in January 2012. A concise summary of the statements is given in the Table.

Mental Health Policies on Psychotic Disorders

In general, Asian countries are faced with a lack of resources in early intervention for severe mental health conditions including psychotic disorders, compared with our western counterparts. Among Asian cities where early intervention programmes have commenced, high caseloads and suboptimal management remain a problem within public mental health systems. Regional and international clinical studies[3-8] have provided evidence for the cost-effectiveness of comprehensive early intervention for patients with first-episode psychosis, especially during the critical period immediately following illness onset. The extra manpower and other resource input for early intervention can be offset by reduced service utilisation in terms of hospital stay and emergency services. Close collaboration between mental health policy-makers, researchers, and clinicians is needed for more informed planning in cost-effective resource allocation and achieving the best patient outcomes and mental health care at the societal level.

Clinical Care

A set of practical clinical standards for psychosis management, including pharmacotherapy and psychosocial intervention, should be developed, taking into account Asian-specific factors in terms of physiology, psychology, cultural values, and resource limitations. In particular, we sought to:

- explore and pioneer optimal interventional approaches in the context of low mental health resources and high caseload (e.g. utilisation of the primary health service in developing clinical standards, education, and training materials);
- explore and enhance Oriental cultural, societal, and familial strengths for better care of early psychosis patients;
- encourage community care instead of institutional care for early psychosis;
- understand service delivery barriers to early psychosis detection and management;

- advocate adequate consultation time for early psychosis patients; and
- develop training systems for specialised professionals working in early psychosis.

Pharmacotherapy

Antipsychotics are the mainstay of treatment for psychotic disorders. In Asia, the patients and their family's acceptance of medication treatment remains low and should be enhanced, and clinical experience should be accumulated on the use of antipsychotics in Asian populations. There are needs to: (1) reinforce correct perception of pharmacotherapy and attitudes to medication in early psychosis patients and their families; and (2) explore how treatment response and side-effects of medication are different among Asians in terms of ethnopsychopharmacogenetics.

Psychosocial Intervention

Non-medication interventions have crucial impacts on the outcomes of patients with psychotic disorders. Provision of psychosocial intervention services should be greatly strengthened in the region. We need to:
- provide evidence-based, culturally adapted psychosocial interventions to achieve the best possible clinical outcomes during the early critical period of the illness — these may include cognitive behavioural therapy (CBT), family therapy, and multidisciplinary team approaches;
- provide active and intensive psychosocial interventions by increasing consultation time, and using case management with community service programmes;
- develop and share clinical experience in modified CBT based on Oriental thinking, such as an emphasis on awareness and perception compared with a rational approach;
- develop and share experience in the implementation of community service programmes appropriate to various Asian contexts;
- capitalise on the unique Asian value of strong familial ties by promoting family support in psychosis management, including psycho-education for family members about early detection of warning signs, and psychological support for carers; and

Table. Abbreviated Early Psychosis Declaration for Asia.

1. To facilitate close collaboration between mental health policy-makers, researchers, and clinicians, in order to inform service planning and increase resources allocated for cost-effective early psychosis intervention
2. To develop a set of Asian-specific clinical practice standards for psychosis management via: • pharmacotherapy: to enhance acceptance of medication treatment, and to investigate pharmacological responses in Asians; and • psychosocial intervention: to strengthen the provision of evidence-based, culturally adapted psychosocial intervention services in the region
3. To understand and to raise the level of awareness in psychosis through public education tailored for Asian perspectives
4. To consolidate an Asian-specific evidence base on psychotic disorders, to promote research work and data-driven intervention in the region, and to facilitate collaborative projects in Asian populations

- mobilise community leaders (e.g. religious, local, or extended families leaders), an important group with great influence that can be found in most Asian cultures, as partners in psychosocial intervention.

Education and Public Awareness

The level of awareness and understanding of psychosis remains relatively low in Asia, which contributes to long delays in help seeking, barriers to treatment compliance, and extra psychological burdens to patients and their families. Efforts are required to:
- develop and share educational materials such as brochures, posters, videos, and handouts, with a focus on psychosis rather than schizophrenia, and present them to the public in an easy and acceptable fashion for Asian or Oriental perspectives;
- promote early detection of psychosis to minimise hospitalisation and chronic disability; and
- understand and address public awareness and stigma associated with psychosis in Asian populations.

Research

An Asian-specific evidence base needs to be consolidated to better inform policy-making, clinical management, and education strategies. Concerted research efforts among Asian countries and sites are needed. We aim to: (1) promote research work and data-driven intervention as an integral component of early psychosis management; and (2) pursue collaborative projects in areas of high research priority, including:
- risk population studies in Asia;
- duration of untreated psychosis and help-seeking behaviour in Asian societies;
- early intervention during the critical period (e.g. optimal duration and outcomes of the intervention service);
- efficacy of community service programmes;
- intervention for cognitive functioning;
- biomarkers of disease vulnerability and psychosis phenotypes in Asians;
- antipsychotic treatment response in Asian populations; and
- the role of sociocultural factors in the treatment of and recovery from early psychosis in Asia.

Our Visions

With this Declaration, we aim to achieve:
- enhanced communication among mental health stakeholders and policy-makers to allocate reasonable resources for cost-effective management in the early intervention of psychosis in Asia;
- development of clinical practice standards in psychosis in Asia, with an emphasis on optimal early intervention and community care;
- promotion of pharmacological and psychosocial

management of psychosis tailored to the Asian situation;
- heightened public awareness and understanding of psychosis at a regional level; and
- consolidation of high-quality and compatible scientific data on psychotic disorders specific to Asian populations.

Conclusions

As a global direction for mental health care, developing early intervention for psychosis will continue to be a primary focus of efforts in Asian countries. Work in this area must concentrate on the 3 fronts of clinical care, education, and research. With increasing recognition of the effectiveness of early psychosis management, it is anticipated that governments and relevant authorities might contribute sufficient resources to realise the directives as outlined above. Bearing in mind the heterogeneity in many aspects, including culture, ethnicity, religion, social values, and economic development among Asian countries, joint efforts focusing on the common sets of needs, challenges, and opportunities across the region will hopefully facilitate progress in early psychosis intervention in Asia. Together, the Asia region will move towards a more preventive and cost-effective model for the management of psychotic disorders, easing the burden of the illness on patients, families, and society.

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Whither the Attenuated Psychosis Syndrome?

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After 4 years of debate, a decision has been made. The attenuated psychosis syndrome (APS) will not be a coded diagnosis in the Diagnostic and Statistical Manual of Mental Disorders (DSM-5). Formerly known as the psychosis risk syndrome, the proposed diagnosis was based on criteria developed in the mid-1990s that were informed by a comprehensive review of retrospective studies on the prodromal phase of nonaffective psychosis.[1] These criteria aimed to identify prospectively people in the prodrome of schizophrenia and other psychotic disorders and have been variously titled "ultra high risk (UHR)," "clinical high risk (CHR)," "at risk mental state (ARMS)," and the "prodromal stage," and included a group with attenuated (subthreshold) positive psychotic symptoms.[2] The criteria are associated with rates of onset of psychotic disorder substantially higher than in the general population[3] and other clinical populations.[4] A recent meta-analysis reported the rate of onset of a psychotic disorder to be 36% after 3 years.[5] About 73% of those developing a psychotic disorder fulfill criteria for schizophrenia spectrum psychoses.[6] It should be noted that these data are from treated samples consisting of patients referred to specialist clinical services.

