Exploring the Predictive Power of the Unspecific Risk Category (URC) of the Basel Screening Instrument for Psychosis (BSIP)

Running title: Unspecific risk for psychosis

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Abstract

Aim: The Ultra High Risk (UHR) criteria, consisting of Brief Limited Intermittent Psychotic Symptoms (BLIPS), Attenuated Psychotic Symptoms (APS) and Genetic Risk and Deterioration Syndrome (GRD) are the most widely used criteria for assessing the At-Risk Mental State (ARMS) for psychosis. The Basel Screening Instrument for Psychosis (BSIP) includes a further risk category, the Unspecific Risk Category (URC). However, little is known about the predictive power of this risk category compared to other risk categories.

Methods: Two hundred ARMS patients were detected as part of the ***FePsy*** (***F***rüh***e***rkennung von ***Psy***chosen) study using the BSIP. Transition to psychosis was assessed in regular intervals for up to 7 years.

Results: Patients meeting only the URC criterion (n = 40) had a significantly lower risk of transition to psychosis than the UHR group (including BLIPS, APS and GRD) (HR 0.19 [0.05; 0.80] p=0.024*). Furthermore, the URC only risk group had a lower transition risk than the APS without BLIPS group (p= 0.015) and a trendwise lower risk than the BLIPS group (p=0.066). However, despite the lower transition risk in the URC only group, there were still 2 patients (5%) in this group with a later transition to psychosis.

Conclusions: The URC includes patients who have a lower risk of transition than those included by the UHR categories and thereby increases the sensitivity of the BSIP. This offers the possibility of a stratified intervention, with these subjects receiving low intensity follow up and treatment.

KEYWORDS: follow-up studies; prodromal symptoms; psychotic disorders; risk; sensitivity and specificity

1. INTRODUCTION

There is increasing evidence that intervention in a potential prodromal phase of psychosis can lead to improved outcomes in many domains (McGorry et al., 2009; Riecher-Rössler, McGorry, & Sartorius, 2016). Several clinical instruments have been developed to capture the potential prodromal phase of a psychotic disorder, leading to operationalized criteria for clinical high risk (CHR) or at-risk mental states (ARMS) (Fusar-Poli, Borgwardt, Bechdolf, & et al., 2013). The major approach to psychosis prediction in the last two decades was based on the Ultra High Risk criteria (UHR), focusing mainly on “prepsychotic symptoms” i.e., Attenuated Psychotic Symptoms (APS), Brief Limited Intermittent Psychotic Symptoms (BLIPS) and the so called “genetic risk and deterioration syndrome” (GRD); patients meeting UHR criteria show transition rates of up to 36% after 3 years of initial presentation (Fusar-Poli, Bonoldi, Yung, & et al., 2012). Another important line of research has been the Basic Symptom (BS) approach, which focuses on subjectively perceived cognitive and sensory changes that are qualitatively different from positive psychotic symptoms (Klosterkötter, Hellmich, Steinmeyer, & Schultze-Lutter, 2001). These are thought to represent an earlier risk stage (Schultze-Lutter, Ruhrmann, Berning, Maier, & Klosterkötter, 2010).

Instruments assessing psychosis risk based on UHR and BS criteria in help seeking patients show excellent sensitivity but only modest specificity, with high rates of false positives (Fusar-Poli et al., 2015). However, several studies have shown that this can be improved by integrating further clinical, neurobiological and environmental factors into prediction models (Riecher-Rössler & Studerus, 2017). For example, specific aspects of psychopathology, social decline, and neurocognitive impairment have shown to be suitable candidates for multidomain assessment and increase of predictive power (Cannon et al., 2016; Riecher-Rössler et al., 2013; Riecher-Rössler et al., 2009).

The Basel Screening Instrument for Psychosis (BSIP) was developed in the late 1990’s by (Riecher-Rössler et al., 2008) with the aim of identifying not only patients at “Ultra High Risk”

(i.e., suffering from BLIPS, APS or GRD) but also patients thought to be at lower risk because of having less specific prodromal symptoms and risk factors for psychosis. A combination of these factors constitutes the Unspecific Risk Category (URC) of the BSIP. Specifically, it consists of the nine DSM-III-R (Diagnostic and Statistical Manual of Mental Disorders, 3rd edition-Revised) (American Psychiatric Association, 1987) prodromal symptoms and other unspecific prodromal symptoms and risk factors found in previous studies (Riecher-Rössler et al., 2008; Riecher-Rössler et al., 2006). The BSIP thus allows to assess the UHR criteria following Yung et al. (1998) and in addition to that defines a low risk or unspecific risk category. The instrument has been demonstrated to have a high predictive validity and reliability (Riecher-Rössler et al., 2008) and ARMS patients identified by the BSIP have shown transition rates that are comparable to those reported by other groups (Riecher-Rössler et al., 2013; Riecher-Rössler et al., 2008). An English translation of the BSIP can be found in the supplementary material.

