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Youth mental health services in Italy: An achievable dream?

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Abstract

Aim

“Liberiamo il futuro” (LIF) project was designed to assess psychological problems of adolescents and young adults and to identify individuals at high-risk for developing a psychosis through a collaboration between a University team, Child and Adolescent Mental Health Services and Adult Mental Health Services. This paper presents the baseline demographic and clinical characteristics of the cohort, particularly the nature and severity of psychopathology.

Method

All help-seeking young people aged 12-35 years residing in the health district involved in LIF were invited to participate in the study and completed a battery of self-report and interviewer-administered measures of psychopathology and functioning at baseline.

Results

A total of 338 adolescents and young people (mean age 17.42) participated in the study. The majority of the sample (N=107, 35%) had an anxiety disorder, followed by mood disorders (N=62, 21%). Only 35 (12%) participants had no psychiatric diagnosis. After a screening phase, 166 (52%) individuals were assessed to detect the presence of an Ultra High Risk (UHR) state. Of these, 38.60% (N=64) met UHR criteria. Overall, the majority of the sample resulted moderately functionally impaired at baseline.

Conclusions

LIF project showed that psychological problems, associated with impaired psychosocial functioning, are very common among help-seeking young people. The help-seeking behaviour of young people is in contrast with the barriers presented by the Italian community mental health system that is modelled around adults' requirements. A need of a strong, stigma-free, young oriented system of care for young people up to the mid-20s emerged.

Introduction

Worldwide mental disorders are the fifth leading disorder category of global DALYs (disability-adjusted life years). Together with substance use disorders they accounted for 7.4% of total disease burden in 2010 (1). Despite the apparently small contribution of YLLs (years of life lost to premature mortality), they represent a striking and growing challenge for health systems in developed and developing regions (2), (3). The peak of onset of mental disease is from the early teens to the mid-twenties and the incidence and prevalence of mental illness in adolescents and young adults is the highest of any age group (4) (5).

The early intervention paradigm advocates detecting and treating mental illness at their earliest stages, during adolescence and early adulthood, with the goal of influencing the trajectory of illness evolution (preventing illness onset or improving prognosis; (6), (7)). This is not a simple task. The clinical profile of mental ill-health in young people is characterized by mixed sub-threshold symptom patterns (8). Adolescence is a fundamental transition life stage that leads to many changes both physically and mentally. The human body matures into adulthood and becomes ready for sexual and reproductive activities. Concurrently, adolescents struggle with the process of individuation, achieving their own identity distinct from their parents and relatives. A physiological crisis often occurs during this phase: adolescents may react to these fast changes in their lives with a kaleidoscope of behavioural changes and mood states. For example, becoming depressed, sleep

disturbances, appetite change, emotional swings, behavioural withdrawal, and apathy are common experiences after disturbances to interpersonal relationships (e.g., relationship break-ups) in this developmental stage(9),(8). Usually, these symptoms are short lived and much of the associated distress resolves quickly. However, they should not be dismissed as trivial purely because they are so common. Physiological difficulties sometimes-may hide a more severe inner-self fragility that struggles to cope with external pressures of maturation (i.e. more competitive education stages, more complex and intimate relationships, more frequent fights with parents/relatives etc.)(10), (11). This mixture of inner fragility and increasing outer changes may represent fertile ground for the development of a mental disease (12), (13). Early detection of these impaired mental states represents a challenge for clinicians and may be the gold standard for prevention. Despite this, access to, and use of, health services by young people to improve mental health outcomes is low (14), (15), (16), (17) . In general only a few young people (less than one in six) with mental disorders access services or receive appropriate care (18), (19). This confirms a paucity of service utilization just at the time when serious mental health problems are beginning to emerge (15). The current main service configuration of distinct Child and Adolescent Mental Health Services (CAMHS) and Adult Mental Health Services (AMHS) is a barrier to providing continuity of care, not restricted to age boundaries alone (20), (15), (21). Research findings indicate conceptual, clinical, and ideological differences between CAMHS and AMHS in relation to thresholds regarding acceptance criterion, professional differences and service structures/configurations which have been found to be an impediment to continuity of care for young people, especially those who make a transition from one system of care to another (15). For these reasons, the current main service configuration of CAMHS and AMHS has been described as the “weakest link in a system where it should be most robust” (22).

