

Effectiveness of a community-based intervention program in reducing stigma and discrimination among people with schizophrenia in Guangzhou, China

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Statement of Potential Conflicts of Interest

- Sara Evans-Lacko has received consulting fees from Lundbeck unrelated to this work. The other authors declare no conflicts of interest.



Background-1

- Stigma and discrimination are complicating features of psychiatric disorders and treatment, especially for schizophrenia.
- Interventions reducing stigma and discrimination in schizophrenia are significant public health issues.



Background-2

- The main sources of reported interventions against stigma and discrimination in patients with schizophrenia are mainly from high-income countries (HICs).
- Little is known about the effective measurements of the interventions in low- and middle-income countries (LMICs).



Aims

- To assess the effectiveness of comprehensive interventions on reducing stigma and discrimination in patients with schizophrenia in community, Guangzhou, China.



Methods-1

■ Participants

- A total of 384 patients with schizophrenia, who were registered in the system of Guangzhou severe mental disorders management database, were included in this cluster randomized controlled trial based on the inclusion criteria and exclusion criteria described.



Methods-2

■ Participants

- The analyses of outcomes were based on the intention to treat principle.
- Participants in intervention group (n=169) received comprehensive interventions plus routine management and the control group (n=158) received home visit and routine management (trial registration: ChiCTR-IPR-15006246).



Methods-3

- CONSORT (Consolidated Standards of Reporting Trials) diagram



Methods-4

- **Interventions**

- Strategies anti-stigma and discrimination
- Psycho-education intervention
- Social skills training
- Cognitive behavioral therapy (CBT)



Methods-5

Contents

Questionnaire and scales

Demographic characteristics

General Situation Questionnaire

Psychopathological level

BPRS/PANSS-N

Social functioning

GAF

Quality of life

SQLS

Self-esteem

SES

Stigma and discrimination

ISMI/DISC₋₁₂



Methods-6

■ Data analysis

- Statistical analysis was conducted using IBM SPSS Statistics (version 21.0; IBM Corporation, Armonk, NY, USA).
- Descriptive statistics, including the mean, standard deviation (s.d.), frequency, and proportion were used to describe the demographics and the outcomes of study participants at baseline, 6-month and 9-month (the primary endpoint).



Methods-7

■ Data analysis

- Differences between the participants' demographics by interventions were assessed by the *t*-test for continuous variables or the chi-square test or Fisher's exact test for categorical variables.
- Linear Mixed Models were used to show intervention effectiveness on BPRS, PANSS-N, GAF, SQLS, SES, ISMI, DISC-12 subscales.



Methods-8

■ Data analysis

- General Linear Mixed Models with multinomial logistic link function were used to assess the effectiveness on medication compliance and insight.
- Regression coefficients (b) or odds ratio (OR) with 95% confidence intervals (CI), and intra-class correlation (ICC) resulting from clusters (districts) were calculated.



Results-1a

Table 1 Socio-demographic characteristics (baseline)

Characteristics	Intervention Group (n=199)	Control Group (n=185)
Age, years: mean (s.d.)	40.21 (7.57)	39.70 (7.83)
Education, years: mean (s.d.)	10.31 (2.51)	9.92 (2.69)
Race (Han) n(%)	198 (99.5)	182 (98.4)
Sex n(%)		
Male	98 (49.2)	99 (53.5)
Female	101 (50.8)	86 (46.5)
Marital status n(%)		
Single	103 (51.8)	95 (51.4)
Married	76 (38.2)	70 (37.8)
Divorce/Widowed	20 (10.1)	20 (10.8)



Results-1b

Table 1 Socio-demographic characteristics (baseline) (cont)

Characteristics	Intervention Group (n=199)	Control Group (n=185)
Occupation n(%)		
Yes	65 (32.7)	47 (25.4)
No	134 (67.3)	138 (74.6)
Duration of illness, years: mean (s.d.)	14.11 (7.49)	15.00 (8.45)
Number of hospitalizations , times: mean (s.d.)	2.60 (2.50)	2.36 (3.51)