The creation of the URC was based on research findings reporting that up to 73% of patients later diagnosed as having schizophrenia had shown unspecific or negative symptoms before manifesting overt psychotic symptoms (Häfner et al., 1998). However, many URC symptoms overlap with those of other mental disorders and therefore they lack specificity. It was hypothesized that a combination of these symptoms with other known risk factors (e.g., social decline, drug use, previous behavioral or psychiatric problems and/or genetic risk) could indicate an increased risk of psychosis in help seeking individuals. To date, the predictive accuracy of the URC and its single components remains unknown and the predictive performance of DSM-III-R prodromal symptoms has only been tested retrospectively in psychotic patients (Jackson, McGorry, & Dudgeon, 1995).

Thus, the main objective of the study was to assess the predictive value of the URC of the BSIP for a later transition to psychosis as compared to the more widely established UHR criteria. A second goal was to assess the predictive performance of the individual items comprised in the URC. Due to the unspecific nature of the symptoms and risk factors

101 comprised in the URC, we hypothesized that patients meeting only the URC would show a
102 lower risk of transition to psychosis than patients meeting any of the UHR criteria.

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104 **2. METHODS**

105 **2.1 Setting and recruitment**

106 Study participants were recruited between March 1, 2000 and May 31, 2017 as part of the
107 prospective "***Fr***üh***e***rkennung von ***Psy***chosen" (***FePsy***; English: early detection of psychosis)
108 study. A detailed description of the study design can be found elsewhere (Riecher-Rössler et
109 al., 2007; Riecher-Rössler et al., 2009). In brief, patients suspected to be in their early
110 (prodromal) phase of psychosis were referred to our specialized early detection clinic at the
111 University of Basel Psychiatric Hospital, Switzerland. To encourage early, low threshold
112 referrals, widespread information campaigns were performed during the study period
113 targeting both potential referring professionals and lay people. Risk check-lists for referrals
114 and self-screening instruments were developed and distributed as described in detail in
115 previous publications (Müller et al., 2010; Riecher-Rössler et al., 2013). After complete
116 description of the study to the subjects, written informed consent was obtained. The study
117 was approved by the ethics committee of North-western and Central Switzerland (EKNZ) and
118 conforms to the provisions of the declaration of Helsinki of 1975, as revised in 2008.

119 Patients were included into this study if they met ARMS criteria (see below) and did not meet
120 any of the following exclusion criteria: age below 18 years, insufficient knowledge of German,
121 IQ < 70, previous episode of schizophrenic psychosis (treated with antipsychotics for >3
122 weeks or exceeding lifetime cumulative chlorpromazine equivalent dose of 2500 mg),
123 psychosis clearly due to organic reasons or substance abuse, or psychotic symptomatology
124 within a clearly diagnosed affective psychosis or borderline personality disorder.

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2.2 Screening

All patients referred to our early detection center were screened with the Basel Screening Instrument for Psychosis (BSIP). A detailed description of the instrument can be found in a previous publication (Riecher-Rössler et al., 2008). The English version of the BSIP is available online as Supporting Information. Briefly, this instrument allows assessing pre-psychotic and psychotic symptoms but also includes early prodromal symptoms as specified in the DSM-III-R (American Psychiatric Association, 1987) and other unspecific potential prodromal symptoms and risk factors for psychosis as reported in literature such as young age, drug abuse, psychoses in family members or social decline (Riecher-Rössler et al., 2008; Riecher-Rössler et al., 2006). It includes 7 domains of symptoms, signs and risk factors. The BSIP has shown a good inter-rater reliability ($\kappa = 0.67$) for the assessment of the main outcome category “at-risk for psychosis” and a high predictive validity (Riecher-Rössler et al., 2008).

