



# Stigma toward psychosis and its formulation process: prejudice and discrimination against early stages of schizophrenia

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## Abstract

**Background:** Stigma toward psychosis can prevent social attendance and help-seeking behavior. Early detection and intervention has been shown to improve patient outcome in schizophrenia. The aim of this study was to reveal the characteristics and formulation process of stigma toward each clinical stage of schizophrenia, taking people's backgrounds into consideration.

**Methods:** The participants consisted of three groups: general public, patients with mental illness, and psychiatric professionals. We performed a survey examining stigmas toward people with psychotic-like-experiences (PLE), at-risk mental state for psychosis (ARMS), schizophrenia, or depression. Prejudice was measured using a 21-item questionnaire, and discrimination was measured using the Social Distance Scale.

**Results:** The participants consisted of 149 people from the general public, 97 patients, and 119 psychiatric professionals. Generally, a similar pattern was observed among the groups in which prejudice and discrimination against PLE was mildest, followed by that against ARMS and depression, and finally schizophrenia. When the stigma of the general public was compared with that of psychiatric professionals, the prejudice and discrimination against PLE of the general public were both lower than those of the psychiatric professionals. However, the prejudice of the general public was stronger than that of the professionals for ARMS. Furthermore, the discrimination of the general public was stronger than that of the professionals for schizophrenia.

**Conclusions:** The stigmas of mental illness differed according to the clinical stage, although the pattern of severity was similar among the three groups. A formulation process is suggested in which stigma toward schizophrenia develops from an attitudinal property (prejudice) against ARMS and a behavioral property (discrimination) against schizophrenia.

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## 1. Introduction

A stigma refers to an attribute that deeply discredits people, although it originally referred to a physical brand mark on a slave or criminal [1]. However, no fixed definitions or classifications of stigmas exist. Recently, stigma has been regarded as a comprehensive concept including prejudice and discrimination [2–4]. Studies of stigma toward mental illnesses, especially schizophrenia, have been increasing in number all over the world, and the problems of prejudice and discrimination have frequently become hot topics in various different scenarios. However, numerous difficulties remain [5,6].

Although the policy for treating people with mental illnesses was historically aimed at defending society, people with mental

illnesses have been increasingly advancing into society. In 2004, the Japanese Ministry of Health and Labor devised a new mental healthcare vision aimed at a transition from hospital-centered psychiatric care to community-centered care [7–9]. Moreover, the goal of treatment for people with mental illnesses, including schizophrenia, has recently expanded to include not only the alleviation of psychiatric symptoms, but also the ability to dwell within a community and to achieve social well-being. However, stigma toward mental illnesses continues to prevent social attendance. For example, the residents of a community will often oppose the construction of public facilities or residences for people with mental illnesses, and so on [5,10–12].

A number of studies have indicated the importance of early detection and intervention for schizophrenia, and a shortened duration of untreated psychosis (DUP) has been revealed to improve various outcomes [13,14]. Early intervention public services for schizophrenia were started in Australia in 1992, and

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such interventions were expected to become the international standard for psychiatry in the future [15,16]. However, stigma toward psychosis often obstructs help-seeking behaviors and consultations with professionals, making early intervention difficult [11,17]. Recently, the concept of an at-risk mental state (ARMS) for psychosis has attracted attention from the viewpoint of prevention [18]. It has been suggested that not only the DUP, but also the duration of untreated illness (DUI), which includes the prodromal period, may predict the prognosis [19]. Intervention during the prodromal period reportedly leads to a delayed onset and even the prevention of the onset of schizophrenia [20–23]. Therefore, it is important to examine stigma toward various stages of psychosis, taking peoples' backgrounds into consideration.

Concerning stigmas against people with mental illness, the ultimate goal is not only to increase knowledge and improve attitudes (prejudices), but also to improve actual behavior (discrimination) [24]. Here, we divided the concept of stigma into prejudice, reflecting an individual's negative attitudes (recognition and emotions), and discrimination, reflecting an individual's actual behavior (such as rejection and avoidance). The aim of the present study was to reveal the characteristics and the formulation process of stigmas toward different clinical stages of schizophrenia from the viewpoints of prejudice and discrimination.