Despite the consistent finding that there is a high risk of developing a psychotic disorder associated with the APS group,[5] there has been considerable controversy around the idea of formally codifying it into a DSM5 diagnosis. Indeed, we, the authors of this communication, all active researchers in the area, have had differences in opinion about the merits of including APS as a new diagnosis in the DSM.[7–12]

One issue debated was the tension between the possibility of early intervention to prevent progression of disorder vs potential unnecessary diagnosis and treatment of what might be a self-limiting phase. The possibility of stigma and discrimination was also raised.[10,11] Some speculated that a formal diagnosis would be assumed to equate to an indication for antipsychotic medication and so increase the likelihood of antipsychotic prescription.[11] Others argued that the absence of an APS diagnosis has led to some clinicians using the term psychosis NOS (not otherwise specified), which may lead to antipsychotic prescription. The APS as an alternative to this diagnosis could then actually reduce antipsychotic prescribing.[9,12] Importantly, an APS diagnosis will enable evidence-based treatments to be developed, including

psychological therapies, and could therefore decrease antipsychotic use.[12]

Ultimately, the decision to exclude APS as a coded diagnosis was made not in response to any of the above issues or in the light of data addressing the principal disputes but because data on the diagnostic reliability of APS in clinical practice were limited and inconclusive.

Following this decision, some critics have been quick to denounce the whole APS/ultra high-risk/clinical high-risk/prodromal concept.[13–15] We, therefore, feel it is timely, as a group involved in high-risk (prodromal) research, to document some points of consensus between us and highlight areas for future research.

Points of Consensus

Attempts to recognize the prodrome of schizophrenia prospectively have been active for nearly 20 years.[2] Many samples of persons meeting high-risk criteria have been seen and evaluated. A strong consensus exists that individuals meeting APS criteria (which includes a criterion for help-seeking) are symptomatic and in need of clinical care.[16–18] People meeting the criteria do in fact fulfill the broad definition of mental disorder: "a clinically significant behavioral and psychological syndrome or pattern ... that is associated with present distress ... or disability ... or with a significantly increased risk of suffering death, pain, disability, or an important loss of freedom,"[19] (p. xxi). Thus, treatment is clearly justified, regardless of the justification of reduction of risk or prevention. We agree that this treatment should include monitoring of mental state, supportive therapy, and attention to current practical needs. Cognitive therapy and omega-3 fatty acids may also be helpful. On current evidence, antipsychotic medication is no more effective than other more benign treatments and so is typically not recommended.[20]

A second point of consensus is that people meeting APS criteria have a greatly increased risk of developing a psychotic disorder within a brief time frame.[3,5,21,22] Despite evidence that the transition rate (conversion from high-risk state to first-episode psychosis) may be declining in the short term[23] and the finding of low rate of psychosis in recent intervention trials,[24,25] its magnitude is similar to other risk syndromes,[26,27] and still in the order of hundreds fold above the risk of the general population. Given this, we agree that regular assessment of mental state to detect first episode of psychosis is indicated. The monitoring of mental state and early detection of psychosis allow prompt treatment and the minimization of the duration of untreated psychosis, which, if prolonged, is harmful to both patients and their families and is known to be associated with a poor outcome.[28,29]

Finally, we agree that more research into the APS is needed. We support the Psychotic Disorders Workgroup in its recommendation to include the APS as a category in the appendix (Section 3) of DSM-5 as a condition for further study.

Collectively, we have devoted many hours into thinking about this condition. Through our research and clinical experience with these patients, we have evolved our thinking and our conceptualization of APS. Initially, the high-risk criteria were developed, as the name suggests, to detect individuals at high risk of psychotic disorder. However, the use of the criteria should not be thought of as identifying and treating an asymptomatic group at risk of a poor outcome, analogous to detecting and treating hyperlipidemia to prevent myocardial infarction (MI). APS patients are symptomatic and distressed. Thus, angina may be a more apt analogy. However, better still is to think of the criteria as detecting chest pain. The condition is distressing, symptomatic, and leads to help seeking. It may indicate the early signs or risk for a serious cardiac disease such as MI, a serious but noncardiac disease, such as pneumonia or a benign self-limiting condition such as esophageal spasm or costochondritis. Likewise, APS may indicate the early signs or risk for illnesses such as nonaffective and affective psychotic disorder, presence or risk for a serious but nonpsychotic illness such as severe unipolar depression, or it may indicate something that is not serious and which may resolve, with or without treatments such as psychological support, stress reduction family interventions, and practical help.

This way of conceptualizing APS leads to many different paths for research. Suggestions for the future research agenda follow.

Expanding the Range of Outcomes to Be Studied

Investigation of different outcomes in both the short and long term including psychotic disorders, nonpsychotic disorders, persistence or remission of APS, and social and cognitive functioning is needed. Refining risk factors for these different outcomes is another avenue of research. It may be that added criteria are necessary to enrich the sample for schizophrenia, such as basic and negative symptoms and decline in cognitive and social skills.[30,31] Other methods of enrichment for other outcomes can also be studied, including multiple subclinical symptoms plus depression,[32] presence of personality disorder, family history of mental disorder, and childhood trauma and adversity.[33]

Examining recovery and remission of the high-risk state as outcomes is another area that is currently understudied. Searching for predictors of these positive outcomes can then lead to adding such factors to ascertainment criteria as exclusions, which would result in a reduced false positive rate and increased positive predictive power.

Searching for Markers of Different Trajectories

Examining associated neurobiological,[34–36] cognitive,[37] physiological,[38] metabolic,[39] and genetic[40,41] associations

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with the APS and its different outcomes is needed so that subgroups can be more sharply delineated. Longitudinal follow-up is needed to elucidate whether the biological markers that are observed in the APS group are indicative of a trait vulnerability to psychotic disorder or whether they are state markers. Comparison with other psychiatric groups without APS will determine whether biological findings are specific to APS and represent a continuum with psychotic disorders such as schizophrenia or whether they are associated with general psychiatric distress.

Stigma and the Effect of Symptoms and Diagnosis

Research is also needed as to what harms and benefits are associated with an APS diagnosis. This should include assessing any perceived stigma, and comparison made with the stigma, stereotypes, and wish for social distance associated with overt psychiatric symptoms that may occur prior to help seeking and diagnosis. Whether clinical care that provides information, treatment, and hope of a good outcome can minimize stigma should also be studied. The effects of creating a new diagnosis, on patients, their families, and the wider health system, needs to be better understood.

Reliability and Clinical Utility

While reliability of assessment has been demonstrated in previous studies using structured interviews,[42,43] the clinical utility and reliability of assessment in routine practice needs to be assessed and improved and the impact of the proposed diagnosis on prescribing practice examined. Investigation of factors that lead APS patients to seek help will also be useful. Currently, it is unclear how much of the distress that leads to seeking help is related to the psychotic-like symptoms or to associated nonpsychotic mental disorders, such as depression and anxiety.[44] Little is known about the prevalence of APS in adolescent and adult clinical populations and in the general community and this also needs further study.