These issues of the lack in continuity of care and failure to tailor services specifically to young people are paramount in Italy. Data suggest that only a small proportion (19%) of adolescents

treated by CAMHS move to AMHS (23) and programs addressing this problem for various reasons struggle to be established in this country. With the aim of deeper assessing psychological problems of adolescents and young adults and identifying patients at high-risk for developing a psychosis through an extended collaboration between CAMHS and AMHS services, the “Liberiamo il futuro” (LIF) project was developed. LIF is a multicentre project carried out by the contribution of Sapienza University of Rome and six AMHS and six CAMHS located in one of the eight Local Health Districts of Rome, Italy, i.e. the Rome H area. Briefly, the main aim of LIF is to identify subjects at high-risk for developing a psychosis according to the at risk mental state for psychosis (UHR) (6) and the Basic Symptoms criteria (24) among help-seeking adolescents (age range: 12–18 years) and young adults (18–35 years). The inclusion criteria were: age between 12 and 35 years; IQ ≥ 70 ; sufficient knowledge of the Italian language; the disorder is not secondary to or correlated with a general medical condition; willingness and ability to provide free written informed consent (the informed consent was provided by parents or guardian in case of minors). The aim of the present study was to describe the baseline demographic and clinical characteristics of participants in the LIF project.

Method

Setting

Data were collected in six CAMHS and six AMHS located in the area of Roma H and involved in the LIF project between January 2012 and June 2015.

Participants

The study included all help-seeking young people since January 2012 aged 12–35 years old (25, 26) who resided in the Rome H area. Exclusion criteria for the LIF project include psychiatric disorders or symptoms due to a somatic factor or psychotropic substances, IQ below 70, and insufficient knowledge of Italian or other communication problems severely impairing clinical assessments.

338 individuals and/or their parents or guardians gave written informed consent to participate. Ethical approval was obtained from the local research ethics committee. The mean age was 17.42 years (SD: 5.62; Median: 16, Mode: 12). One hundred-seventy-three participants were female (51.2%) and 165 (48.8%) were male. Full details of the study are provided in Brandizzi et al. 2014 (27).

Instruments

Case-history, socio-demographic and psychosocial variables were recorded during a baseline clinical assessment using a non-standardized questionnaire.

Prodromal Questionnaire. Prodromal symptoms of psychosis were assessed with the Prodromal Questionnaire-92 (PQ92; (28)), a self-report screening questionnaire that aims to identify individuals who may benefit from a clinical diagnostic interview. The 92 true/false items can be divided into four major subscales: (1) positive symptoms; (2) negative symptoms; (3) disorganized symptoms; and (4) general symptoms. Patients who score 18 or more on the PQ-92 positive symptoms subscale (29) or evaluated as possibly at risk according to clinical impression were examined with the Structured Interview for Psychosis-risk Syndromes (SIPS) and Schizophrenia Proneness Instrument- Adult (SPI-A (30)) and Child and Adolescents (SPI-CY (31)) to detect if they are at risk for developing a psychosis according to the ultra-high risk (UHR) (32) and basic symptom (BS) criteria (24).

Global Functioning: Social and Role Scales. Social and role functioning was assessed using the Global Functioning: Social (GFSS) and Global Functioning: Role scales (GFRS) (33). The GFSS assesses peer relationships, peer conflict, age-appropriate intimate relationships, and involvement with family members. The GFRS rates performance and amount of support needed in one's specific role (i.e., school or work). For both scales, scores range from 1 to 10 (10 = superior functioning to 1

= extreme dysfunction). Ratings for each of the two GF scales were based on available clinical information.

Interpersonal Sensitivity Measure (IPSM). To measure interpersonal sensitivity, we used the Italian version (34) of Interpersonal Sensitivity Measure (IPSM) (35), a 36-item self-report questionnaire that identifies people with an undue and excessive awareness of and sensitivity to the behaviour and mood of others.

Structured Interview for Psychosis-risk Syndromes (SIPS). The SIPS (36) is a clinician-administered, semi-structured interview specifically designed to establish risk of psychosis. There are four major symptom dimensions on the Scale of Psychosis-Risk Symptoms (SOPS): positive, negative, disorganized and general symptoms.

Schizophrenia Proneness Instrument- Adult (SPI-A) and Child and Adolescents (SPI-CY) (30), (31). SPI-A and SPI-CY are two semi-structured interviews derived from Bonn Scale for the Assessment of Basic Symptoms (BSABS; Gross (37, 38)). Basic Symptoms (BS) are subjectively experienced sub-clinical disturbances in drive, affect, thinking, speech, perception, motor action, central vegetative functions and stress tolerance. Among all BS, COPER criteria (10 cognitive-perceptive BS) and the COGDIS criteria (the 9 cognitive BS that are the most predictive of later psychosis (39)) were assessed.

