprehensive Psychiatry* 2009; 50: 76-80.

- 115 Fairweather G, Sanders D, Maynard H, Cressler D. *Community life for the mentally ill. An alternative to institutional care*. Aldine Publishing, 1969.
- 116 Stein L, Test M. Alternative to mental hospital treatment. I. Conceptual model, treatment program and clinical evaluation. *Arch Gen Psychiatry* 1980; 37: 392-7.
- 117 Test M, Greenberg J, Long J, Brekke J, Burke S. Construct validity of a measure of subjective satisfaction with life of adults with serious mental illness. *Psychiatr Serv* 2005; 56: 292-300.
- 118 Bobes J, Garcia-Portilla P, Saiz P, Bascaran T, Bousoño M. Quality of life measures in schizophrenia. *Europ Psychiatry* 2005; 20 (suppl 3): s313-7.
- 119 Levitt A, Hogan T, Bucosky C. Quality of life in chronically mentally ill patients in day treatment. *Psychol Med* 1990; 20: 703-10.
- 120 Melle I, Friis S, Haahr U, Johannesen J, Larsen T, Opjordsmoen S, et al. Measuring quality of life in first-episode psychosis. *Europ Psychiatry* 2005; 20: 474-83.
- 121 Lehman A, Possidente S, Hawker F. The quality of life of chronic mental patients in a state hospital and community residences. *Hosp Community Psychiatry* 1986; 37: 901-7.
- 122 Rosenfeld S, Neese-Todd S. Elements of a psychosocial clubhouse program associated with a satisfying quality of life. *Hosp Community Psychiatry* 1993; 44: 76-8.
- 123 Simpson C, Hyde C, Faragher E. The chronically mentally ill in community facilities: a study of quality of life. *Br J Psychiatry* 1989; 154: 77-82.
- 124 Mulkern V, Agosta J, Ashbaugh J, Bradley V, Spence R, Allein S, Nurczynski R, Houlihan J. *Community Support Program Client Follow-up Study*. NIMH, 1986.
- 125 Campbell J, Schraiber R, Temkin T, Tusscher T. *The Well-Being Project: mental health clients speak for themselves*. California Department of Mental Health, 1989.
- 126 Oliver J, Huxley P, Bridges K, Mohamad H. *Quality of life and mental health services*. Routledge, 1996.
- 127 Oliver N, Carson J, Missenden K, Towey A, Dunn L, Collins E, et al. Assessing the quality of life of the long-term mentally ill: A comparative study of two measures. *Int J Meth Psychiatr Res* 1996; 6: 161-6.
- 128 Oliver J, Huxley P, Priebe S, Kaiser W. Measuring the quality of life of severely mentally ill people using the Lancashire Quality of Life Profile. *Soc Psychiatry Psychiatr Epidemiol* 1997; 32: 76-83.
- 129 Gaité L, Vazquez-Barquero J, Arrizabalaga A, Schene A, Welcher B, Thornicroft G, et al. Quality of life in schizophrenia: development, reliability and internal consistency of the Lancashire Quality of Life Profile-European Version. EPSILON Study 8. European Psychiatric Services: Inputs Linked to Outcome Domains and Needs. *Br J Psychiatry* 2000; 177 (suppl 39): s49-54.

- 130 Schene A, Koeter M, van Wijngaarden B, Knudsen H, Leese M, Ruggeri M, et al. Methodology of a multi-site reliability study: EPSILON Study 3. *Br J Psychiatry* 2000;177 (suppl 39): s15-20.
- 131 Van Nieuwenhuizen C, Schene A, Koeter M, Huxley P. The Lancashire Quality of Life Profile: modification and psychometric evaluation. *Soc Psychiatry Psychiatr Epidemiol* 2001; 36: 36-44.
- 132 Ruggeri M, Warner R, Bisoffi G, Fontecedro L. Subjective and objective dimensions of quality of life in psychiatric patients: a factor analytical approach. The South Verona Outcome Project 4. *Br J Psychiatry* 2001; 178: 268-75.
- 133 McCrone P, Patel A, Knapp M, Schene A, Koeter M, Amaddeo F, et al. A comparison of SF-6D and EQ-5D utility scores in a study of patients with schizophrenia. *J Ment Health Policy Econ* 2009; 12: 27-31.
- 134 Koenig H, Roick C, Angermeyer M. Validity of the EQ-5D in assessing and valuing health status in patients with schizophrenic, schizotypal or delusional disorders. *Europ Psychiatry* 2007; 22: 177-87.
- 135 Prieto L, Sacristan J, Hormaechea J, Casado A, Badia X, Gomez J. Psychometric validation of a generic health-related quality of life measure (EQ-5D) in a sample of schizophrenic patients. *Curr Med Res Opin* 2004; 20: 827-35.