Treatment Trials

Further intervention research is also needed. Omega-3 fatty acids have shown promise in reducing symptoms as well as decreasing the risk of transition to psychotic disorder in one study.[45] This requires replication. Other novel treatments such as psychological treatments, vitamin D, glycine, and other neuroprotective agents are also worth testing.

Possibility of a Pluripotent Risk Syndrome

Finally, with increasing the knowledge of risk factors for different outcomes (see above), the APS model could also be extended to a more general a strategy for early intervention

in a range of mental disorders. It may be that many disorders develop from initial nonspecific symptoms and syndromes, from a background of specific and nonspecific risk factors (such as genes and early environment). Worsening of symptoms and acquisition of new symptoms may occur, together with progressive neurobiological abnormalities, and related neurobehavioral deficits, until clear-cut recognizable mental disorders appear.[46] Progression of symptoms and neurobiological abnormalities could continue after "threshold" diagnosis, with development of chronic symptoms, relapses, and ongoing functional deterioration. Transition from one stage to the next is not inevitable, either due to different risk and resilience factors or due to nonspecific or specific intervention. Thus, preventive possibilities exist across this spectrum of evolving illness.

This concept of a pluripotent risk syndrome opens up a range of research possibilities. Studying genetic and environmental risk factors and gene and environment interactions for different outcomes, further work on resilience and protective factors, and examination of different trajectories are all future avenues of research. Whether any specific markers for particular course and outcome can be detected early is another area and leads to the possibility of early specific treatments. Novel methods such as multimodal imaging and neurocognitive analysis, single subject methods to predict individual disease course are also possible.

Conclusion

APS concept remains a useful one. It identifies people with significant mental health problems that justify treatment in their own right, as well as having a higher likelihood of developing a psychotic disorder (mostly schizophrenia) within a few years. Research into this group will increase our understanding of psychotic-like symptoms and their trajectories and the emerging phase of psychotic disorders. The APS concept is consistent with the continuum view of psychosis and is probably a reflection of biologic reality. Outcomes other than psychotic disorder are also clearly worthy of study. The placement of APS in the DSM-5 appendix should be a clarion call to the field to focus attention on these patients and families in need.

Acknowledgments

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Regular Article

Successful aging in individuals with schizophrenia dwelling in the community: A study on attitudes toward aging and preparing behavior for old age

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Aim: 'Successful aging' in individuals with schizophrenia has been attracting attention. We examined two forward-looking factors of successful aging among schizophrenia patients: 'attitude toward aging' and 'preparing behavior for old age'.

Methods: Fifty-seven middle-aged and elderly schizophrenia patients with successful aging were identified using the Attitude toward Aging Scale, the Preparing Behavior for Old Age Scale, and assessments of their cognitive function, psychiatric symptoms, social functioning and quality of life. A multiple regression analysis was used to detect determinants of attitude toward aging/preparing behavior for old age at that time ('present': community dwelling). We also analyzed predictors of successful aging using demographic/clinical data assessed 3 years previously ('past': residential care).

Results: The multiple regression analysis revealed that quality of life was a significant determinant: a

higher quality of life was related to a more positive attitude toward aging and less active preparing behavior. The significant predictors of preparing behavior were quality of life and the length of the hospital stay: a longer hospital stay and a higher quality of life were related to less active preparing behavior.

Conclusion: Quality of life and the length of the hospital stay significantly contributed to forward-looking factors of successful aging. Avoiding long hospitalization periods for patients with schizophrenia may lead to more active preparing behavior, but the improvement of quality of life may not be a sufficient condition. As schizophrenia patients have an optimistic attitude and insufficient preparing behavior, support to prepare such individuals for old age is required as part of community-based psychiatric care strategies.

Key words: community, deinstitutionalization, quality of life, schizophrenia, successful aging.

THE CIRCUMSTANCES OF psychiatric care have changed considerably globally. Long-term hospital treatments have been replaced by community-based services that focus on supporting independent daily life and employment. Meanwhile, psychiatric

services still remain predominantly hospital-based in Japan. A decline in hospital beds has been observed since 1994, but the total number of inpatient beds is still much larger (2.7 per 1000 people) than the numbers in the UK and the USA (0.7 and 0.3, respectively).[1]

The earliest large-scale project to enable a total transition from a psychiatric hospital to a residential facility in Japan was established in 2002 and was known as the Sasagawa Project, held in Koriyama, Fukushima.[2,3] During the first stage of the project, 78

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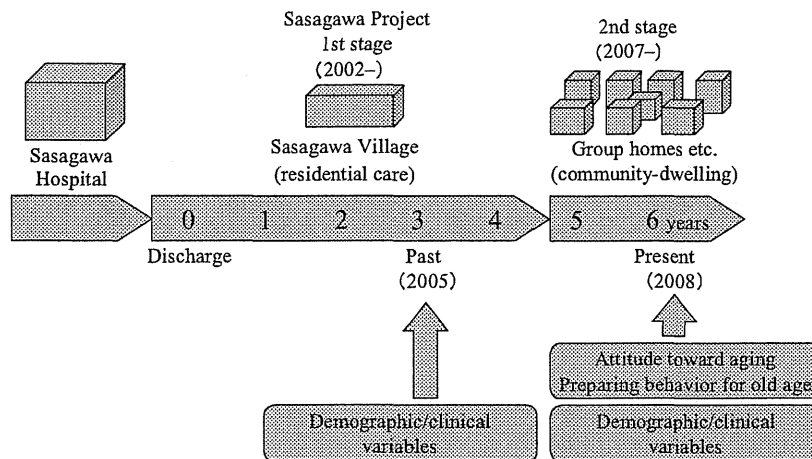
Figure 1. Progress of the Sasagawa Project and assessment of successful aging and other factors.

patients with schizophrenia who had been inpatients at Sasagawa Hospital for long time periods underwent 1 year of psychosocial training according to the protocol outlined by the Optimal Treatment Project (OTP).[4,5] The patients were then discharged from the mental hospital and transferred to a supported residential facility, called Sasagawa Village, following the closure of the hospital in March 2002. During the second stage, the patients gradually left the residential facility and moved into the neighboring community in 2007, where they mainly lived in 19 group homes and several apartment houses (Fig. 1). They attended a day-care center, a community care support center, and the 'I Can' program and received nursing care visits. Some of the patients began supported job training. However, even though the patients had resumed their own daily living activities, they were already approaching old age. Thus, 'successful aging' may be a key concept in their community-based psychiatric care.

The concept of successful aging has grown in sociology, and it emphasizes that growth during senescence is more important than the decline caused by aging. Successful aging is influenced by lifestyle, rather than inherited characteristics, and it is a multidimensional concept that includes physical, psychological and social environmental factors.[6] That is to say, successful aging is a bio-psycho-social adaptation to the changes that occur during aging.