## 2. Material and methods

### 2.1. Participants

The participants in this study consisted of three groups: a general public group, a mental illness patient group, and a psychiatric professional group. The patient group was recruited at the Toho University Omori Medical Center in Tokyo. Individuals with dementia or mental retardation were excluded. The general public group was recruited in the same area as the above-mentioned hospital. We recruited psychiatric professionals who were working as psychiatrists, social workers, or psychologists at the Toho University Omori Medical Center and its neighboring hospitals. All the participants were 18 years or older. The institutional review board approved the protocol for the study. The study was performed in accordance with the latest version of the Declaration of Helsinki.

### 2.2. Questionnaire and measures

We used an anonymous questionnaire. The questionnaire had a section on socio-demographic information and a section on attitudes toward people with psychotic-like-experiences (PLE), ARMS, schizophrenia, or depression.

In this study, we used a set of vignettes that described the symptoms and disabilities of patients with PLE, ARMS, schizophrenia, or depression. The vignettes were made with reference to a previous study [23]. The vignettes for schizophrenia and depression were made based on the ICD-10 and a relevant diagnosis was described. The ARMS

vignette was made based on the Structured Interview for Prodromal Syndromes and the Scale of Prodromal symptoms (SIPS/SOPS), and the likelihood of transition to full-blown psychosis was stated [25,26]. PLE is a state in which psychotic-like symptoms, such as hallucinations or delusions, are experienced during a short period, without any underlying mental disorder or social dysfunction. Reportedly, more than 10% of the general population that have reached puberty have experienced PLE [27–29]. The vignettes that were used for each condition are summarized below.

*PLE:* Saburo is 18-years old. He has experienced hearing the voice of his grandfather, who has passed away. He has reported hearing this voice twice over the past week. He is known as a good and outgoing student and is popular with his schoolmates.

*ARMS:* Taro is 17-years old. His uncle suffers from schizophrenia. Taro reports hearing a soft and whispering voice a few times per week. He feels like he is being observed critically by other people. His school performance has begun to deteriorate. A clinician told him that he has a 30% chance of developing schizophrenia in the next year.

*Schizophrenia:* Hanako believes that her neighbors disparage her and spy on her. She has lost her drive to participate in her usual work and family activities. She hears voices even though no one else is around. She has been living in this way for 6 months.

*Depression:* Jiro has been feeling down for the last several weeks. He cannot enjoy things as he did before. He finds it hard to concentrate on anything. He feels worthless and out of energy. He cannot fall sleep easily. His family has noticed that he has lost weight and that his appetite is poor.

Prejudice was measured using a 21-item questionnaire with a 4 point Likert scale (1 = strongly agree, 2 = agree, 3 = disagree, 4 = strongly disagree) that was modified from an original questionnaire used in Pescosolido's study [30]. Discrimination was measured using the 19-item Social Distance Scale and a 4-point Likert scale (0 = strongly agree, 1 = agree, 2 = disagree, 3 = strongly disagree) [31,32]. Social distance is often examined as a proxy measure for behavioral indexes of discrimination in research on stigmas [33]. The Social Distance Scale evaluates a participant's willingness to interact with a person described in a vignette. A higher score on both scales indicates a stronger stigma toward the character in each vignette.

### 2.3. Statistical analyses

All the statistical analyses were performed using the Statistical Package for the Social Sciences (SPSS), version 22.0 J for Windows. We used a chi-square test and a one-way analysis of variance (ANOVA). For multiple comparisons, Tukey's HSD test was used. The main analyses were performed to identify differences in stigmas: (1) among the 4 clinical conditions for each participant group, and (2) among the 3 population groups for each clinical condition.

Table 1  
Demographic characteristics.