- 136 Barton G, Hodgekins J, Mugford M, Jones P, Croudace T, Fowler D. Measuring the benefits of treatment for psychosis: Validity and responsiveness of the EQ-5D. *Br J Psychiatry* 2009; 195: 170-7.
- 137 Saarni S, Viertioe S, Peraelae J, Koskinen S, Loennqvist J, Suvisaari J. Quality of life of people with schizophrenia, bipolar disorder and other psychotic disorders. *Br J Psychiatry* 2010; 197: 386-94.
- 138 Van De Willige G, Wiersma D, Nienhuis F, Jenner J. Changes in quality of life in chronic psychiatric patients: A comparison between EuroQol (EQ-5D) and WHOQoL. *Qual Life Res* 2005; 14: 441-51.
- 139 Bigelow D, McFarland B, Olson M. Quality of life of community mental health program clients: validating a measure. *Community Ment Health J* 1991; 27: 43-55.
- 140 Ware J, Sherbourne C. The MOS 36-item Short-Form health survey (SF-36): I. Conceptual framework and item selection. *Med Care* 1992; 30: 473-83.
- 141 Ware J, Kosinski M, Keller S. A 12-item short-form health survey: Construction of scales and preliminary tests of reliability and validity. *Med Care* 1996; 34: 220-33.
- 142 Stewart A, Hays R, Ware J. The MOS short-form general health survey: reliability and validity in a patient population. *Med Care* 1988; 26: 724-35.
- 143 Leese M, Schene A, Koeter M, Meijer K, Bindman J, Mazzi M. et al. SF-36 scales, and simple sums of scales, were reliable quality-of-life summaries for patients with schizophrenia. *J Clin Epidemiol* 2008; 61: 588-96.

- 144 Meijer C, Schene A, Koeter M. Quality of life in schizophrenia measured by the MOS SF-36 and the Lancashire Quality of Life Profile: A comparison. *Acta Psychiatr Scand* 2002; 105: 293-300.
- 145 Russo J, Trujillo C, Wingerson D, Decker K, Ries R, Wetzler H, Roy-Byrne P. The MOS 36-Item Short Form Health Survey: Reliability, Validity, and Preliminary Findings in Schizophrenic Outpatients. *Med Care* 1998; 36: 752-6.
- 146 Tunis S, Croghan T, Heilman D, Johnstone B, Obenchain R. Reliability, Validity, and Application of the Medical Outcomes Study 36-Item Short-Form Health Survey (SF-36) in Schizophrenic Patients Treated with Olanzapine versus Haloperidol. *Med Care* 1999; 37: 678-91.
- 147 Salyers M, Bosworth P, Swanson J, Lamb-Pagone J, Osher F. Reliability and validity of the SF-12 health survey among people with severe mental illness. *Med Care* 2000; 38: 1141-50.
- 148 Sintonen H. *The 15D Measure of Health Related Quality of Life: Reliability, Validity and Sensitivity of its Health State Descriptive System. Working Paper 41.* Centre for Health Program Evaluation, Monash University, 1994.
- 149 Naber D. A self-rating to measure subjective effects of neuroleptic drugs, relationships to objective psychopathology, quality of life, compliance and other clinical variables. *Int Clin Psychopharmacol* 1995; 10 (suppl 3): s133-8.
- 150 Naber D. Subjective experiences of schizophrenia patients treated with antipsychotic medication. *Int Clin Psychopharmacol* 1998; 13 (suppl 1): s41-5.
- 151 Naber D, Moritz S, Lambert M, Pajonk F, Holzbach R, Mass R, et al. Improvement of schizophrenic patients' subjective well-being under atypical antipsychotic drugs. *Schizophr Res* 2001; 50: 79-88.
- 152 Naber D, Karow A, Lambert M. Subjective well-being under neuroleptic treatment and its relevance for compliance. *Acta Psychiatr Scand* 2005; 111 (suppl 427): 29-34.
- 153 Balestrieri M, Giaroli G, Mazzi M, Bellantuono C. Performance of the Italian version of the Subjective Well-Being Under Neuroleptic (SWN) scale in schizophrenic outpatients. *Pharmacopsychiatry* 2006; 39: 81-4.
- 154 De Haan L, Weisfelt M, Dingemans P, Linszen D, Wouters L. Psychometric properties of the Subjective Well-Being Under Neuroleptics scale and the Subjective Deficit Syndrome Scale. *Psychopharmacol* 2002; 162: 24-8.
- 155 Schmidt P, Clouth J, Haggemuller L, Naber D, Reitberger U. Constructing an index for the Subjective Well-being under Neuroleptics Scale (SWN), short form: Applying structural equation modeling for testing reliability and validity of the index. *Qual Life Res* 2006; 15: 1191-202.