Although aging with chronic diseases has been considered as pathological aging in the field of medicine and age-related function declines as during normal aging, Rowe and Kahn advocated dividing normal aging into usual and successful aging: individuals belonging to the former category showed typical non-pathologic and age-linked losses, while those belonging to the latter category showed fewer or no functional losses.[7] They defined successful aging according to three main components: low probability of disease and disease-related disability, high cognitive and physical capacity, and active engagement with life.[8]

Several studies have been conducted since Rowe and Kahn's study. Depp *et al.* reported that although no consensus exists for the definition of successful aging, most of the definitions of successful aging included components that could be described as disability/physical functioning, cognitive functioning, life satisfaction/well-being, and social/productive engagement.[9,10] Vaillant *et al.* suggested that successful aging in an individual's seventies could be predicted by variables assessable before the age of 50.[11] Baltes *et al.* demonstrated greater functional losses of everyday functioning in the non-successful aging group than in the successful aging group.[12] Cohen *et al.* demonstrated that older outpatients with schizophrenia showed favorable outcomes upon symptom remission (49%) but lower favorable levels upon community integration (23%) and for subjective (13%) and objective (2%) successful aging, compared with similarly aged peers.[13]

Although some previous medical studies have examined successful aging, few studies have used a subjective definition of successful aging[14] or have dealt with the successful aging of individuals with schizophrenia. Previous studies on successful aging have mainly examined the existing condition at that time-point. The measures of successful aging were

also simple and fundamental in the previous studies.

The selective optimization with compensation (SOC) model for successful aging focuses mainly on how people optimize resources and aids that facilitate success and compensate for losses to adapt to changes throughout their lives and to create an environment for lifelong successful development. In the SOC model, Ouwehand et al. argued that proactive coping aimed at preventing potential threats to goals is important for successful aging.[15]

The present study focuses on two forward-looking factors of successful aging in individuals with schizophrenia: 'attitude toward aging' and 'preparing behavior for old age'. The 'attitude toward aging' factor refers to a subjective awareness of one's forthcoming later life and is based on the expected social situation and the prospects of one's own aging.[16] To prepare for the achievement of a satisfactory and suitable later life, coping with the aging process should start during middle age. The 'preparing behavior for old age' factor refers to voluntary and objective conduct that is performed to prepare for various difficulties during one's old age.[17] Having a proper perspective on old age seems to be an important factor in the successful aging of individuals with schizophrenia living in the community. To identify means of supporting such individuals, researchers must be aware of the attitude of these patients toward aging and their preparing behavior for old age. However, these issues have not been widely studied in individuals with schizophrenia.

In this study, we first examined successful aging in individuals with schizophrenia using the two forward-looking factors mentioned above. Second, we identified the determinants of the present and predictors at the past points and ascertained the change in patients after transitioning from residential facility care to community dwelling, which influenced the attitudes toward aging and preparing behavior.

METHODS

Subjects

The subjects consisted of 57 individuals with schizophrenia (37 men and 20 women). The mean age was 59.7 years (SD = 6.9) and their mean number of years of education was 10.6 (SD = 2.0). Seventeen patients of the 57 had been married. Their mean

duration of illness was 36.5 years (SD = 8.1), and their mean age at onset was 23.2 years old (SD = 5.6). All the subjects were diagnosed using the ICD-10[18] as having chronic schizophrenia by two independent psychiatrists. All the individuals were being treated with antipsychotics, with a mean chlorpromazine-equivalent dose of 823.3 mg/day (SD = 443.2): 34 patients had been treated with only second-generation antipsychotic drugs, 19 patients had been treated with only first-generation drugs and four patients had been changed from one type to the other type of drugs at past and present assessment points. Fifty individuals were living in small-scale psychiatric group homes, and seven individuals lived in personal residences.

None of the subjects had a history of alcoholism, drug abuse, or serious neurological illness. As most of the subjects in this study received equal public economic support (disability pension and livelihood protection), their economic status was almost equal. Therefore, we did not take economic factors into account in this study.

The institutional review board of the Asaka Hospital approved the protocol of the study. The study was carried out in accordance with the latest version of the Declaration of Helsinki. After providing the subject with a complete description of the study, written informed consent was obtained from every subject.

Procedures

We assessed attitude toward aging and preparing behavior for old age as well as cognitive function, psychiatric symptoms, social functioning and quality of life (QOL) in 2008 ('present': after the transition to community dwelling). We also used demographic/clinical data assessed 3 years earlier, in 2005 ('past': during residential care) (Fig. 1).

The Attitude toward Aging Scale was developed to assess the awareness of one's later life and is a representative scale for measuring forward-looking factors of successful aging in Japan.[16] This scale is composed of the following ten questions: (i) anxiety for health in old age; (ii) relationship with the younger generation; (iii) provision for social welfare and guarantee system; (iv) maintenance of health; (v) economic stability; (vi) independent life; (vii) social activity; (viii) solidarity with the younger generation; (ix) spiritual vitality/keeping one's youth; and (x) a fulfilling life. Each question in the scale is composed of a pair of choices that are considered avoiding value

judgments. Each question is rated using a 2-point scale (positive = 1, negative = 0). A higher score indicates a higher degree of positive attitude toward aging. The total score for the 10 questions was used in this study.

The Preparing Behavior for Old Age Scale[17] is composed of the following five questions: (1) Do you save money for a stable old life? (2) Do you maintain a regular life or exercise to maintain your health? (3) Do you find your life worth living through the enjoyment of hobbies or social activities? (4) Do you have many social contacts with your friends or neighbors? (5) Do you maintain a peaceful family relationship? Each question is rated using a 3-point scale (making considerable effort = 3, to some degree = 2, not at all = 1). Higher scores indicate higher degrees of active preparing behavior. The total score for the 5 questions was calculated.

The total number of hospitalized days for each individual was determined by consulting each patient's medical records.

The Mini-Mental State Examination (MMSE) was used to assess general cognitive capacity.[19] The Positive and Negative Syndrome Scale (PANSS)[20,21] was used to obtain scores for the positive symptom, negative symptom, and general psychopathology subscales. The Global Assessment for Functioning (GAF)[22] was used to measure global social functioning, and two other scales were used to measure community functioning: the Rehabilitation Evaluation Hall and Baker Scale (REHAB),[23,24] and the Social Functioning Scale (SFS).[25,26] The 26-item short form of the World Health Organization Quality of Life scale (WHOQOL26) was used and the average score was adopted.[27]

Statistical analysis

All statistical analyses were performed using SPSS 17.0. Initially, a correlation matrix at the present was created to establish the directionality of associations between attitude toward aging/preparing behavior for old age and demographic/clinical variables. Stepwise multiple regressions were then used to examine determinants at the present or predictors in the past for both the attitude toward aging and the preparing behavior. The demographic/clinical variables entered into the equations as independent variables were as follows: age; length of hospital stay; positive symptom, negative symptom and general psychopathology subscales of PANSS; MMSE score; GAF score;

REHAB general behavior subscale; SFS total score; and WHOQOL26 average score. Analyses were two-tailed with the significance level set at 0.05.