Results-2a

Table 2 Clinical and psychological characteristics (baseline)

Characteristics	Study Group (n=199)	Control Group (n=185)
BPRS total score: mean (s.d.)*	26.60 (6.39)	28.12 (7.84)
PANSS-N total score : mean (s.d.)*	16.40 (5.28)	17.96 (5.43)
Medication compliance		
Complete compliance n(%)	155(77.9)	137(74.1)
Part compliance n(%)	42(21.1)	46(24.9)
No compliance n(%)	2(1.0)	2(1.0)
Insight		
Complete insight n(%)	22(11.1)	24(13.0)
Part insight n(%)	134(67.3)	104(56.2)
No insight n(%)	43(21.6)	57(30.8)



Results-2b

Table 2 Clinical and psychological characteristics (baseline) (cont)

Characteristics	Study Group (n=199)	Control Group (n=185)
GAF total score: mean (s.d.)	63.76 (10.59)	61.61 (12.27)
SQLS total score: mean (s.d.)	31.64 (15.74)	31.95 (15.97)
ISMI total score: mean (s.d.)	2.30 (0.38)	2.30 (0.40)
DISC-12 subscales : mean (s.d.)		
Experienced discrimination	0.20 (0.26)	0.21 (0.29)
Anticipated discrimination	0.79 (0.72)	0.79 (0.72)
Overcoming stigma	0.73 (0.67)	0.78 (0.71)
Positive treatment	0.75 (0.66)	0.70 (0.60)
SES total score: mean (s.d.)	22.95 (3.92)	23.34 (3.88)

Results-2c

Table 3 Effectiveness of the comprehensive interventions at baseline and 9-month

Intervention	Intervention Group (n=169)		Control Group (n=158)	
	Baseline	9-month	Baseline	9-month
BPRS total score: mean (s.d.) [#]	26.60 (6.39)	21.92 (3.44)	28.12 (7.84)	25.65 (6.72)
PANSS-N total score : mean (s.d.) [#]	16.40 (5.28)	9.71 (3.06)	17.96 (5.43)	13.06 (4.53)
GAF total score : mean (s.d.) [#]	63.76 (10.59)	77.98 (8.91)	61.61 (12.27)	67.70 (10.62)
SQLS total score : mean (s.d.)	31.64 (15.74)	30.60 (14.10)	31.95 (15.97)	31.24 (16.00)
ISMI total score : mean (s.d.)	2.30 (0.38)	2.32 (0.38)	2.30 (0.40)	2.38 (0.41)
DISC-12 subscales: mean (s.d.)				
Experienced discrimination	0.20 (0.26)	0.16 (0.23)	0.21 (0.29)	0.21 (0.29)
Anticipated discrimination [#]	0.79 (0.72)	0.52 (0.68)	0.79 (0.72)	0.84 (0.86)
Overcoming stigma [#]	0.73 (0.67)	1.09 (0.83)	0.78 (0.71)	0.63 (0.62)
Positive treatment [#]	0.75 (0.66)	0.50 (0.45)	0.70 (0.60)	0.61 (0.48)

Results-2d

Table 3 Effectiveness of the comprehensive interventions at baseline and 9-month (Cont)

Intervention	Intervention Group (n=169)		Control Group (n=158)	
	Baseline	9-month	Baseline	9-month
SES total score : mean (s.d.)	22.95 (3.92)	22.89 (3.61)	23.34 (3.88)	23.23 (3.77)
Medication compliance n (%)*				
Complete compliance	155(77.9)	163(95.9)	137(74.1)	138(89)
Part compliance	42(21.1)	7(4.1)	46(24.9)	13(8.4)
No compliance	2(1.0)	0(0.0)	2(1.0)	4(2.6)
Insight n (%)*				
Complete insight	22(11.1)	92(54.1)	24(13.0)	70(45.2)
Part insight	134(67.3)	75(44.1)	104(56.2)	74(47.7)
No insight	43(21.6)	3(1.8)	57(30.8)	11(7.1)