- 156 Torrance G, Furlong W, Feeny D, Boyle M. Multi-attribute preference functions: Health Utilities Index. *Pharmacoecon* 1995; 7: 503-20.

- 157 Feeny D, Furlong W, Torrance G, et al. Multiattribute and single-attribute utility functions for the Health Utilities Index Mark 3 system. *Med Care* 2002; 40: 113-28.
- 158 Luo N, Seng B, Thumboo J, Feeny D, Li S. A study of the construct validity of the Health Utilities Index Mark 3 (HUI3) in patients with schizophrenia. *Qual Life Res* 2006; 15: 889-98.
- 159 Greenley J, Greenberg J, Brown R. Measuring quality of life: a new and practical survey instrument. *Soc work* 1997; 42: 244-54.
- 160 World Health Organization Quality of Life (WHOQOL) group. The World Health Organization Quality of Life Assessment (WHOQOL): development and general psychometric properties. *Soc Sci Med* 1998; 46: 1569-85.
- 161 World Health Organization Quality of Life (WHOQOL) group. Development of the World Health Organization WHOQOL-BREF Quality of Life Assessment. *Psychol Med* 1998; 28: 551-8.
- 162 Akvardar Y, Akdede B, Ozerdem A, Eser E, Topkaya S, Alptekin K. Assessment of quality of life with the WHOQOL-BREF in a group of Turkish psychiatric patients compared with diabetic and healthy subjects. *Psychiatry Clin Neurosc* 2006; 60: 693-9.
- 163 Ginieri-Coccosis M, Triantafillou E, Tomaras V, Liappas I, Christodoulou G, Papadimitriou G. Quality of life in mentally ill, physically ill and healthy individuals: The validation of the Greek version of the World Health Organization Quality of Life (WHOQOL-100) questionnaire. *Ann Gen Psychiatry* 2009; 13: 23.
- 164 Li L, Young D, Xiao S, Zhou X, Zhou L. Psychometric properties of the WHO Quality of Life questionnaire (WHOQOL-100) in patients with chronic diseases and their caregivers in China. *Bull World Health Org* 2004; 82: 493-502.
- 165 Ohaeri J, Olusina A, Al-Abassi A. Factor analytical study of the short version of the World Health Organization quality of life instrument. *Psychopathol* 2004; 37: 242-8.
- 166 Priebe S, Huxley P, Knight S, Evans S. Application and results of the Manchester Short Assessment of Quality of Life (MANSA). *Int J Soc Psychiatry* 1999; 45: 7-12.
- 167 Kaneda Y. Assessing weight-related quality of life in persons with schizophrenia. *Int Med J* 2009; 16: 107-11.
- 168 Kuo P, Chen-Sea M, Lu R, Chung M, Kuo C, Huang W, Ma H. Validation of the Chinese version of the Schizophrenia Quality of Life Scale Revision 4 (SQLS-R4) in Taiwanese patients with schizophrenia. *Qual Life Res* 2007; 16: 1533-8.
- 169 Kuo P, Ma H, Kuo C, Huang W, Chung M. Factor analysis of the Schizophrenia Quality of Life Scale Revision 4 (SQLS-R4) Chinese version and related factors. *Int J Psychiatry Clin Pract* 2009; 13: 278-84.
- 170 Luo N, Seng B, Xie F, Li S, Thumboo J. Psychometric evaluation of the Schizophrenia Quality of Life Scale (SQLS) in English- and Chinese-speaking Asians in Singapore. *Qual Life Res* 2008; 17: 115-22.

- 171 Martin C, Allan R. Factor structure of the Schizophrenia Quality of Life Scale Revision 4 (SQLS-R4). *Psychol Health Med* 2007; 12: 126-34.
- 172 Kolotkin R, Ross D, Crosby P, Corey-Lisle H, Swanson J. Performance of a Weight-Related Measure of Quality of Life in a Psychiatric Sample. *Qual Life Res* 2006; 15: 587-96.
- 173 Kaneda Y. Assessing weight-related quality of life in persons with schizophrenia. *Int Med J* 2009; 16: 107-11.
- 174 Ritsner, M., Kurs, R., Gibel, A., Ratner, Y., & Endicott, J. 2005, Validity of an abbreviated Quality of Life Enjoyment and Satisfaction Questionnaire (Q-LES-Q-18) for schizophrenia, schizoaffective, and mood disorder patients. *Quality of Life Research*, vol. 14, pp. 1693-1703.
- 175 Bishop S, Walling D, Dott S, Folkes C, Bucy J. Refining quality of life: validating a multidimensional factor measure in the severe mentally ill. *Qual Life Res* 1999; 8: 151-60.