	Total (n = 365)		General public (n = 149)		Patients (n = 97)		Professionals (n = 119)		$\chi^2$	df	p
	N	%	N	%	N	%	N	%			
Gender									0.09	2	0.955
Male	186	51.0	75	50.3	49	50.5	62	52.1			
Female	179	49.0	74	49.7	48	49.5	57	47.9			
Age									11.50	8	0.175
< 30	102	27.9	49	32.9	28	28.9	25	21.0			
30–39	127	34.8	48	32.2	34	35.1	45	37.8			
40–49	81	22.2	35	23.5	15	15.5	31	26.1			
50–59	32	8.8	11	7.4	11	11.3	10	8.4			
60≤	22	6.0	5	3.4	9	9.3	8	6.7			
No answer	1	0.3	1	0.7	0	0.0	0	0.0			

### 3. Results

#### 3.1. Demographic characteristics

The participants consisted of 149 members of the general public, 97 patients with mental disorders, and 119 psychiatric professionals. Regarding the socio-demographic data, no significant differences in sex or age were observed among the three groups (Table 1). However, educational level was significantly different between the three groups ( $F = 147.27$ ;  $df = 2,361$ ;  $p < 0.001$ ): patients ( $12.99 \pm 2.52$ ) was lowest, followed by general public ( $14.10 \pm 2.00$ ), and professionals ( $17.50 \pm 1.68$ ).

#### 3.2. Prejudice and discrimination across mental disorders in each participant group

##### 3.2.1. Prejudice

In each of the three participant groups, the scores for prejudice against different stages of psychosis were compared (Table 2). Generally, a similar pattern was observed among the groups, in which prejudice against PLE was mildest followed by prejudice against ARMS and depression. Prejudice against schizophrenia was severest.

In the public group, prejudice against PLE ( $40.87 \pm 9.84$ ) was lowest, followed by prejudice against ARMS ( $49.54 \pm 7.17$ ), depression ( $51.66 \pm 8.62$ ), and schizophrenia ( $53.76 \pm 7.85$ ). Significant differences between prejudice against PLE and prejudice against other disorders were observed. In the patients group, prejudice against PLE was mildest ( $44.83 \pm 9.01$ ), followed by prejudice against ARMS ( $48.31 \pm 7.64$ ),

depression ( $49.39 \pm 8.15$ ), and schizophrenia ( $51.33 \pm 8.36$ ). Significant differences between prejudice against PLE and prejudice against other disorders were observed. In the psychiatric professionals group, prejudice against PLE was mildest ( $41.20 \pm 8.02$ ), followed by prejudice against ARMS ( $45.56 \pm 6.02$ ), depression ( $45.81 \pm 6.56$ ), and schizophrenia ( $50.04 \pm 7.03$ ). No significant difference in prejudice against ARMS and prejudice against depression was observed.

##### 3.2.2. Discrimination

In each of the three participant groups, the scores for discrimination against people with different mental disorders were compared (Table 3). A similar pattern was observed in each of the participant groups. In the general public group, the scores for discrimination were lowest for PLE ( $19.07 \pm 9.03$ ), followed by those for ARMS ( $26.58 \pm 10.06$ ), depression ( $29.68 \pm 9.57$ ), and schizophrenia ( $33.43 \pm 9.76$ ). Significant differences were observed among the scores for the four disorders. In the patients group, the discrimination scores were lowest for PLE ( $19.70 \pm 9.19$ ), followed by those for ARMS ( $24.32 \pm 8.65$ ), depression ( $25.79 \pm 9.37$ ), and schizophrenia ( $28.77 \pm 9.77$ ). Although significant differences between the scores for PLE and those for the other disorders were observed, no other significant differences were observed among the scores for the other three disorders. In the psychiatric professionals group, the discrimination scores were lowest for PLE ( $19.90 \pm 8.66$ ), followed by those for ARMS ( $24.03 \pm 8.93$ ), depression ( $24.78 \pm 8.03$ ), and schizophrenia ( $29.96 \pm 8.36$ ). Significant differences were observed among the scores

Table 2  
Prejudice against mental disorders in each participant group.