RESULTS

The mean score on the Preparing Behavior for Old Age Scale was 9.35 (SD = 2.02) and that on the Attitude toward Aging Scale was 5.12 (SD = 2.61). Cronbach's coefficient alpha of the Preparing Behavior for Old Age Scale was 0.611 and that of the Attitude toward Aging Scale was 0.693.

Table 1 shows that the mean age was 56.7 years at the time of the past evaluation. The mean number of days of hospitalization was 9061.0 (24.8 years) at the time of the past evaluation and 9090.0 at the time of the present evaluation (after discharge, some of the patients with schizophrenia briefly entered a hospital once again).

As shown in Table 2, testing of the correlations between attitude toward aging/preparing behavior for old age at the time of the present evaluation and various factors revealed that the Preparing Behavior for Old Age Score was significantly correlated with the lengths of the hospital stay (negative correlation, $r = -0.326$, $P < 0.05$) and the WHOQOL26 average score (negative correlation, $r = -0.518$, $P < 0.001$), while the Attitude toward Aging Score was significantly correlated with the WHOQOL26 average score (positive correlation, $r = 0.377$, $P < 0.05$).

A stepwise multiple regression analysis using demographic/clinical variables as determinants was generated for both the attitude toward aging and the preparing behavior for old age to identify determinant variables most closely associated with the outcome variables at the present. Table 3 shows that the model for the preparing behavior for old age using variables obtained at the time of the present evaluation was significant and included only the WHOQOL26 average score as a determinant. This means that a higher QOL was related to less active preparing behavior for old age. The model for the attitude toward aging using variables obtained at the time of the present evaluation was also significant and included the WHOQOL26 average score. This means that a higher QOL was related to a more positive attitude toward aging at the time of the present evaluation.

Table 2 shows that testing of the correlations between attitude toward aging/preparing behavior for old age at the time of the past evaluation and

Table 1. Changes in demographic/clinical variables after transition from residential care to community dwelling ($n = 57$)

	Present (community-dwelling)		Past (residential care)	
	Mean	SD	Mean	SD
Age (years)	56.7	6.9	59.7	6.9
Length of hospital stay (days)	9090.0	3576.1	9061.0	3560.3
MMSE	25.1	3.7	26.6	3.3
PANSS (P)	8.8	3.1	8.7	2.7
PANSS (N)	13.9	5.2	14.3	5.5
PANSS (G)	22.5	5.5	22.4	5.2
GAF	64.8	12.8	66.6	12.3
REHAB	42.2	28.0	41.3	22.4
SFS	106.9	28.5	112.4	19.4
WHOQOL26	3.28	0.40	3.15	0.43

GAF, Global Assessment for Functioning; MMSE, Mini-Mental State Examination; PANSS, Positive and Negative Syndrome Scales: (P) Positive symptom, (N) Negative symptom, (G) General psychopathology; REHAB, Rehabilitation Evaluation Hall and Baker scale; SFS, Social Functioning Scale; WHOQOL26, 26-item short form of the World Health Organization Quality of Life scale.

various factors revealed that the Preparing Behavior for Old Age Score was significantly correlated with the lengths of the hospital stay (negative correlation, $r = -0.327$, $P < 0.05$) and the WHOQOL26 average score (negative correlation, $r = -0.315$, $P < 0.05$).

Table 3 shows that a stepwise multiple regression analysis using data on the preparing behavior obtained at the time of the past evaluation was significant and contained two variables: the WHOQOL26 score and the length of hospitalization. These

Table 2. Pearson coefficients for correlations between preparing behavior for old age/attitude toward aging and demographic/clinical variables at the times of the present and the past evaluations ($n = 57$)

	Present		Past	
	Preparing behavior for old age	Attitude toward aging	Preparing behavior for old age	Attitude toward aging
Age	−0.106	−0.133	−0.106	−0.133
Lengths of hospital stay	−0.326*	−0.068	−0.327*	−0.067
MMSE	0.125	−0.178	0.129	−0.144
PANSS (P)	−0.096	0.177	−0.004	0.161
PANSS (N)	0.091	0.083	0.183	0.018
PANSS (G)	−0.079	0.198	0.012	0.163
GAF	−0.043	−0.167	0.008	−0.251
REHAB	0.080	0.175	−0.015	0.123
SFS	−0.209	0.187	−0.093	0.161
WHOQOL26	−0.518**	0.377*	−0.315*	0.132

*$P < 0.05$. **$P < 0.001$.
GAF, Global Assessment for Functioning; MMSE, Mini-Mental State Examination; PANSS, Positive and Negative Syndrome Scales: (P) Positive symptom, (N) Negative symptom, (G) General psychopathology; REHAB, Rehabilitation Evaluation Hall and Baker scale; SFS, Social Functioning Scale; WHOQOL26, 26-item short form of the World Health Organization Quality of Life scale.

Table 3. Stepwise multiple regression models for attitude toward aging/preparing behavior for old age with demographic/clinical variables at the time of the present evaluation as determinants and at the time of the past evaluation as predictors

	Dependent variable	Independent variables	Beta	P-value	
Present	Preparing behavior for old age	WHOQOL26	−0.505	<0.001	($F = 18.457$; $df = 1$, 56; $P < 0.001$; $R^2 = 0.241$)
	Attitude toward aging	WHOQOL26	0.319	0.016	($F = 6.138$; $df = 1$, 56; $P = 0.016$; $R^2 = 0.085$)
Past	Preparing behavior for old age	WHOQOL26	−0.314	0.016	($F = 6.697$, $df = 2$, 55; $P = 0.003$; $R^2 = 0.180$)
		Lengths of hospital stay	−0.324	0.013	
	Attitude toward aging	NA	–	–	–

NA, not applicable; WHOQOL26, 26-item short form of the World Health Organization Quality of Life scale.

results mean that a longer hospitalized period at the time of the past evaluation was related to less active preparing behavior, and a higher QOL at the time of the past evaluation was related to less active preparing behavior. No model for attitude toward aging was significant.

DISCUSSION

The determinants at the present evaluation (community-dwelling) and the predictors at the past evaluation (residential care) were detected using multiple regression analyses. The QOL related to both the attitude toward aging and the preparing behavior at the time of the present evaluation: a higher QOL was related to a more positive attitude toward aging and less active preparing behavior. The predictors of preparing behavior for old age were QOL and the length of the hospital stay: a longer hospitalized period and a higher QOL predicted less active preparing behavior.

Hiraoka[17] studied healthy individuals aged 60 years or older using the Preparing Behavior for Old Age Scale. The scores for family relationship and economy were lower in our study, although the total score was comparable with that of the previous study. Usami[16] examined middle-aged nurses using the Attitude toward Aging Scale. The scores for the medical and welfare preparedness, and intergenerational relationships in our study were clearly higher than those of the study by Usami. Thus, the features of preparing behavior and attitude toward aging in individuals with schizophrenia dwelling in the community seemed to differ from those of healthy individuals.