Inclusion as ARMS patient occurred if one of the following criteria was met: (1) Prepsychotic category: APS or BLIPS according to criteria by Yung et al. (1998); (2) Genetic risk category (GRC): genetic risk in combination with 2 or more other risk factors such as social decline; (3) Unspecific Risk Category (URC): a certain combination of risk factors according to the screening instrument. A more precise description of the risk categories is accessible in the English version of the BSIP (see Supporting Information). Patients classified under categories (1) and (2) are considered at “high risk” because they show more psychosis-related symptoms or risk factors, whereas patients in category (3) show rather unspecific symptoms and risk factors and are thus considered has having a “lower risk”.

Patients were classified as having an ARMS, as not having an ARMS or as having an established first episode psychosis.

2.3 Assessment of current psychopathology

In addition to screening with the BSIP, patients were examined on other aspects of psychopathology. Negative symptoms were assessed with the Scale for the Assessment of Negative Symptoms (SANS) (Andreasen, 1989) and positive and disorganized symptoms were examined with the Brief Psychiatric Rating Scale- Expanded version (BPRS- E) (Ventura et al., 1993). BPRS subscales were calculated according to the five-factor model recently proposed by Dazzi, Shafer, and Lauriola (2016).

2.4 Follow up

If patients fulfilled criteria for having an ARMS they were asked to take part in further multi-domain assessments and in a follow-up study. Patients who agreed to participate were reassessed at regular intervals for up to 7 years to examine whether transition to psychosis had occurred. Transition to psychosis was assessed according to the criteria of Yung et al. (1998) using the four BPRS items “suspiciousness”, “unusual thought content”, “hallucinations” and “conceptual disorganization”. During the first year of the follow-up, ARMS patients were assessed monthly, during the second and third years every 3 months, and thereafter annually.

2.5. Statistical analyses

All analyses were performed using the R environment for statistical computing (R Development Core Team, 2017). The predictive potential of baseline sociodemographic and clinical variables, as well as of different risk groups, was investigated using survival analysis methods. Survival models are more appropriate than binary outcome (i.e., transition vs. non-transition) models in prospective studies with longer-term diagnostic outcomes and regular follow-up assessments because they not only take transition vs. non-transition into account but also the time to transition and thus have more statistical power (van der Net et al., 2008). Furthermore, whereas binary outcome models must exclude patients with short follow-up duration, which leads to further reduced power and potentially unrepresentative samples,

survival models do not suffer from this problem because they can treat patients with incomplete follow-up as censored observations (i.e., patients can still provide information for estimating the probability of transition up to the time they were followed up). For binary and continuous independent variables, we used log-rank and cox proportional hazard models, respectively.

Since the four risk criteria of the BSIP had large overlaps, we stratified study participants hierarchically based on the fulfillment of four non-overlapping conditions: 1) BLIPS; 2) APS, but not BLIPS; 3) GRD, but not APS or BLIPS; and 4) URC, but not BLIPS, APS, or GRD (i.e., URC only). We then performed log-rank tests to compare the rate of transition to psychosis between the URC only group and groups 1 to 3 individually and combined.

3. RESULTS

3.1 Baseline demographic and clinical characteristics

745 patients with suspected ARMS were screened of whom 310 were identified as having an ARMS. Of these, 200 provided written informed consent and thus were included into this study. Forty-four (22%) of these patients transitioned to psychosis within the follow-up period (ARMS-T) and 156 did not (ARMS-NT). Mean follow-up time was 3.04 years (median 2.66, range 0.03-7.00) for ARMS-NT patients and 1.35 years (median 0.77, range 0.01-6.51) for ARMS-T patients.

The frequencies of different risk categories, as well as their overlap, are presented in **Figure 1**. All patients fulfilling APS or BLIPS criteria also met the URC criterion. Among those in the GRD category all except two also met the URC criterion. Forty (20%) patients were only included because they had a combination of unspecific risk factors, that is, because they met the URC only criterion.

Socio-demographic and clinical characteristics at baseline of the total study sample, as well as of ARMS-T and ARMS-NT patients, are shown in **Table 1**. None of the sociodemographic variables were significantly associated with later transition to psychosis. However, higher scores at baseline in the BPRS total score, in the BPRS subscales of "positive symptoms" and "disorganization" significantly increased the risk of transition to psychosis (p = 0.037, p = 0.001 and p =0.011 respectively).

When the sample of ARMS patients was stratified hierarchically (BLIPS, APS but not BLIPS, GRD but not APS or BLIPS, URC only), risk criteria were distributed as follows: 15 (7.5%) patients met the BLIPS criterion, 128 (64%) had APS but not BLIPS, 17 (8.5%) had GRD but not APS or BLIPS, and 40 (20%) met the URC only criterion **(Table 2**).