Results-3a

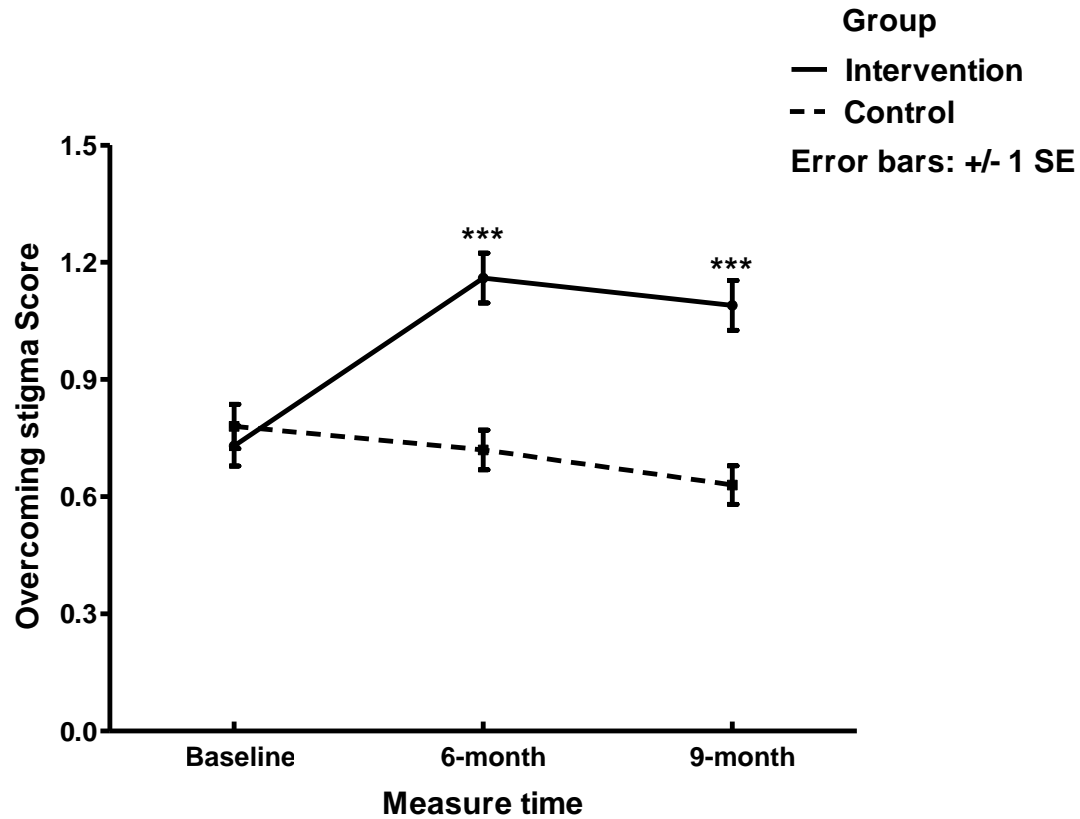


Fig.1 Overcoming stigma Scores of the intervention group and control group by time point. Data were indicated by mean (standard error). *** $p < 0.0001$