This study revealed a correlation between preparing behavior for old age and QOL in patients with schizophrenia: the higher the QOL, the less active the preparing behavior. This result was in contrast to the result obtained for healthy individuals. In a study of healthy individuals aged 35–64 years, significant associations between preparing behavior and life satisfaction, interpersonal relationships and social participation were observed, and no significant association between preparing behavior and age was seen.[28]

If healthy individuals are satisfied with their life, they behave with their future life in mind if they have a sufficient economic margin.[17] In contrast, individuals with schizophrenia did not behave with the future in mind even if they were satisfied with their life. Our study clearly indicated higher attitude-toward-aging scores in the category of medical and welfare preparedness, interpersonal relationships and independent life compared with the results of the study by Usami.[16] In other words, community-dwelling individuals with schizophrenia seemed to have a positive perspective on medicine, welfare and economy. In addition, the scores for category of family relationship and economy for the Preparing Behavior for Old Age Scale were lower in our study than in the study by Hiraoka.[17] As welfare guarantees a minimum livelihood, the patients may not need to make an effort to prepare for their future lives.

On the other hand, general cognitive function assessed using the MMSE was not associated with preparing behavior in our study. Generally speaking, it is not surprising that schizophrenia patients with good cognitive function (that is, they have sufficient self-monitoring with regard to their life) can recognize difficulties with their current lives and may want to make an effort to provide for their future. Although the correlation between cognitive function, especially frontal lobe function, and QOL has been

studied, no consensus has yet been established.[29] Further investigation using a comprehensive neurocognitive test battery is needed.

Regarding the correlation between attitude toward aging and QOL, the result demonstrated that a high QOL was related to a positive attitude toward aging. This result means that if patients are satisfied with their present life, they can consider their later life from a positive perspective. This result generally concurs with the results of a previous study of healthy individuals.[30] In the previous study, significant positive associations between attitude toward aging and well-perceived health, house possession, good life satisfaction, good economic status and extensive interpersonal relationships were observed. No significant associations between attitude toward aging and sex, generation, marital status or child bearing were seen. On the other hand, some individuals may have a positive attitude toward aging as a result of active lifestyles and a high QOL, as QOL and attitude toward aging were assessed simultaneously in the present evaluation.

Although we expected elderly chronic patients with schizophrenia and negative symptoms to have a negative attitude toward aging and poor preparing behavior, our findings indicated that psychiatric symptoms were not related to these two factors. Social functioning was also not relevant to attitude toward aging and preparing behavior in this study. Regardless of the levels of daily life activities, which were influenced by psychiatric symptoms, and social functioning, these actions might not be aimed at preparing for old age and thus might not be linked to preparing behavior. Also, the degree of psychiatric symptoms might not be essential for interest in old age.

In this study we examined the demographic/clinical variables at two time-points: the past (residential care) and the present (community-dwelling). The two different time-points have two meanings: the passage of time and the environmental change. The determinants for preparing behavior for old age differed between these two time-points. The length of the hospital stay was a predictor at the time of the past evaluation but was not a determinant at the time of the present evaluation, as shown in Table 3. This fact means that the passage of time after discharge might reduce the influence of a long hospital stay. A long hospital stay might tend to lead patients not to consider their future. However, dwelling in the community might diminish the influence of hospitaliza-

tion. On the other hand, the difference in the influence on attitude toward aging at the two points was that no significant relevance to attitude toward aging was observed at the time of the past evaluation, while the QOL was a relevant variable at the time of the present evaluation. This result indicated that the attitude toward aging (subjective) was determined by the patients' circumstance, while the preparing behavior (objective) seems to have been influenced by recent lifestyle.

This study has several limitations. First, as Rowe and Kahn[8] defined, the concept of successful aging generally includes mental and physical factors, but our research did not take physical factors into consideration. Second, not only the passage of time and environmental change, but also other factors, such as physical decline and social changes, might have occurred and influenced the attitude toward aging and preparing behavior for old age, although this study only investigated demographic/clinical variables. The influence of these factors, therefore, remains unknown.

Nowadays, many countries are experiencing an aging of society. In this study, we examined attitude toward aging and preparing behavior for old age as two of the key conditions of successful aging among schizophrenia patients who were approaching old age. The preparing behavior was significantly predicted by the length of the hospital stay at a short time after discharge from hospital, and only the QOL significantly contributed to preparing behavior after transfer to the neighboring community. This study suggests that avoiding long hospital stays may lead to a more active preparing behavior among individuals with schizophrenia; only improving the QOL may not result in preparing behavior, however it may lead to a positive attitude toward aging.

Studies on older adults with schizophrenia have found that a lower QOL is associated with clinical factors, such as depression, positive and negative symptoms, cognitive deficits, and poorer perceived health as well as social factors, such as unemployment, non-independent housing status, loneliness, lower social and living skills, financial strain, and acute stress. No significant association between age and QOL was observed in a previous study.[31] Continued dwelling in the community seemed to have a better synergistic effect on self-reliance and life affluence and to improved QOL. Not only deinstitutionalization, but supporting community care is also crucial. As such, individuals have an optimistic atti-

tude toward aging but do not have sufficient preparing behavior for old age. Continuous support to encourage preparing behavior, such as suggestions to save money for the future, are required.

With the progress of deinstitutionalization, the concept of successful aging, that is, not emphasizing a loss as a result of aging but focusing on gain and growth with aging, will become increasingly important globally in the development of strategies for the community-based psychiatric care of schizophrenia patients.

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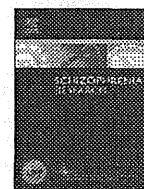
Lack of association between psychosis-like experiences and seeking help from professionals: A case-controlled study

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ABSTRACT

Backgrounds: It still remains unclear whether individuals who experience attenuated psychotic symptoms are likely to seek help, whereas depressive symptoms are more likely to be associated with help-seeking behavior than these symptoms themselves. The aims of our study were to compare the profile of these symptoms between clinical and community samples and to investigate to what extent help-seeking behavior depends on the severity of psychosis-like symptoms and/or depressive symptoms.
Methods: The clinical sample consisted of help-seeking outpatients aged 16–30 years who had approached a community mental health clinic (N = 750, mean age: 23.3 ±4.2 years, 62.4% females). The community sample was comprised of students from two universities and two high schools (N = 781, mean age: 18.1 ±1.7 years, 59.2% females). Psychosis-like experiences were assessed using the PRIME Screen-Revised (PS-R), a self-reported screening instrument for assessing the risk of psychosis. Depressive symptoms were assessed using the Zung Self-rating Depression Scale (ZSDS), a 20-item self-reported questionnaire.
Results: Among the clinical and community samples, 27% and 10% had positive PS-R results respectively. No significant difference in the PS-R total score or the frequency of PS-R-positive items was observed between the clinical and community samples. A logistic regression analysis revealed that none of the psychosis-like experiences were significantly associated with help-seeking behavior, after controlling for the effect of depressive symptoms.
Conclusions: Our findings showed that attenuated psychotic symptoms do not contribute significantly to help-seeking behavior, suggesting that the relationships among PLEs, depressive symptoms, and help-seeking behavior should be reconsidered.