Structured Clinical Interview (SCID-I) for DSM-IV and Kiddie-Schedule for Affective Disorders and Schizophrenia Present and Lifetime (K-SADS-PL): Axis I diagnoses were evaluated with the SCID-I (40) (age 19-35) and with the K-SADS-PL (41) (age 12-18 years).

Statistical analysis

Analyses were conducted using SPSS 20.0.0. Descriptive analysis including mean and SD for continuous variables and absolute and relative frequencies for categorical variables were performed. Chi-square test and Fisher's Exact Test were employed for categorical variables. One-way ANOVA was used for comparisons between groups of subjects.

Results

Demographic characteristics

A summary of the participant characteristics is provided in Table 1. Three hundred thirty-eight individuals were involved in the study. About half of participants were female (51%; $n = 173$) and the mean age of participants was 17.42 years (SD: 5.6), with 36% ($N=122$) aged 12–14 years, 37% ($N=125$) aged 15–18, and 15% ($N=52$) aged 19–24 years, and 12% ($N=39$) aged 25–35. There were no significant differences between male (18.4 years, SD: 5.63) and female (18.2 years, SD: 5.60) with respect to mean age at baseline assessment ($F= 4.635$; $P=0.201$). The majority of participants indicated that their parents were Italian born (89.4% of fathers and 89.8% of mothers) and to currently be single ($N=328$; 97%) and residing in a semi-urban area ($N=208$; 63%). Seventy-nine per cent ($N=262$) of the sample indicated being enrolled in some form of education, 12% ($N=38$) were unemployed and 10% ($N=33$) were currently employed. According with the mean age of the sample the majority of them had completed primary or a lower secondary school ($N=253$, 68%). Not unexpectedly, education was associated with age, with 63.1% of 12–14-years-olds completed primary school, compared with 78.4% of 15–18-year-olds who completed lower secondary school and 50.8% of 19–24-year-olds who completed upper secondary school. Female participants were significantly more likely to have a higher level of education than male participants ($\chi^2 = 22.22$; $P < 0.001$).

Clinical characteristics

General clinical characteristics are presented in Table 2. Of all young people entering our services during the study period, 6% (N=18) were referred by a psychiatrist, 19% (N=62) were self-referrals, 33% (N=107) were arranged by family members, 22% (N=71) were referred by standard health-referral pathways, such as GPs, other health professionals or contact with public mental health services, and the remainder (19%, N= 63) were referred from schools and legal agencies. The main reason for referral for the majority of the sample was relational or school problems (33%, N=110) and anxiety symptoms (29%, N= 96). There were gender related significant differences regarding reason for referral ($\chi^2=16.3$, $P<0.005$), with females more commonly being referred to the services for mood-related symptoms than males (46 vs 21). Seventy-eight individuals (23%) admitted having used alcohol or illicit substances at least once during their lifetime. Only 35 (12%) participants had no psychiatric diagnosis. The majority of the sample (N=107, 35%) had an anxiety disorder, followed by mood disorders (N=62, 21%). There were between gender differences for psychiatric diagnosis ($\chi^2=18.3$; $p<0.05$), with females diagnosed more frequently with anxiety and mood disorder than males. More than half of participants (N=180, 54%) have never had psychiatric treatment before asking help of the services involved, whereas 32% (N=107) had been on psychotherapeutic treatment and 8% (N=28) on psychiatric medications during their lifetime.

Mental health characteristics

Participant scores on interviews and self-rated measures of psychopathology are presented in Table 3.

The prodromal symptoms questionnaire:

Among the whole sample 96 participants (29%) scored 18 or more on the positive symptoms scale of the PQ, with a mean score of 14.22 (SD: 9.00). Female subjects tended to have more positive

($F=5.27$; $P<0.05$), negative ($F=8.65$; $P<0.005$), general ($F=14.24$; $P<0.005$) self-reported symptoms compared with males, as well as higher total scores on the PQ-92 ($F=8.48$; $P<0.005$).