3.2 Differences in transition rates across risk categories

Patients meeting the URC only criterion had a significantly lower risk of transition to psychosis than all other risk groups combined (HR 0.19 [0.05; 0.80] p = 0.024*). Furthermore, the URC only risk group had a lower transition risk than the APS without BLIPS group (p = 0.015) and a trendwise lower risk than the BLIPS group (p = 0.066) **(Table 2).** **Figure 2** shows the Kaplan-Meier estimates of the proportion of patients remaining non-psychotic for each of the four risk categories (stratified hierarchically).

3.3 Individual items of the URC

Among the individual items comprised in the URC criterion, within the total group of all patients, only the item "*ever experienced psychotic or attenuated psychotic symptoms"* showed a significant increase of risk for transition to psychosis (HR 6.70 [1.62; 27.7] p = 0.009**). The DSM-III-R prodromal symptom "*odd beliefs"* showed a trend towards increased risk (HR 1.76 [0.96; 3.21] p = 0.066). None of the other items seemed to significantly increase the risk individually. However, most of the items had a greater prevalence among subjects who later transitioned to psychosis than among those who did not transition **(Table 3).**

4. DISCUSSION

The present study investigated the predictive power for transition to psychosis of different ARMS categories identified with the BSIP in patients followed-up for up to 7 years. Recent studies have shown that the construct of ARMS is not homogeneous (Fusar-Poli et al., 2016) and that clinical staging or stratification of risk may be necessary to better plan and individualize treatment strategies (Cannon et al., 2016; Fusar-Poli, 2017). Accordingly, we found that high risk categories yielded very heterogeneous results regarding transition to psychosis. The fact that none of the patients meeting the GRD criterion (without APS or BLIPS) transitioned to psychosis is in line with recent findings showing that this category may not be suitable for risk prediction, at least in the short-term, and that it should be viewed as a different class of risk (Fusar-Poli et al., 2016; Schultze-Lutter et al., 2015).The APS category is nowadays the most frequently found in ARMS samples and the most solidly supported risk category of the ARMS construct (Cornblatt & Carrion, 2016) and it is being used as the main category in novel clinical staging models (Carrion, Correll, Auther, & Cornblatt, 2017). In accordance with this, we found that APS was the most prevalent risk group in our sample of ARMS patients and that its presence significantly increased the risk of transition to psychosis.

The main aim of the study, however, was to assess the predictive power of the URC criterion with regards to psychosis transition. We could confirm the hypothesis that this category included individuals with a considerably lower risk of transition than the UHR group. This is probably due to the fact that some of the symptoms and risk factors of the URC (e.g., social isolation, lack of initiative, impaired role functioning, drug use) are also important features of common mental disorders such as depression and anxiety (Horneland, Vaglum, & Larsen, 2002). Nevertheless, it is well known that the prodromal phase of psychotic disorders is characterized by many of these unspecific symptoms (Häfner et al., 1998; Häfner, Riecher-Rössler, Hambrecht, et al., 1992; Häfner, Riecher-Rössler, Maurer, Fätkenheuer, & Löffler, 1992; Riecher-Rössler et al., 2006). Therefore, attributing these manifestations of

psychopathology to a possibly emerging psychotic illness can be a challenging task (Aston et al., 2012). The high rates of comorbidity in ARMS patients, especially with depressive disorders (Fusar-Poli, Nelson, Valmaggia, Yung, & McGuire, 2014), create a picture of mixed early subthreshold symptoms (some with psychotic expression), with some authors proposing a transdiagnostic model for the early assessment (Cuesta & Peralta, 2008; McGorry & Nelson, 2016; Riecher-Rössler & Studerus, 2017; van Os & Guloksuz, 2017). Additionally, in our sample, we could not demonstrate that any individual item comprising the URC was significantly associated with later transition to psychosis, except for the item "*ever experienced psychotic or attenuated psychotic symptoms"*. This may reflect the fact that this item is largely overlapping with APS or BLIPS risk criteria (i.e., patients meeting APS or BLIPS risk criteria also met the mentioned item of the URC, but not vice versa).