	PLE (A)		ARMS (B)		Depression (C)		Schizophrenia (D)		ANOVA			Post-hoc					
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	F	df	p	A vs B	A vs C	A vs D	B vs C	B vs D	C vs D
General public (n = 149)	40.87	9.84	49.54	7.17	51.66	8.62	53.76	7.85	66.80	3, 588	<0.001	<0.001	<0.001	<0.001	0.134	<0.001	0.141
Patients (n = 97)	44.83	9.01	48.31	7.64	49.39	8.15	51.33	8.36	10.29	3, 380	<0.001	0.020	0.001	<0.001	0.805	0.059	0.371
Professionals (n = 119)	41.20	8.02	45.56	6.02	45.81	6.56	50.04	7.03	31.99	3, 468	<0.001	<0.001	<0.001	<0.001	0.993	<0.001	<0.001

Table 3  
Discrimination against mental disorders in each participant group.

	PLE (A)		ARMS (B)		Depression (C)		Schizophrenia (D)		ANOVA			Post-hoc					
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	F	df	p	A vs B	A vs C	A vs D	B vs C	B vs D	C vs D
	General Public (n = 149)	19.07	9.03	26.58	10.06	29.68	9.57	33.43	9.76	59.86	3, 592	<0.001	<0.001	<0.001	<0.001	0.028	<0.001
Patients (n = 97)	19.70	9.19	24.32	8.65	25.79	9.37	28.77	9.77	16.03	3, 380	<0.001	0.003	<0.001	<0.001	0.689	0.005	0.118
Professionals (n = 119)	19.90	8.66	24.03	8.93	24.78	8.03	29.96	8.36	27.95	3, 470	<0.001	0.001	<0.001	<0.001	0.903	<0.001	<0.001

for the four disorders, except between the scores for ARMS and those for depression.

### 3.3. Stigmas for each stage of psychosis

The stigmas held by the participant groups were compared for each stage of psychosis (PLE, ARMS, and schizophrenia) (Table 4).

#### 3.3.1. PLE

The order of the prejudice scores against PLE was the general public ( $40.87 \pm 9.84$ ), psychiatric professionals ( $41.20 \pm 8.02$ ), and patients ( $44.83 \pm 9.01$ ). A significant difference between the scores of psychiatric professionals and those of patients was observed. The order of the discrimination scores was the general public ( $19.07 \pm 9.03$ ), patients ( $19.70 \pm 9.19$ ), and psychiatric professionals ( $19.90 \pm 8.66$ ). No significant differences in the scores of the three groups were observed.

#### 3.3.2. ARMS

The order of the prejudice scores against ARMS was psychiatric professionals ( $45.56 \pm 6.02$ ), patients ( $48.31 \pm 7.64$ ), and the general public ( $49.54 \pm 7.17$ ). A significant difference between the scores of psychiatric professionals and those of patients was observed. The order of the discrimination scores was psychiatric professionals ( $24.03 \pm 8.93$ ), patients ( $24.32 \pm 8.65$ ), and the general public ( $26.58 \pm 10.06$ ). No significant differences in the scores of the three groups were observed.

#### 3.3.3. Schizophrenia

The order of the prejudice scores against schizophrenia was psychiatric professionals ( $50.04 \pm 7.03$ ), patients

( $51.33 \pm 8.36$ ), and the general public ( $53.76 \pm 7.85$ ). A significant difference between the scores of the patients and those of the general public was observed. The order of the discrimination scores was patients ( $28.77 \pm 9.77$ ), psychiatric professionals ( $29.96 \pm 8.36$ ), and the general public ( $33.43 \pm 9.76$ ). A significant difference between the scores of psychiatric professionals and those of the general public was observed.