Global, social and role functioning:

The mean GAF score was 64.44 (SD: 11.92), indicating some mild psychiatric symptoms or some difficulty in social, occupational, or school functioning. The mean role functioning (measured by GFRS) was 6.47 (SD: 1.54) indicating moderately/mildly impaired functioning. The mean social functioning (measured by GFSS) was 6.69 (SD: 1.27) referring to a moderate/ mild impairment in social functioning that is beyond an expectable reaction to a psychosocial stressor. There were between gender differences in functioning with males reporting lower global ($F=7.422$; $p<0.05$), role ($F=12.807$; $p<0.005$) and social ($F=11.316$; $p<0.005$) functioning levels than females.

Interpersonal sensitivity:

The mean score of the IPSM scale was 91.04 (SD: 19.04), with females reporting higher scores than males in total scores ($F=13.72$; $P<0.005$), in the interpersonal awareness subscale ($F=15.085$; $P<0.005$) and in the separation anxiety subscale ($F=22.80$; $P<0.005$). These scores indicated difficulties in interpersonal relationships, due to an undue awareness of behaviour and mood of others and to a fragility of inner-self.

Psychotic prodromal symptoms:

Based on a combination of PQ-92 positive symptoms scale scores (cut-off of 18) and clinical impression, of all participants ($N=338$), 166 (52%) individuals were assessed with the SIPS and with the COPER and COGDIS criteria. Of these 166 participants, 55% ($N=92$) were not UHR or experiencing First Episode Psychosis (FEP) according to the SIPS criteria; 38.60% ($N=64$) met UHR criteria, mainly the Attenuated Psychosis Syndrome (APS) criteria ($N=56$, 34%). 92 subjects (58.2%) reported COPER and/or COGDIS criteria (the BS criteria). Sixty subjects (38%) of subjects reported only COGDIS criteria. Twenty-six subjects (16%) reported both UHR and COGDIS criteria. There were not significant gender differences in psychosis risk criteria (see table 4). Among the fully-assessed participants, 10 (6%) were suffering from FEP.

Discussion

The purpose of this paper was to describe the baseline demographic and clinical characteristics of the LIF cohort, particularly the nature and severity of psychopathology in this population. One of the main aims of LIF was to answer the needs of young people with psychological problems within the area of Rome where to date services for youth mental health have not been available. In order to conduct this study collaboration between CAMHS and AMHS services was necessary. The 338 young people recruited at baseline represent a relatively heterogeneous cohort in relation to the nature of their mental health problems and levels of functional impairment. In our sample half of participants were male (49%; $n = 165$), indicating that there were not differences in service utilisation between gender. This is in contrast with evidence in most high-income countries, indicating a consistent pattern in services utilisation with women and older people using specialist services more than men and younger people (42). Also along young people females seem to use more often mental health services than male (43). One possible explanation of this result is that most participants were very young and were more often accompanied by parents or relatives. In fact, the main source of referral of our study were family members (33%). This result was in line with recent studies showing that in Italy family members are often involved in the care of mentally ill patients (44), (45). Relatives played different roles in each phase of the disorder. In particular, at the onset of psychosis, relatives could promote or delay referral to mental health professionals (46). For these reasons the improvement of relatives' knowledge about mental disorders should be prioritized in mental health research and practice, mainly to reduce the delay in the detection and treatment of mental disorders among young people. According to studies about accessibility and pathways to psychiatric care in Italian community-based mental health system (47), (48), the second most common source of referral were GPs and other health professionals in contact with public mental health services (22%). However, these percentages were not high; these results underlined

that a stronger collaboration of psychiatrists and mental health professionals with general practitioners is still needed.

The majority of the sample was less than 18 years old (mean age of 17.42, SD: 5.6). The current service configuration is of distinct CAMHS and AMHS services with 18 years old as the age of transfer from a service to another. As McGorry (22) has highlighted, our results suggest that where the system should be the most robust, indeed it shows its weakest part. Even though the main reason of referral to services was relational and school difficulties (33%), our findings showed that only 12% of young people help-seekers for psychological problems had no psychiatric diagnosis. The remainder were diagnosed with anxiety (35%) and mood disorders (21%), in line with epidemiological studies that consistently indicate that anxiety disorders are the most prevalent mental disorders among young people (49). Moreover, according to previous findings (50), (49), anxiety disorders were significantly more prevalent in females (57% vs 43%). These data supported the importance of a meticulous clinical assessment even if the main complaint appears trivial. Among the whole sample, following the screening phase, 166 (52%) individuals were assessed with the SIPS. Of these, 64 (38.6%) were identified as being at ultra high risk for developing psychosis. These results are remarkably consistent with the UHR prevalence amongst referrals to youth-focused mental health services in Australia, called Headspace services (43). The importance of early detection of psychosis has been confirmed by a recent meta-analysis showing that the UHR state is associated with 36% transition risk of developing psychosis within the first 3 years of clinical presentation, and the risk progressively increases across this period (51). The high rate of UHR individuals confirmed that a screening method identifies more UHR+ patients at entry to mental health services, which would otherwise go undetected and untreated (52). Furthermore 58% of the sample reported the presence of COPER and/or COGDIS criteria; while only 16% reported both UHR and COGDIS criteria. As emerged from a recent study a combined UHR and BS approach may improve the prediction of psychosis and the diagnostic/outcome-related