Results-3b

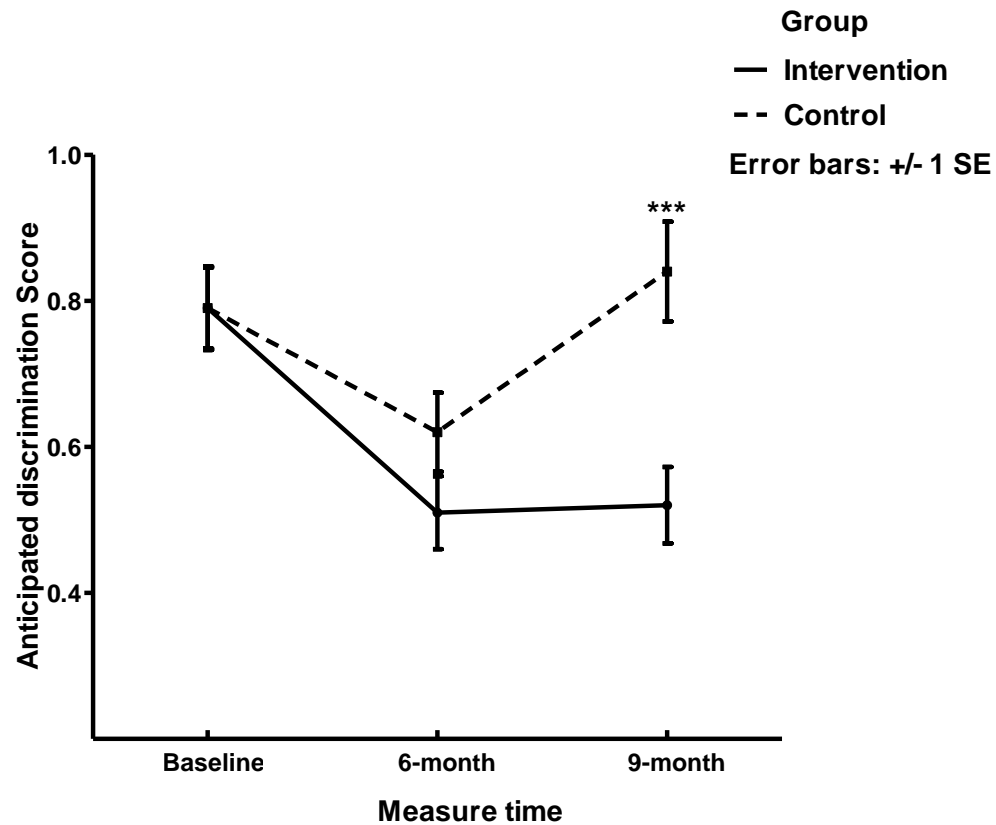


Fig.2 Anticipated discrimination Scores of the intervention group and control group by time point. Data were indicated by mean (standard error). *** $p < 0.0001$