## 4. Discussion

A previous study reported that the stigma toward schizophrenia was stronger than that toward depression [34]. Regarding the stage of schizophrenia, the stigma and social distance toward chronic schizophrenia has been shown to be severer than that toward earlier stages of mental illness [34,35]. In the present study, the stigmas differed according to the disorder and the clinical stage, although the pattern of stigma severity was similar among the participant groups (PLE < ARMS < depression < schizophrenia). In addition, the severity of the stigma toward ARMS was shown to be equal to that against depression in every participant group.

Regarding the stigma toward schizophrenia, the scores for both prejudice and discrimination were significantly severer than those for other disorders in the general public group. Thus, a deep-rooted stigma toward schizophrenia still exists, consistent with the findings of previous studies [5,6]. To support the progress of society and a higher quality of life for schizophrenia patients, the dissemination of knowledge and the enlightenment of society with regard to schizophrenia will be indispensable.

Table 4  
Stigma toward each stage of psychosis.

	General public (A)		Patients (B)		Professionals (C)		ANOVA			Post-hoc		
	Mean	SD	Mean	SD	Mean	SD	F	df	p	A vs B	A vs C	B vs C
PLE												
Prejudice	40.87	9.84	44.83	9.01	41.20	8.02	6.31	2,360	0.002	0.003	0.953	0.010
Discrimination	19.07	9.03	19.70	9.19	19.90	8.66	0.31	2,361	0.733	0.855	0.734	0.985
ARMS												
Prejudice	49.54	7.17	48.31	7.64	45.56	6.02	10.84	2,358	<0.001	0.368	<0.001	0.012
Discrimination	26.58	10.06	24.32	8.65	24.03	8.93	3.00	2,362	0.051	0.152	0.068	0.971
Schizophrenia												
Prejudice	53.76	7.85	51.33	8.36	50.04	7.03	7.97	2,359	<0.001	0.045	<0.001	0.451
Discrimination	33.43	9.76	28.77	9.77	29.96	8.36	8.52	2,360	<0.001	<0.001	0.008	0.625

When the stigmas of the general public were compared with those of psychiatric professionals, the scores of the general public for both prejudice and discrimination against PLE were lower than those of the professionals. However, the prejudice score of the general public was higher than that of the professionals at the stage of ARMS and beyond. Furthermore, the discrimination score of the general public was also higher than that of the professionals at the stage of schizophrenia. These findings suggest a formulation process in which stigma toward schizophrenia develops from an attitudinal property (prejudice) against ARMS and a behavioral property (discrimination) against schizophrenia (Fig. 1).

Prejudice begins to increase from the stage of ARMS; this situation might prevent patients from consulting with professionals during an early stage of schizophrenia, even if they are aware of the prodromal signs of psychosis. Such delays can lead to a transition to full-blown psychosis. Furthermore, it has been suggested that stigma stress itself might also increase the risk of transition to schizophrenia among young people with ARMS [36]. Although it is important to enlighten the public about both ARMS and schizophrenia, it is very important to consider a means of achieving this goal while avoiding insensitivity, since ARMS patients are usually adolescents. The spread of knowledge regarding mental illnesses and the experience of meeting people with mental illnesses are reportedly effective for reducing stigmas toward psychiatry [32,37–39]. On the other hand, some studies have revealed that such activities not only led to a reduction in stigmas, but also adversely increased stigmas in some cases [5,40].

Self-stigma destroys the possibility of achieving treatment goals for patients because such stigmas decrease self-esteem and self-efficacy and prevent help-seeking actions [6,11,41–43]. In the patient group, the prejudice score against PLE was significantly higher than the prejudice scores of the other groups, and self-stigma might have influenced these results. The establishment of a strategy enabling young people with a high risk and other difficulties to connect with specialist services without experiencing any stigma will be indispensable for the future of this field.