homogeneity of risk groups (39). Following these results we may hypothesize that this sub-group may be in particular need of clinical attention. Follow-up assessments among this group are currently being conducted to evaluate transition rates and other clinical outcomes.

In contrast with recent literature (53), (43), only 23% of the total sample reported use of licit and illicit substances (e.g. alcohol, cannabis, cocaine, opioids, etc.). One possible explanation may be that adolescents and young adults involved in the study underreported their use of drugs and alcohol, even though professionals performed the interview.

Moreover, having a psychiatric disorder, or symptoms due to psychotropic substances was an exclusion criteria of LIF. Evaluating if a substance use is a primary or secondary problem in adolescence is not a simple task; drug use may be considered as a self-treatment of emerging psychiatric problems(54), (55), (56). Subjects who presented with symptoms (such as panic attacks, sub-threshold psychotic symptoms etc.) only in the context of substance use (intoxication/withdrawal) were not involved in LIF, with the awareness of excluding many “limit” cases.

In line with Scott (57), although most participants were in the early phases of illness, disability levels were already pronounced. The mean score of social and role functioning showed a mild/moderate impairment in peers’ relationships and age-appropriate role functioning. Interestingly, of the whole sample, 36% of participants reported a decreasing role functioning and 37% of social functioning during the year before the first assessment. Moreover, our sample reported high level of interpersonal sensitivity. This personality trait was found to be associated with avoidant coping strategies, persecutory ideations and depressive symptoms among non-clinical and ultra-high-risk samples (58), (59), (60), (61). Highly interpersonal sensitive individuals also report low social functioning levels (62). In line with previous findings (58), (60), (62), UHR individuals showed higher level of interpersonal sensitivity compared to other help-seekers and this personality feature could be associated with worse functional outcome. To confirm this data, follow up assessments are in progress.

The psychosocial functioning impairment of our sample has clinical relevance. Recent studies indicated that UHR individuals with poor baseline functioning continue to show poor functioning after several years, even when their positive symptoms never cross the threshold into full psychotic severity (63), (64), (65). Moreover, these individuals are often still in need of clinical intervention (66), (67), (68).

Limitations

Our results should be interpreted in view of the limitations of this study. The main limitation is the lack of follow-up data to rate the continuity of care between CAMHS and AMHS. Another limitation is that axis I diagnoses were evaluated with the SCID-I according to DSM-IV and not to the last version of the manual (DSM-5(69)). Moreover substance use was evaluated just by a clinical interview and not using a specific questionnaire. Data on interrater reliability for structured and semi-structured interviews (SCID, K-SADS, SPI-CY, SPI-A, SIPS) are not available. However, these instruments were performed for trained researchers. Furthermore data about how many people did not agree to participate in the study are not available. It is therefore possible that there was a sampling bias of those who were most unwell not agreeing to participate.

Conclusions

Our results showed that psychological problems are very common among help-seeking young people. Psychiatric symptoms are often associated with impaired psychosocial functioning that is a negative predictor of outcome and needs to be targeted with focused treatment. The mean age of our sample highlights the problem of transferring from a child and adolescent service to an adult service at the age of 18. Nevertheless, the help-seeking behaviour of young people is in contrast with the barriers presented by the Italian community mental health system that is modelled around adults'

needs. As many researchers have argued, to try to go beyond these barriers is necessary in order to build a strong, stigma-free and effective system of care for young people up to the mid-20s (22). This reform is gaining significant ground in Australia (5, 43). In 2006, the Australian Federal Government established Headspace, the National Youth Mental Health Foundation, to promote and support early intervention in 12–25-year-olds. From this initiative, 55 Headspace clinical services currently operate throughout Australia. They are specialist-, youth- and carer-friendly youth services that ensure that young people's needs are met with a coordinated and integrated response. They include mental health services (including alcohol and drug services), primary health-care services (including sexual health consultations) and vocational assistance. Headspace clinical services provide a youth-friendly, stigma-free environment and offer a soft-entry point more appealing for young people. Similar programmes have since been established in other countries (UK, Ireland and Denmark, (43), (70)). For the Italian psychiatric system, this model should be a way forward to build an effective mental disorder prevention service. Investing in this direction is an important challenge for the future of Italian psychiatry.