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1. Introduction

Recent growing interest in early detection and intervention for psychosis has shifted to include the care of individuals with an at-risk mental state—mostly those with help-seeking behavior. However, whether individuals who experience attenuated psychotic symptoms are likely to seek help remains unclear. Whereas several studies have demonstrated that these symptoms or psychotic-like experiences (PLEs) were associated with distress or help-seeking behavior in both community (Armando et al., 2010; Murphy et al., 2010) and clinical samples (Yung et al., 2006), not a few studies have revealed that these experiences are frequent phenomena and thus are not necessarily associated with distress or seeking help (Hanssen

et al., 2003; Dominguez et al., 2009; van Os et al., 2009). Moreover, multiple studies have indicated that untreated mental disorders are highly prevalent among student populations (Hunt and Eisenberg, 2010); this is consistent with the general population, in which a median delay of 11 years was noted between the onset of illness and presentation for treatment (Wang et al., 2005). These findings indicate the possibility that help-seeking subjects with attenuated psychotic symptoms or PLEs do not represent the entire sample that will actually develop subsequent psychosis. Indeed, a recent retrospective study on first-episode psychosis showed that fewer than one in five people initiated help-seeking behavior by themselves during the prodromal phase (O'Callaghan et al., 2010). Given that some PLEs or attenuated psychotic symptoms confer an increased risk of developing severe mental disorders in clinical and community samples (Poulton et al., 2000; Cannon et al., 2008), restricting study samples to subjects with help-seeking behavior or clinical samples might not be sufficient to investigate the developmental process of psychosis. As such, differences in the PLE profiles

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or attenuated psychotic symptoms between clinical samples and non-clinical samples should be clarified.

Studies on the association between PLEs and distress have also shown a significant association between PLEs and depression (Yung et al., 2006), suggesting that depressive symptoms may influence emerging distress or help-seeking behavior among individuals with PLEs. Depressive symptoms were among the most frequent early signs described by patients who had recently experienced their first episode of psychosis (Häfner et al., 2005). In a study that included adolescents "at imminent risk for psychosis," the most common diagnosis of the study participants according to the Diagnostic and Statistical Manual of Mental Disorders, 4th edition (DSM-IV) was major depression (Meyer et al., 2005). In addition, several general population studies have demonstrated that distress and depression are major factors in determining whether people with PLEs require specialist psychiatric help (Bak et al., 2003, 2005; Hanssen et al., 2005).

Within this context, depressive symptoms are more likely to be associated with help-seeking behavior than attenuated psychotic symptoms or PLEs; thus, help-seeking subjects with PLEs may represent a more depressed sample, compared with the entire sample of subjects developing subsequent psychosis. Meanwhile, if the elevated level of PLEs genuinely leads to help-seeking behavior, the severity of the PLEs would likely be higher among help-seeking subjects than among non-help-seekers, and the subjects experiencing attenuated psychotic symptoms would likely seek help regardless of the severity of their depressive symptoms.

In the current study, we sought to test our hypothesis that help-seeking behavior in individuals with attenuated psychotic symptoms would be associated with depressive symptoms but not with the presence or severity of PLEs. Therefore, we aimed to compare clinically help-seeking subjects with PLEs and community non-help-seeking subjects with PLEs. Throughout this study, we have used the term 'help-seeking' to refer to individuals seeking help from psychiatric professionals and 'clinically help-seeking subjects' to refer to individuals who approached a community mental health clinic by themselves.

The aims of our study were (i) to compare the profile of PLEs between clinical and community samples, and (ii) to investigate to what extent help-seeking behavior depends on the severity of psychosis-like symptoms and/or depressive symptoms.

2. Methods

2.1. Participants

The study subjects were comprised of clinical and community samples.

The clinical sample consisted of help-seeking outpatients aged 16–30 years who had approached a community mental health clinic (Shakujii-Kouen Clinic, located in a suburb of Tokyo) for the first time between December 2006 and September 2008. This clinic primarily provides care for common mental illnesses with onsets at all age, including depression, anxiety disorders, or dementia; in other words, the clinic does not provide specialized care for psychosis-risk populations. All the outpatients in the age group of interest that attended this clinic during the timeframe (between December 2006 and September 2008) were given self-reported questionnaires prior to undergoing a clinical examination at the time of their presentation. After excluding those individuals who were clearly reluctant to seek help (e.g., after involuntary contact with police or emergency services) (N = 8), a total of 750 outpatients were enrolled in this study (mean age: 23.3 ± 4.2 years). The sample included 282 males (37.6%) and 468 females (62.4%).

The community sample was comprised of students from two universities and two high schools. The students were given self-reported questionnaires at the beginning of a class without any advance information regarding psychiatric disorders or related symptoms. All the participants provided their informed consent and had the right not to answer any of the questions. A total of 781 students were enrolled in the present study (496 university students and 285 high school students; mean age: 18.1 ± 1.7 years). The sample included 319 males (40.8%) and 462 females (59.2%).

Either an ethical meeting or the Institutional Review Board at each site approved the study protocol and the informed consent procedures.

2.2. Measures

2.2.1. Psychosis-like experiences or attenuated psychotic symptoms

Psychosis-like experiences were assessed using the PRIME Screen-Revised (PS-R), a self-reported screening instrument (Kobayashi et al., 2008). The original PRIME Screen, developed by Miller et al. at the PRIME clinic in New Haven, CT, USA, is a screening instrument for assessing the risk of psychosis (Miller et al., 2004). The questionnaire is based on items from the Structured Interview for Prodromal Syndromes (SIPS), which was also developed by Miller et al. (2003). This screening questionnaire consists of 11 items covering positive symptoms (delusional mood, overvalued belief, ideas of passivity, magical thinking, derealization, telepathy-like experiences, ideas of reference, increased self-esteem, perceptual distortions, any auditory hallucinations, and thought hearing) and an item referring to insight into illness. These 12 items are self-rated using a scale of 0 (definitely disagree) to 6 (definitely agree). A score of 4 (slightly agree) was regarded as a "positive" endorsement.

Based on this original PRIME Screen, we had previously developed the PS-R by adding a question to the PRIME Screen concerning how long the change in function, behavior or thought had been apparent (such as less than 1 week, between 1 week and 1 year, or more than 1 year). The participants were classified into 11 ranks (from 0 to 10) based on a combination of the rating of symptoms, the duration of symptoms, and the total score on the PS-R. The last item of the PS-R refers to 'insight into illness' ("I have been concerned that I might be 'going crazy'"), which was not derived from the SIPS and was not related to attenuated positive symptoms; therefore, the response to the 12th item was not taken into account at the time of the evaluation. We had tested the clinical validity of the PS-R by comparing a non-clinical population (496 students) with a clinical population (528 outpatients) (Kobayashi et al., 2008). If subjects with a rank of 4 or greater were regarded as positive, the specificity and sensitivity of the PS-R using the SIPS as a gold standard were 0.74 and 1.00, respectively. The concordant validity between the PS-R and the SIPS was 0.43. Thus, in this study, we considered subjects with a rank of 4 or greater as being positive.

2.2.2. Depressive symptoms

Depressive symptoms were assessed using the Zung Self-rating Depression Scale (ZSDS), a 20-item self-reported questionnaire (Zung and Durham, 1965). The ZSDS was developed to measure the cognitive, emotional, and physical symptoms associated with depression, and has been established as a valid, reliable measure of depression. The items are rated using a 4-point Likert scale ranging from 1 (rarely) to 4 (most of the time), with higher scores corresponding to a greater severity of depressive symptomatology.