The present study has several limitations. The educational level of the three participant groups differed significantly in this study. Chan et al. reported that female subjects with a higher

educational level and a better knowledge of the symptoms and treatment of psychosis exhibited stronger stigmatizing attitudes than the general population in Hong Kong [44]. In contrast, Clark and Binks reported that a high educational level was associated with a more liberal attitude toward mental illness than a low educational level among subjects living in Australia [45]. As the present study compared stigma toward psychosis between three participant groups that differed in their roles, positions, and other background characteristics, it seems necessary to evaluate a larger number of sociodemographic factors and their mutual relations carefully in the future. Furthermore, only Japanese subjects were recruited in the present study. Further studies examining larger samples and that take regional factors and cross-cultural differences into consideration are needed before the present findings can be generalized.

Regarding the study methods, we did not question the patient groups about their diagnosis on the questionnaire. However, an examination of differences in stigma toward psychosis between patient groups with different mental illnesses would be interesting and helpful for understanding self-stigma. Furthermore, the definition and diagnostic criteria of PLE are still controversial, although we included PLE as one of the stages of psychosis. Further investigations are desirable.

## 5. Conclusions

The stigmas of mental illness differed according to the clinical stage, although the pattern of severity was similar among the three groups. A formulation process is suggested in which stigma toward schizophrenia develops from an attitudinal property (prejudice) against ARMS and a behavioral property (discrimination) against schizophrenia.

## Conflicts of interest

None.

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## References

- [1] Goffman E. *Stigma: Notes on the management of spoiled identity*. New Jersey: Prentice-Hall, Englewood Cliffs; 1963.
- [2] Byrne P. Psychiatric stigma. *Br J Psychiatry* 2001;178:281-4.
- [3] Rusch N, Angermeyer MC, Corrigan PW. Mental illness stigma: Concepts, consequences, and initiatives to reduce stigma. *Eur Psychiatry* 2005;20:529-39.
- [4] Link BG, Phelan JC. Conceptualizing Stigma. *Annu Rev Sociol* 2001;27:363-85.

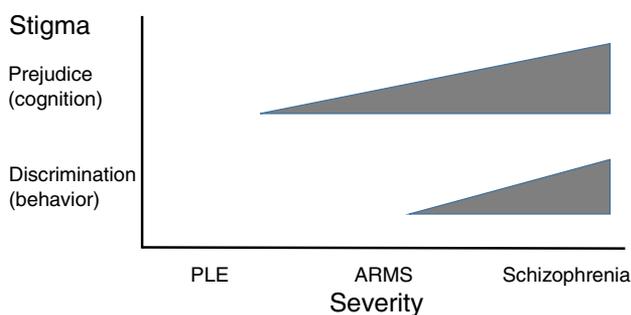


Fig. 1. Stigma toward schizophrenia and its formulation process. PLE: psychotic-like-experiences; ARMS: at-risk mental state for psychosis.