Results-3c

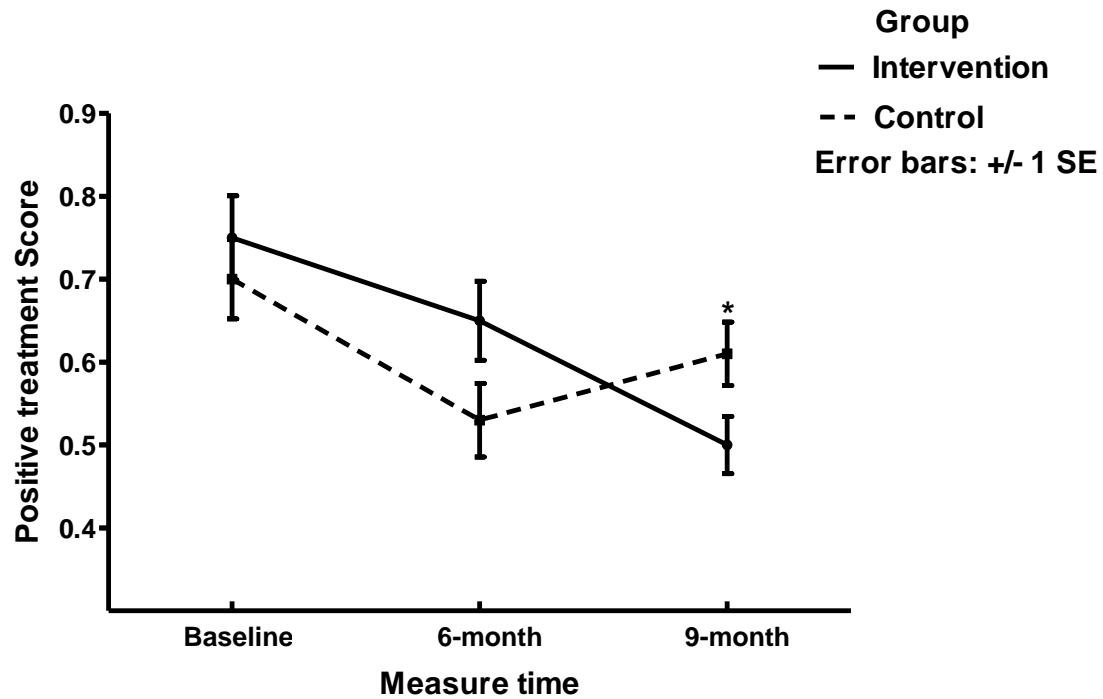


Fig.3 DISC Positive treatment Scores of the intervention group and control group by time point. Data were indicated by mean (standard error). * $p < 0.05$

Results-3d

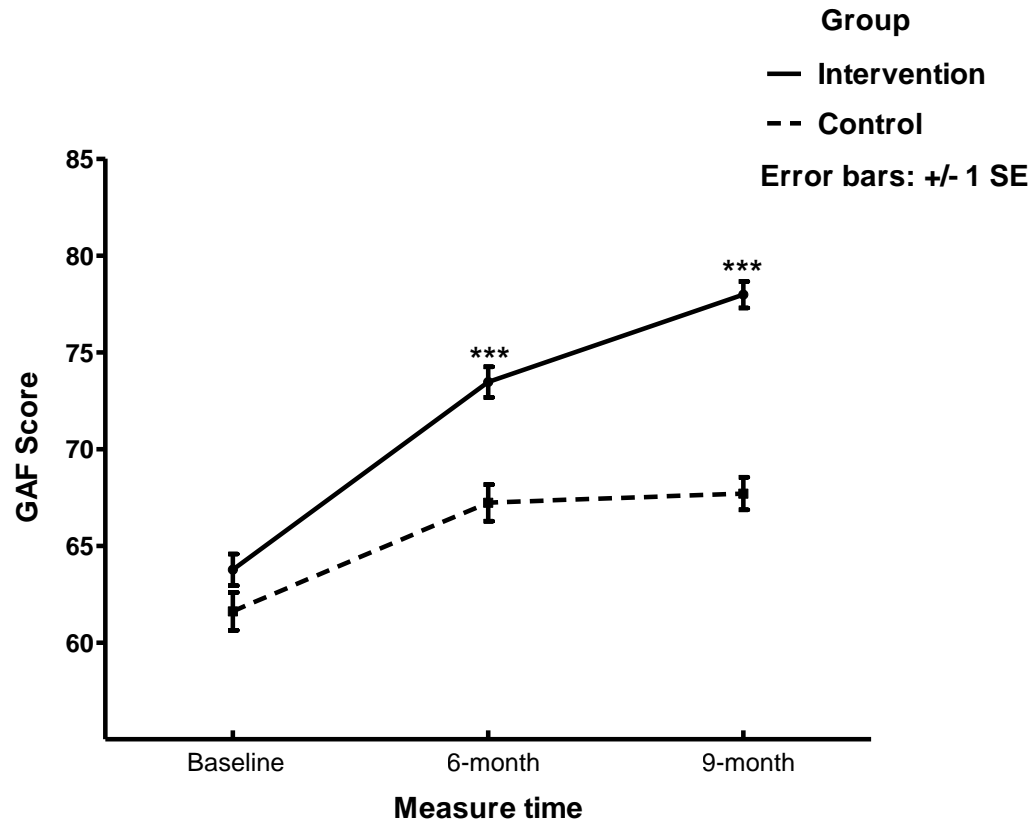


Fig.4 GAF Scores of the intervention group and control group by time point. Data were indicated by mean (standard error). GAF=Global Assessment of Functioning. *** $p < 0.0001$