2.3. Data analysis

Given the difference in age between the groups, we split the clinical screening positive group into an age-matched group (age range: 16–21 years) and the remaining group (age range: 22–30 years). We then compared the demographic and clinical variables for the positively screened individuals with those for the clinical, age-

matched clinical, and community groups using the analysis of variance (ANOVA) for continuous variables and chi-square tests for categorical variables. Post-hoc comparisons were performed to test the differences between the clinical and community groups using the Bonferroni test to adjust the observed significance level for multiple comparisons. The Kruskal–Wallis H-test was conducted to evaluate the difference of the PS-R rank distributions among groups.

To explore to what extent help-seeking behavior depended on psychosis-like experiences and/or depressive symptoms, a logistic regression analysis was conducted. Then, to test the hypothesis that help-seeking behavior would be independent of psychosis-like experiences, a second logistic regression analysis controlling for the effect of depressive symptoms was conducted.

All of the statistical analyses were conducted using the Statistical Package for Social Sciences (SPSS) version 18.0 for Windows (SPSS Inc., Chicago, IL, USA). A two-tailed p-value<0.05 was considered to be statistically significant.

3. Results

Of the 750 psychiatric outpatients (clinical sample or help-seeking group), 731 subjects (97.5%) agreed to participate and completed the questionnaires, 4 (0.5%) declined to answer the questionnaires, and 15 (2.0%) could not understand the instructions or the meaning of the questions. Of the community sample (781 students; non help-seeking group), 748 (95.8%) completed the questionnaires. The current study examined data obtained from these 731 outpatients (mean age: 23.3±4.2 years; female: 64.0%) and 748 students (mean age: 18.1±1.7 years; female: 60.8%).

Among the clinical sample (n=731), 199 (27%) had positive PS-R results, whereas among the non-help-seeking subjects (n=748), 82 (10%) had positive PS-R results. A significant difference in the prevalence of PS-R positives was observed between the clinical and community samples ($\chi^2=69.00$, df=1, p<0.01). The demographic variables and the profile of symptoms for the PS-R-positive group are summarized in Table 1. Although significant differences in some PS-R items (clinical>community: ideas of passivity, ideas of reference, perceptual distortions, insight into illness) and the ZSDS total score were observed, no significant difference in the PS-R total score or the

frequency of PS-R-positive items was observed between the clinical and community samples. Regarding the rate of subjects who endorsed the PS-R "definitely agree" item with a duration longer than 1 year, the community PS-R-positive group had a higher rate than the clinical groups. Similarly, no differences in the distribution of the PS-R rank were observed between the clinical PS-R-positive groups and the community PS-R-positive sample ($\chi^2=1.024$, df=3, p=0.795, Kruskal–Wallis, H) (see Table 2).

A logistic regression analysis to explore the extent to which help-seeking behavior depends on psychosis-like experiences and/or depressive symptoms revealed that none of the psychosis-like experiences were significantly associated with help-seeking behavior, after controlling for the effect of depressive symptoms (see Table 3). An analysis using an age-matched clinical sample (n=157) yielded the same results (Table 3). On the other hand, the ZSDS total score contributed significantly to the help-seeking behavior.

4. Discussion

The main finding in the current study is that PLEs or attenuated psychotic symptoms do not contribute significantly to help-seeking behavior, as hypothesized. Understanding what this result implies may require some clinical investigation.

In general, the backgrounds of subjects who do not seek help from professionals can include personal barriers (lack of time, privacy concerns, and financial constraints) and/or common barriers (the lack of a perceived need for help, being unaware of services or insurance coverage, and skepticism regarding the effectiveness of treatment) (Eisenberg et al., 2007; Hunt and Eisenberg, 2010), suggesting that distress or subjective difficulties may overwhelm these barriers when the apparent help-seeking behavior emerges. Although it is difficult to draw conclusions because this study did not assess these personal/common barriers, PLEs or attenuated psychotic symptoms are less likely to be associated with distress or subjective difficulties than depressive symptoms. In some cases, therefore, the attenuated psychotic symptoms may become more persistent and prevalent beyond the threshold of psychosis before the onset of help-seeking behavior. Some retrospective studies imply that a considerable proportion of psychotic patients experience their first episodes prior to

Table 1
Demographic variables and the profile of symptoms for each PS-R positive groups.

Variable	Clinical PS-R+		Community PS-R+ (N=82)	Overall F, χ^2	p
	All (N=199)	Age-matched (N=75)			
Gender, female; n (%)	128 (64.3)	47 (62.7)	42 (51.2)	3.5	0.170
Age, years; mean (SD)	22.6 (4.2)**	18.2 (1.7)	18.0 (1.8)	58.9	<0.001
PS-R item; mean (SD)					
Delusional mood	3.1 (2.2)	2.9 (2.2)	2.4 (2.0)	2.9	0.057
Overvalued belief	2.0 (1.9)	1.8 (1.8)	2.1 (2.0)	0.5	0.620
Ideas of passivity	4.2 (2.1)	4.2 (2.0)	3.5 (2.20)	3.6	0.028
Magical thinking	2.4 (2.1)	2.3 (2.1)	2.6 (2.1)	0.5	0.617
Derealization	3.4 (2.2)	3.4 (2.3)	2.7 (2.2)	3.1	0.046
Telepathy-like experiences	4.2 (2.0)	3.9 (1.9) †	4.8 (1.7)	4.1	0.018
Ideas of reference	4.1 (2.0)	4.0 (2.2)	3.2 (2.2)	4.9	0.008
Increased self-esteem	2.0 (2.1)	1.9 (2.1)	2.4 (2.3)	6.2	0.333
Perceptual distortions	3.2 (2.3)	3.3 (2.2) **	2.2 (2.3)	6.2	0.002
Any auditory hallucinations	2.7 (2.3)	3.0 (2.3)	2.2 (2.4)	2.3	0.106
Thought hearing	2.6 (2.1)	2.8 (2.1)	2.0 (2.1)	3.0	0.052
Insight into illness	4.8 (1.6) **	4.9 (1.7) **	3.9 (1.9)	7.4	0.001
PS-R total score; mean (SD)	33.6 (12.0)	33.1 (12.2)	30.0 (12.2)	2.7	0.070
Frequency of PS-R positive items; mean (SD)	5.2 (2.4)	5.1 (2.4)	4.7 (2.3)	1.7	0.190
PS-R severe items +; n (%)	119 (59.8) ††	40 (53.3) ††	64 (78.1)	11.8	0.003
ZSDS total score; mean (SD)	57.1 (8.4) **	57.2 (8.8) **	44.6 (9.2)	65.9	<0.001

Note: PS-R: the PRIME Screen-Revised, ZSDS: the Zung Self-rating Depression Scale.
Statistic value is F for continuous variables and χ^2 for categorical variables.
Mean value was significantly higher than that of the community PS-R+ group: *p<0.05, **p<0.01 (Bonferroni corrected).
Mean value or number was significantly lower than that of the community PS-R+ group: †p<0.05, ††p<0.01 (Bonferroni corrected).