- 176 Ritsner M, Modai I, Endicott J, Rivkin O, Nechamkin Y, Barak P, et al. Differences in quality of life domains and psychopathologic and psychosocial factors in psychiatric patients. *J Clin Psychiatry* 2000; 61: 880-9.
- 177 Ritsner M, Ponizovsky A, Endicott J, Nechamkin Y, Rauchverger B, Silver H, Modai I. The impact of side-effects of antipsychotic agents on life satisfaction of schizophrenia patients: A naturalistic study. *Europ Neuropsychopharmacol* 2002; 12: 31-8.
- 178 Ritsner M. Predicting quality of life impairment in chronic schizophrenia from cognitive variables. *Qual Life Res* 2007; 16: 929-37.
- 179 Ericson B, Hansson J, Teike T. Urgent need for a Need Assessment Scale in monitoring social support: A validation study on the Swedish version of the Camberwell Assessment of Need. *Nord J Psychiatry* 1997; 51: 173-82.
- 180 McCrone P, Leese M, Thornicroft G, Schene A, Knudsen H, Vazquez-Barquero J, et al. Reliability of the Camberwell Assessment of Need-European Version. EPSILON Study 6. European Psychiatric Services: Inputs Linked to Outcome Domains and Needs. *Br J Psychiatry* 2000; 177 (suppl 39): s34-40.
- 181 Slade M, Phelan M, Thornicroft G, Parkman S. The Camberwell Assessment of Need (CAN): comparison of assessments by staff and patients of the needs of the severely mentally ill. *Soc Psychiatry Psychiatr Epidemiol* 1996; 31: 109-13.
- 182 Trauer T, Tobias G, Slade M. Development and evaluation of a patient-rated version of the Camberwell Assessment of Need short appraisal schedule (CANSAS-P). *Community Ment Health J* 2008; 44: 113-24.
- 183 Slade M, Leese M, Cahill S, Thornicroft G, Kuipers E. Patient-rated mental health needs and quality of life improvement. *Br J Psychiatry* 2005; 187: 256-61.
- 184 Meadows G, Harvey C, Fossey E, Burgess B. Assessing perceived need for mental health care in a community survey: development of the Perceived Need for Care Questionnaire (PNCQ). *Soc Psychiatry Psychiatr Epidemiol* 2000; 35: 427-35.

- 185 Van Os J, Altamura A, Bobes J, Owens D, Gerlach J, Hellewell J, et al. 2-COM: an instrument to facilitate patient-professional communication in routine clinical practice. *Acta Psychiatr Scand* 2002; 106: 446-52.
- 186 Van Os J, Altamura A, Bobes J, Gerlach J, Hellewell J, Kasper S, et al. Evaluation of the Two-Way Communication Checklist as a clinical intervention. Results of a multinational, randomised controlled trial. *Br J Psychiatry* 2004; 184: 79-83.
- 187 Van Os J, Triffaux J. Evidence that the Two-Way Communication Checklist identifies patient-doctor needs discordance resulting in better 6-month outcome. *Acta Psychiatr Scand* 2008; 118: 322-6.
- 188 Horvath A, Greenberg L. Development and validation of the Working Alliance Inventory. *J Couns Psychology* 1989; 36, pp. 223-233.
- 189 Gehrs M, Goering P. The relationship between the working alliance and rehabilitation outcomes of schizophrenia. *Psychiatr Rehab J* 1994; 18: 43-54.
- 190 Corbiere M, Bisson J, Lauzon S, Ricard N. Factorial validation of a French short-form of the Working Alliance Inventory. *Int J Meth Psychiatr Res* 2006; 15: 36-45.
- 191 Hansson L, Berglund M. Stability of therapeutic alliance and its relationship to outcome in short-term inpatient psychiatric care. *Scand J Soc Med* 1992; 20: 45-50.
- 192 Bale R, Catty J, Watt H, Greenwood N, Burns T. Measures of the therapeutic relationship in severe psychotic illness: a comparison of two scales. *Int J Soc Psychiatry* 2006; 52: 256-66.
- 193 Holzinger A, Loffler W, Muller P, Priebe S, Angermeyer M. Subjective illness theory and antipsychotic medication compliance by patients with schizophrenia. *J Nerv Ment Dis* 2002; 190: 597-603.
- 194 Marmar, C., Gaston, L., Thompson, L., & Gallagher, D. 1989, Alliance and outcome in late-life depression. *Journal of Nervous and Mental Disease*, vol. 177, pp. 464-472.
- 195 McGuire-Snieckus R, McCabe R, Catty J, Hansson L, Priebe S. A new scale to assess the therapeutic relationship in community mental health care: STAR. *Psychol Med* 2007; 37: 85-95.