Results-3e

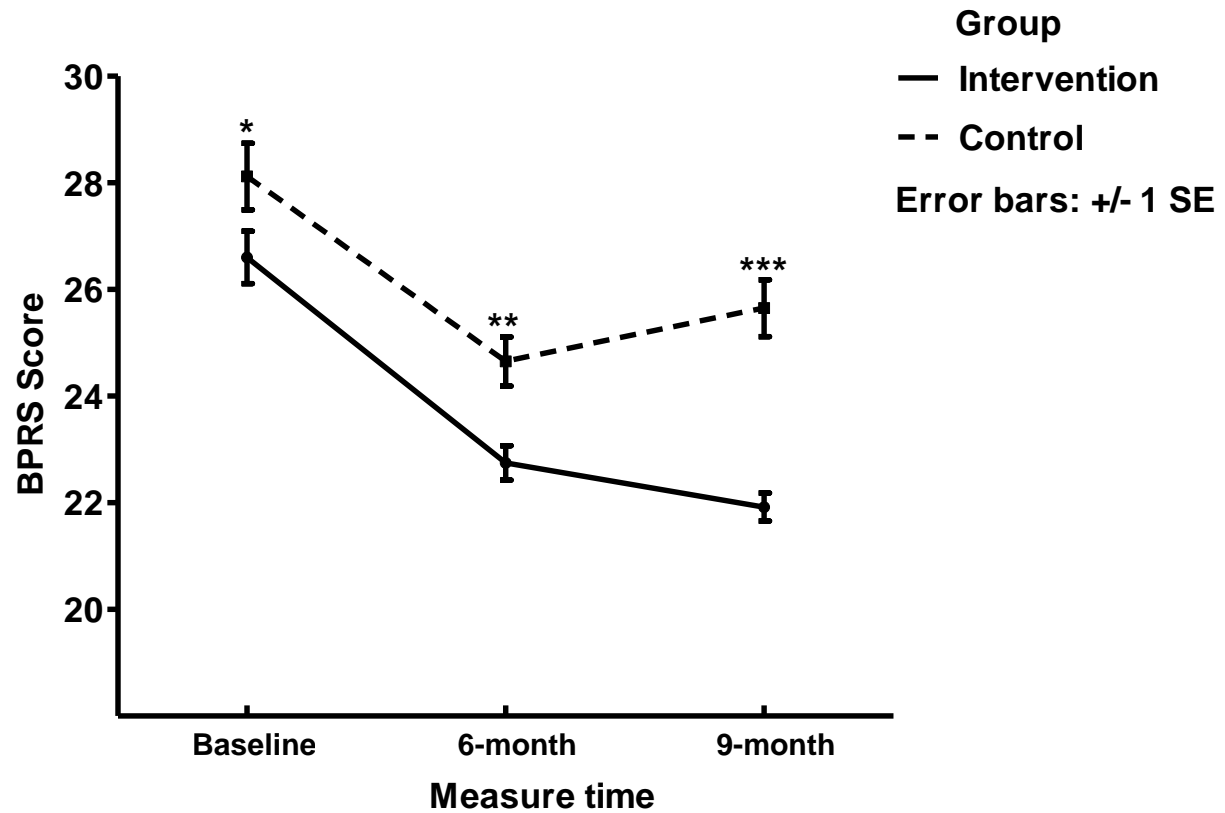


Fig.5 BPRS Scores of the intervention group and control group by time point. Data were indicated by mean (standard error). BPRS=Brief Psychiatric Rating Scale. * $p<0.05$, ** $p<0.01$, *** $p<0.0001$