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		N	Mean	SD	95% CI		Statistics		
					L	U	F	Sig.	
Age	M	165	17.06	5.63	16.20	17.93	1.298	0.255	
	F	173	17.76	5.60	16.92	18.60			
	Total	338	17.42	5.62	16.82	18.02			
				Tot	M (N=165)	F(N=173)	Statistics		
				N	%	N	%	χ²	P
Age groups	12-14			122	36	69	56.60	4.635	0.201
	15-18			125	37	55	44.00		
	19-25			52	15	23	44.20		
	26-35			39	12	18	46.20		
Father nationality	Italian			295	89	147	49.8	4.35	0.478
	Not Italian			35	11	15	42.9		
Mother nationality	Italian			298	90	149	50.0	0.33	0.369
	Not Italian			34	10	14	41.2		
Marital status	Single			328	97	161	49.10	2.014	0.365
	Married			7	2	3	42.90		
	Divorced			2	1	0	0.00		
Education	Primary school			88	26	57	64.80	22.225	0.000*
	Lower secondary school			165	49	64	38.80		
	Upper general secondary school			63	19	27	42.90		
	Upper vocational secondary school			14	4	11	78.60		
	Graduated			6	2	4	66.70		
Occupation	Student			262	79	131	50.00	3.125	0.537
	Unemployed			38	12	14	41.20		
	Employed			33	10	16	52.90		
Living area	Suburb			80	24	37	48.50	2.139	0.544
	Semi-suburb area			208	63	105	50.50		
	City-centre			45	14	19	42.20		

Table 1: summary of demographic characteristics of LIF participants (N=338).

		Tot		M		F		Statistics	
		N	%	N	%	N	%	χ^2	P
Source of referral	Psychiatrist	18	6	10	55.60	8	44.40	8.057	0.09
	Other health professionals	71	22	30	42.30	41	57.70		
	School or legal agencies	63	19	40	63.50	23	36.50		
	Family	107	33	49	45.80	58	54.20		
	Self-referrals	62	19	27	43.50	35	56.50		
Reason for referral	Anxiety	96	29	43	44.80	53	55.20	16.352	0.003*
	Depression /mood	67	20	21	31.30	46	68.70		
	Psychotic symptoms	16	5	12	75.00	4	25.00		
	Relational or school difficulties	110	33	63	57.30	47	42.70		
	Other	44	13	22	50.00	22	50.00		
Psychotropic substance use	No	260	77	128	49.20	132	50.80	0.077	0.781
	Yes	78	23	37	47.40	41	52.60		
Psychiatric diagnosis	No diagnosis	35	12	21	60.00	14	40.00	18.344	0.011*
	Anxiety	107	35	46	43.00	61	57.00		
	Mood	62	21	22	35.50	40	64.50		
	Psychosis	10	3	6	60.00	4	40.00		
	PD	12	4	5	41.70	7	58.30		
	Adjustment	26	9	18	69.20	8	30.80		
	Childhood (ADHD, conduct disorder)	34	11	23	67.60	11	32.40		
	other	16	5	6	37.50	10	62.50		
Previous psychiatric treatment	Nothing	180	54	87	48.30	93	51.70	3.645	0.456
	Psychotherapy	107	32	49	45.80	58	54.20		
	Drugs	28	8	15	53.60	13	46.40		
	Combined	15	5	8	53.30	7	46.70		
	Other	6	2	5	83.30	1	16.70		

Table 2: summary of clinical characteristics of LIF participants (N=338)