Despite the lower specificity of these symptoms, we have recently shown that by including the URC the BSIP ensures not to miss any referred individual at-risk who later transitioned to frank psychosis (sensitivity of 1) at the cost of identifying more false positives (specificity of 0.35) (Papmeyer et al., 2017). As shown in this study, among the patients included in the URC only category, 5% transitioned to psychosis, which is still not negligible considering that otherwise these patients would not have been identified as at-risk patients.

Major strengths of the study are the long period of follow up compared to many of the UHR studies so that transitions could be seen up to seven years after initial assessment and the big sample size. The main limitation of the study is that the results shown provide the predictive performance of a certain risk category in comparison to others with a somehow artificial distinction of risk groups to avoid overlap of different categories.

In conclusion, our results support the need for a more exact distinction of the components of the ARMS construct with different classes of risk guiding more specific interventions. Integrating the URC into the clinical staging model for psychotic and severe mood disorders as proposed by McGorry, Hickie, Yung, Pantelis, and Jackson (2006), we could assimilate this subgroup to the stage 1a (mild or non-specific symptoms). This stage represents a lower

grade of psychopathology compared to patients who meet the UHR criteria (stage 1b). The access to low-stigma services with psychoeducation, monitoring and low threshold interventions (e.g., substance abuse reduction, cognitive behavioral therapy) addressing the full range of early psychopathology and according to the individuals needs may be a useful strategy for these patients.

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Conflicts of interest:

All authors declare to have no conflicts of interest regarding the content of this article.

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Table 1: Socio-demographic and clinical characteristics of the sample

	All N=200	ARMS-NT† N=156	ARMS-T N=44	Hazard Ratio [95% CI]	*p*-value
Gender:					
Women	62 (31.0%)	44 (28.2%)	18 (40.9%)	Ref.	
Men	138 (69.0%)	112 (71.8%)	26 (59.1%)	0.67 [0.37;1.23]	0.194
Age	25.1 (6.9)	24.9 (7.0)	25.8 (6.5)	1.00 [0.97;1.04]	0.818
Years of education	11.7 (2.8)	11.9 (2.9)	11.1 (2.4)	0.90 [0.81;1.01]	0.079°
BPRS Activation	3.8 (1.5)	3.8 (1.5)	3.9 (1.7)	1.06 [0.89;1.27]	0.501
BPRS Positive Symptoms	5.5 (2.1)	5.3 (2.1)	6.3 (2.0)	1.24 [1.09;1.42]	0.001***
BPRS Negative Symptoms	5.5 (2.7)	5.4 (2.6)	5.7 (2.9)	0.99 [0.89;1.11]	0.888
BPRS Affect	6.8 (2.8)	6.7 (2.9)	7.0 (2.7)	1.03 [0.93;1.14]	0.590
BPRS Disorganization	3.9 (1.3)	3.8 (1.2)	4.4 (1.7)	1.27 [1.05;1.52]	0.011*
BPRS total score	39.3 (8.8)	38.6 (8.5)	41.8 (9.4)	1.03 [1.00;1.07]	0.037*
SANS total score	21.5 (16.1)	20.6 (16.3)	24.7 (15.0)	1.01 [0.99;1.03]	0.269

For gender, absolute numbers with percentages in parenthesis are reported. For all other variables means with standard deviations in parenthesis are reported. ARMS-NT = at-risk mental state without later transition to psychosis; ARMS-T = at-risk mental state with later transition to psychosis; CI = confidence interval; BPRS = Brief Psychiatric Rating Scale (Ventura et al., 1993); SANS = Scale for the Assessment of Negative Symptoms (Andreasen, 1989).

° $p < 0.1$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$† 66 of these patients had a follow-up duration of less than 2 years and hence can only be tentatively called ARMS-NT patients. However, since associations with later transition to psychosis were tested with survival analyses, which can accommodate for short follow-up durations, significance estimates should still be accurate.

437 **Table 2:** Psychosis risk comparison for different risk categories using survival analysis.

	All N=200	ARMS-NT[†] N=156	ARMS-T N=44	Hazard Ratio [95% CI]	*p*-value
Risk group:					
BLIPS	15 (7.5%)	11 (7.1%)	4 (9.1%)	4.93 [0.90;27.0][‡]	0.066°
APS, but not BLIPS	128 (64.0%)	90 (57.7%)	38 (86.4%)	5.84 [1.41;24.2][‡]	0.015*
GRD, but not APS or BLIPS	17 (8.5%)	17 (10.9%)	0 (0.0%)	0.00 [0.00;][‡]	0.997
URC only	40 (20.0%)	38 (24.4%)	2 (4.5%)	0.19 [0.05;0.80][§]	0.024*

ARMS-NT = at-risk mental state without later transition to psychosis; ARMS-T = at-risk mental state with later transition to psychosis; CI = confidence interval; APS = attenuated psychotic symptoms; BLIPS = brief limited intermittent psychotic symptoms; GRD = genetic risk and deterioration syndrome; URC = unspecific risk category.