Results-3f

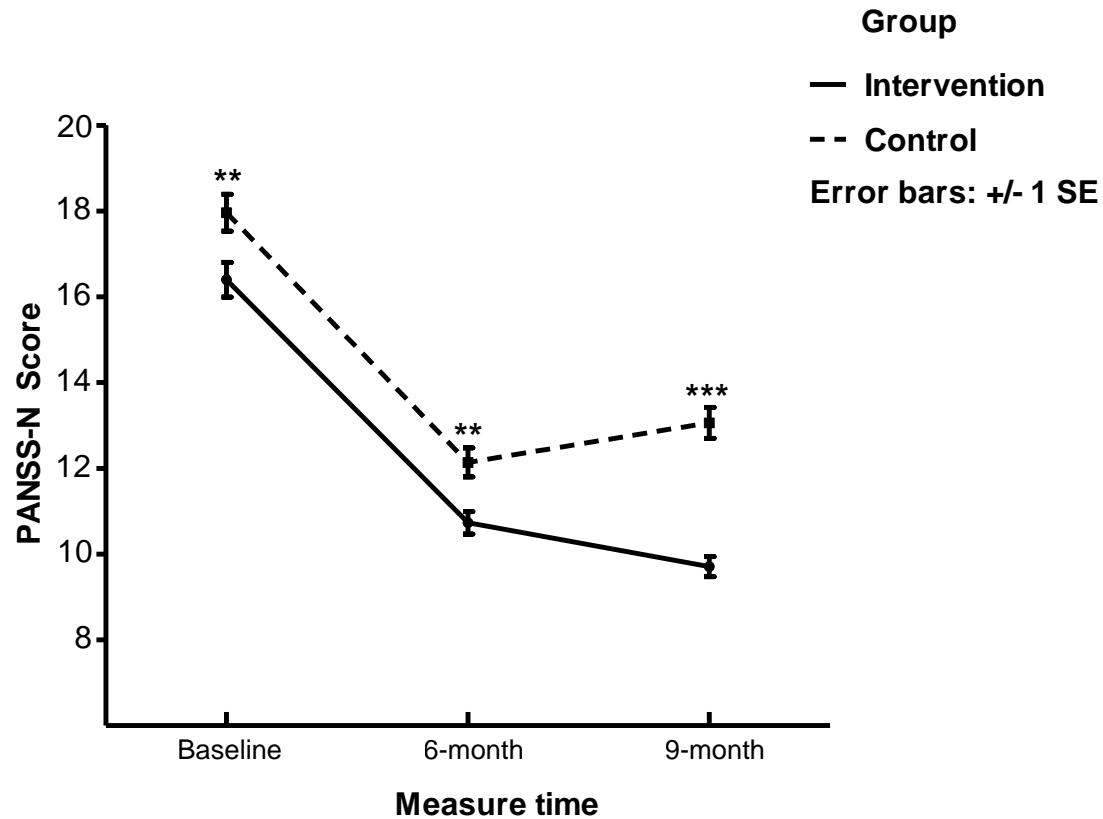


Fig.6 PANSS-N Scores of the intervention group and control group by time point. Data were indicated by mean (standard error). PANSS-N= PANSS negative scale. ** $p < 0.01$, *** $p < 0.0001$



Discussion-1

- To our knowledge, this is the first study to assess the effectiveness of a comprehensive intervention package which emphasize on anti-stigma and discrimination strategies, and which also combine with psycho-education, social skills training and CBT together in China.



Discussion-2

- Our results showed the comprehensive interventions improved patients the skills of coping discrimination and decreased the anticipated discrimination.
- Our study indicated a significant improvement in social function and psychopathological symptoms.



Discussion-3

- This study demonstrated some improvement in related discrimination and social function, but it's still need strong support and acceptance of the social and public to decrease the public stigma.



Conclusion

- This type of comprehensive interventions may have a short-term effective in reducing discrimination and social function in Chinese patients with schizophrenia.



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Our intervention



Thank you for your attention!



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