		N	Mean	SD	95% CI		Statistics		
					L	U	F	Sig.	
PQ total	M	162	29.9	17.74	27.14	32.65	8.481	0.004*	
	F	169	35.49	17.21	32.88	38.11			
	Total	331	32.75	17.67	30.84	34.66			
PQ positive	M	164	13.08	9.08	11.68	14.48	5.275	0.022*	
	F	170	15.33	8.82	13.99	16.67			
	Total	334	14.22	9.00	13.25	15.19			
PQ negative	M	162	7.14	4.77	6.40	7.88	8.651	0.004*	
	F	169	8.65	4.56	7.96	9.34			
	Total	331	7.91	4.72	7.40	8.42			
PQ general	M	163	5.75	3.62	5.19	6.32	14.242	0.000*	
	F	169	7.27	3.67	6.71	7.82			
	Total	332	6.52	3.72	6.12	6.93			
PQ disorganized	M	164	3.87	2.76	3.44	4.29	1.771	0.184	
	F	169	4.3	3.11	3.82	4.77			
	Total	333	4.08	2.95	3.77	4.4			
GFRS	M	163	6.17	1.53	5.93	6.41	12.807	0.000*	
	F	168	6.77	1.49	6.54	7.00			
	Total	331	6.47	1.54	6.31	6.64			
GFSS	M	163	6.46	1.33	6.25	6.67	11.316	0.001*	
	F	168	6.92	1.16	6.75	7.10			
	Total	331	6.69	1.27	6.56	6.83			
GAF	M	155	62.58	12.40	60.61	64.55	7.422	0.007*	
	F	166	66.17	11.22	64.45	67.90			
	Total	321	64.44	11.92	63.13	65.75			
IPSM: total scores	M	154	87.02	20.48	83.76	90.28	13.727	0.000*	
	F	164	94.82	17.00	92.2	97.45			
	Total	318	91.04	19.14	88.93	93.16			
IPSM: need of approval	M	154	22.61	4.85	21.84	23.38	2.951	0.087	
	F	164	23.46	3.98	22.85	24.08			
	Total	318	23.05	4.43	22.56	23.54			
IPSM: interpersonal awareness	M	154	17.61	5.21	16.78	18.44	15.085	0.000*	
	F	164	19.82	4.91	19.06	20.58			
	Total	318	18.75	5.17	18.18	19.32			
IPSM: separation anxiety	M	154	19.05	5.83	18.12	19.98	22.80	0.000*	
	F	164	22.05	5.37	21.23	22.88			
	Total	318	20.6	5.79	19.96	21.24			
IPSM: timidity	M	154	18.25	5.20	17.43	19.08	0.885	0.347	
	F	164	18.79	5.02	18.02	19.57			
	Total	318	18.53	5.10	17.97	19.1			
IPSM: fragile inner self	M	154	9.86	3.82	9.25	10.47	1.538	0.216	
	F	164	10.41	4.08	9.78	11.04			
	Total	318	10.14	3.96	9.70	10.58			
		Total		Male		Female		Statistics	
		N	%	N	%	N	%	χ^2	P
PQ \geq 18	no	238	71	120	50.40	118	49.60	0.576	0.448

	yes	96	29	44	45.80	52	54.20		
GFRS reduction	same	203	61	99	48.80	104	51.20	0.65	0.722
	reduction	119	36	61	51.30	58	48.70		
	increment	8	3	3	37.50	5	62.50		
GFSS reduction	same	206	62	101	49.00	105	51.00	0.336	0.846
	reduction	122	37	61	50.00	61	50.00		
	increment	3	1	1	33.30	2	66.70		

Table 3: summary of psychopathological characteristics of LIF participants(N=338). PQ: Prodromal Questionnaire; GFRS: Global Functioning Role Scale; GFSS: Global Functioning Role Scale; GAF: Global assessment of functioning; IPSM: Interpersonal Sensitivity Measure.

		Tot		M		F		Statistics	
		N	%	N	%	N	%	χ^2	P
Study:	not completed	157	49	75	47.80	82	52.20	0.526	0.468
Study:	completed	166	52	86	51.80	80	48.20		
UHR	yes	64	38.60	33	51.60	31	48.40	0.002	0.96
BS	present	92	58.20	49	47.60	54	52.40	1.742	0.187
COGDIS	present	60	38.00	34	49.30	35	50.70	0.275	0.600
COPER	present	92	58.20	49	47.60	54	52.40	1.742	0.187

Table 4: summary of psychotic prodromal symptoms of full-assessed LIF participants (N=166). UHR: Ultra High Risk; COGDIS: Cognitive Symptoms; COPER: Cognitive Perceptive Symptoms; BS: Basic Symptoms.