° $p < 0.1$, * $p < 0.05$ [†] 66 of these patients had a follow-up duration of less than 2 years and hence can only be tentatively called ARMS-NT patients. However, since associations with later transition to psychosis were tested with survival analyses, which can accommodate for short follow-up durations, significance estimates should still be accurate.

[‡] When compared to the URC only group

[§] When compared to all other risk groups combined

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439 **Table 3:** Predictive values of items comprised in the URC criterion of the BSIP in the total
440 sample
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	ARMS-NT[†] N=156	ARMS-T N=44	Hazard Ratio [95% CI]	*p*-value	N[‡]
Male < 25 years or female < 30 years	10 (69.2%)	27 (61.4%)	0.78 [0.42;1.43]	0.421	200
Social isolation	82 (52.9%)	24 (57.1%)	1.29 [0.70;2.39]	0.411	197
Impaired role functioning	107 (69.9)	32 (74.4%)	1.29 [0.65;2.56]	0.468	196
Peculiar behavior[§]	20 (12.9%)	3 (7.0%)	0.54 [0.17;1.75]	0.304	198
Impairment in personal hygiene	23 (14.9%)	10 (23.3%)	1.69 [0.83;3.44]	0.145	197
Blunted or inappropriate affect	73 (49.0%)	20 (48.8%)	1.15 [0.62;2.12]	0.665	190
Disturbances of speech[§]	29 (18.8%)	8 (19.5%)	1.04 [0.48;2.26]	0.917	195
Odd beliefs[§]	45 (29.2%)	21 (48.8%)	1.78 [0.97;3.24]	0.061°	197
Unusual perceptual experiences[§]	60 (39.5%)	21 (48.8%)	1.28 [0.70;2.32]	0.425	195
Lack of initiative	108 (69.7)	32 (78.0%)	1.59 [0.76;3.34]	0.223	196
Other unspecific prodromal signs	135 (86.5)	34 (79.1%)	0.72 [0.35;1.50]	0.382	199
Ever experienced psychotic or attenuated psychotic symptoms[§]	109 (69.9)	42 (95.5%)	6.70 [1.62;27.7]	0.009**	200
Social decline[§]	112 (73.2)	31 (72.1%)	1.05 [0.54;2.05]	0.878	196
Drug use (regularly in the last 2 years)	67 (43.2%)	21 (48.8%)	1.41 [0.78;2.57]	0.258	198
Previous psychiatric disease	96 (62.7%)	20 (47.6%)	0.62 [0.34;1.13]	0.119	195
Suspected or confirmed psychosis in first-degree relative	24 (18.2%)	8 (19.5%)	1.02 [0.47;2.22]	0.954	173
Confirmed psychosis in second-degree relative	24 (18.5%)	3 (7.3%)	0.44 [0.13;1.42]	0.168	171
Referral with suspected psychosis	95 (79.8%)	18 (66.7%)	0.63 [0.28;1.41]	0.262	146

BSIP = Basel Screening Instrument for Psychosis; ARMS-NT = at-risk mental state without later transition to psychosis; ARMS-T = at-risk mental state with later transition to psychosis; CI = confidence interval; APS = attenuated psychotic symptoms; BLIPS = brief limited intermittent psychotic symptoms; URC = unspecific risk category.

° $p < 0.1$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

[†] 66 of these patients had a follow-up duration of less than 2 years and hence can only be tentatively called ARMS-NT patients. However, since associations with later transition to psychosis were tested with survival analyses, which can accommodate for short follow-up durations, significance estimates should still be accurate.

[‡] Number of cases with non-missing information

[§] Highly specific items according to the BSIP.

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FIGURE LEGENDS

Figure 1. Venn diagram showing number of cases fulfilling criteria for attenuated psychotic symptoms (APS), brief limited intermittent psychotic symptoms (BLIPS), genetic risk and deterioration syndrome (GRD) and the unspecific risk category (URC) at baseline assessment.

Figure 2. Kaplan-Meier estimates of proportions of individuals remaining non-psychotic over time stratified for different risk criteria.