- [5] Angermeyer MC, Matschinger H, Schomerus G. Attitudes towards psychiatric treatment and people with mental illness: Changes over two decades. *Br J Psychiatry* 2013;203:146-51.
- [6] Thornicroft G, Brohan E, Rose D, Sartorius N, Leese M. Global pattern of experienced and anticipated discrimination against people with schizophrenia: a cross-sectional survey. *Lancet* 2009;373(9661):408-15.
- [7] Ministry of health, Labor and welfare: Government policy of the future health and welfare for persons with disabilities. <http://www.mhlw.go.jp/topics/2004/09/dl/tp0902-1a.pdf>; 2004 [accessed 03.03.16].
- [8] Science council of Japan commission of connection of psychiatry study: Challenging mental health stigma and discrimination: For the spread of right knowledge of mental disease and mental disorder. <http://www.scj.go.jp/ja/info/kohyo/pdf/kohyo-19-t1032-6.pdf>; 2005 [accessed 03.03.16].
- [9] Takahashi K, Nakanishi E. *Stigma* to the people with mental illness. *Clin Psychiatry* 2013;55:929-40 [in Japanese].
- [10] Tanaka G. Evaluation research on the program against stigma because of mental disorders. *Jpn J Psychiatr Rehab* 2006;10:22-3 [in Japanese].
- [11] Corrigan PW. How stigma interferes with mental health care. *Am Psychol* 2004;59:614-25.
- [12] Dinos S, Stevens S, Serfaty M, Weich S. Stigma: the feelings and experiences of 46 people with mental illness, qualitative study. *Br J Psychiatry* 2004;184:176-81.
- [13] Marshall M, Lewis S, Lockwood A, Drake R, Jones P, Croudace T. Association between duration of untreated psychosis and outcome in cohorts of first episode patients: A systematic review. *Arch Gen Psychiatry* 2005;62:975-83.
- [14] Perkins DO, Gu H, Boteva K, Lieberman JA. Relationship between duration of untreated psychosis and outcome in first-episode schizophrenia: A critical review and meta-analysis. *Am J Psychiatry* 2005;162:1785-804.
- [15] Bertolote J, McGorry P. Early intervention and recovery for young people with early psychosis: consensus statement. *Br J Psychiatry* 2005;187(Suppl48):s116-9.
- [16] Yung AR, McGorry PD, McFarlane CA, Jachson HJ, Patton GC, Rakkar A. Monitoring and care of young people at incipient risk of psychosis. *Schizophr Bull* 1996;22:283-303.
- [17] Thornicroft G, Rose D, Mehta N. Discrimination against people with mental illness: what can psychiatrists do? *Adv Psychiatr Treat* 2010;16:53-9.
- [18] Nieman DH, McGorry PD. Detection and treatment of at-risk mental state for developing a first psychosis: making up the balance. *Lancet Psychiatry* 2015;2:825-34.
- [19] Crumlish N, Whitty P, Clarke M, Browne S, Kamali M, Gervin M, et al. Beyond the critical period: longitudinal study of 8-year outcome in first-episode non-affective psychosis. *Br J Psychiatry* 2009;194:18-24.
- [20] McGorry PD, Yung AR, Phillips LJ, Yuen HP, Francey S, Cosgrave EM, et al. Randomized controlled trial of interventions designed to reduce the risk of progression to first-episode psychosis in a clinical sample with subthreshold symptoms. *Arch Gen Psychiatry* 2002;59:921-8.
- [21] McGlashan TH, Zipursky RB, Perkins D, Addington J, Miller T, Woods SW, et al. Randomized, double-blind trial of olanzapine versus placebo in patients prodromally symptomatic for psychosis. *Am J Psychiatry* 2006;163:790-9.
- [22] Morrison AP, French P, Walford L, Lewis SW, Kilcommons A, Green J, et al. Cognitive therapy for the prevention of psychosis in people at ultra-high risk: randomized controlled trial. *Br J Psychiatry* 2004;185:291-7.
- [23] Lee EH, Hui CL, Ching EY, Lin J, Chang WC, Chan SK, et al. Public stigma in China associated with schizophrenia, depression, attenuated psychosis syndrome, and psychosis-like experiences. *Psychiatr Serv* 2016;67:766-70.
- [24] Thornicroft G, Rose D, Kassam A, Sartorius N. *Stigma*: ignorance, prejudice or discrimination? *Br J Psychiatry* 2007;190:192-3.
- [25] Yung AR, Yuen HP, Berger G, Francey S, Hung TC, Nelson B, et al. Declining transition rate in ultra high risk (prodromal) services: dilution or reduction of risk? *Schizophr Bull* 2007;33:673-81.
- [26] Fusar-Poli P, Bonoldi I, Yung AR, Borgwardt S, Kempton MJ, Valmaggia L, et al. Predicting psychosis: Meta-analysis of transition outcomes in individuals at high clinical risk. *Arch Gen Psychiatry* 2012;69:220-9.
- [27] Poulton R, Caspi A, Moffitt TE, Cannon M, Murray R, Harrington H. Children's self-reported psychotic symptoms and adult schizophreniform disorder: A 15-year longitudinal study. *Arch Gen Psychiatry* 2000;57:1053-8.
- [28] Nishida A, Tani H, Nishimura Y, Kajiki N, Inoue K, Okada M, et al. Associations between psychotic-like experiences and mental health status and other psychopathologies among Japanese early teens. *Schizophr Res* 2008;99:125-33.
- [29] Lataster T, Os J, Drukker M, Henquet C, Feron F, Gunther N, et al. Childhood victimization and developmental expression of non-clinical delusional ideation and hallucinatory experiences: Victimization and non-clinical psychotic experiences. *Soc Psychiatry Psychiatr Epidemiol* 2006;41:423-8.
- [30] Pescosolido BA, Medina TR, Martin JK, Long JS. The "backbone" of stigma: Identifying the Global Core of Public Prejudice Associated with Mental Illness. *Am J Public Health* 2013;103:853-60.
- [31] Chung KF, Chen EYH, Liu CSM. University students' attitudes towards mental patients and psychiatric treatment. *Int J Soc Psychiatry* 2001;47:63-72.
- [32] Penn DL, Guynan K, Daily T, Spaulding WD, Garbin CP, Sullivan M. Dispelling the stigma of schizophrenia: What sort of information is best? *Schizophr Bull* 1994;20:567-78.
- [33] Corrigan PW, Edwards AB, Green A, Diwan SL, Penn DL. Prejudice, social distance, and familiarity with mental illness. *Schizophr Bull* 2001;27:219-25.
- [34] Griffiths KM, Nakane Y, Christensen H, Yoshioka K, Jorm AF, Nakane H. *Stigma* in response to mental disorders: a comparison of Australia and Japan. *BMC Psychiatry* 2006;6:21.
- [35] Hanzawa S, Nakane Y, Yoshioka K, Nakane H. *Stigma* and social distance toward persons with mental disorders-survey results regarding people with schizophrenia (First report). *Jpn Bull Soc Psychiatry* 2007;16:113-24 [in Japanese].
- [36] Rüsçh N, Heekeren K, Theodoridou A, Müller M, Corrigan PW, Mayer B, et al. Stigma as a stressor and transition to schizophrenia after one year among young people at risk of psychosis. *Schizophr Res* 2015;166:43-8.
- [37] Penn DL, Kommuna S, Mansfield M, Link BG. Dispelling the stigma of schizophrenia: The impact of information on dangerousness. *Schizophr Bull* 1999;25:437-46.
- [38] Corrigan PW, Moris SB, Michaels PJ, Rafacz JD, Rusch N. Challenging the public stigma of mental illness: A meta-analysis of outcome studies. *Psychiatr Serv* 2012;63:963-73.
- [39] Read J, Law A. The relationship of causal beliefs and contact with users of mental health services to attitudes to the "mentally ill". *Int J Soc Psychiatry* 1999;45:216-29.
- [40] Aydin N, Yigit A, Inandi T, Kirpinar I. Attitude of hospital staff toward mentally ill patients in a teaching hospital, Turkey. *Int J Soc Psychiatry* 2003;49:17-26.
- [41] Link BG. Understanding labeling effects in the area of mental disorders: An assessment of the effects of expectations of rejection. *Am Sociol Rev* 1983;52:96-112.
- [42] Vauth R, Kleim B, Wirtz M, Corrigan PW. Self-efficacy and empowerment as outcomes of self-stigmatizing and coping in schizophrenia. *Psychiatry Res* 2007;150:71-80.
- [43] Tsang HW, Fung KM, Chung RC. Self-stigma and stages of change as predictors of treatment adherence of individuals with schizophrenia. *Psychiatry Res* 2010;180:10-5.
- [44] Chan SKW, Tam WWY, Lee KW, Hui CLM, Chang WC, Lee EHM, et al. A population study of public stigma about psychosis and its contributing factors among Chinese population in Hong Kong. *Int J Soc Psychiatry* 2016;62(3):205-13.
- [45] Clark A, Binks N. Relation of age and education to attitudes toward mental illness. *Psychol Rep* 1966;19:649-50.