

Comparison of Attitudes of Psychiatrists vs Primary Healthcare Physicians in Singapore Towards At Risk Mental States (ARMS)

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Abstract

Aims: It is possible to define at risk mental states (ARMS) that predict conversion to schizophrenia in up to 40% of help seeking individuals within a year of screening. Treatment of ARMS is controversial due to difficulties with diagnosis and uncertainties of treatment effectiveness. This survey was conducted to assess and compare attitudes of Singapore psychiatrists vs primary healthcare physicians towards ARMS. **Materials and Methods:** An anonymous survey containing a clinical vignette and questions related to the diagnosis and management of ARMS was sent out to all registered psychiatrists/psychiatry trainees and all doctors in a public primary healthcare group in Singapore. **Results:** The response rate was 62.1% (87/140) and 72.3% (107/148) for psychiatrists and primary healthcare physicians respectively. The proportion of psychiatrists diagnosing ARMS vs psychosis was 44.8% vs 43.7% respectively. Among primary care physicians, the corresponding proportion was 54.2% vs 40.2%. The difference between the 2 groups did not reach statistical significance. Among psychiatrists who diagnosed ARMS, 74.4% (29/39) would treat the patient with active management. Of the total number of psychiatrists surveyed, 49.4% would advocate population screening of high risk groups compared to 30.8% of primary healthcare physicians. And 64.4% of psychiatrists felt that there was no consensus regarding the management of ARMS. **Conclusions:** There is currently clinical equipoise with regards to both diagnosis and management of ARMS in Singapore. Primary care physicians may be more likely to diagnose psychosis vs ARMS when compared to psychiatrists. Psychiatrists were more likely than primary healthcare physicians to advocate population screening of ARMS in high-risk groups. Most psychiatrists would manage ARMS actively.

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Introduction

Schizophrenia is a serious psychotic condition characterised by delusions, hallucinations and disordered behaviour. The Global Burden of Disease lists schizophrenia among the top 10 contributors to healthcare burden and disability around the world.¹ Most patients who develop schizophrenia experience a prodromal phase^{2,3} which involves attenuated psychotic symptoms and a worsening of premorbid functioning. The schizophrenia prodrome is essentially a retrospective diagnosis made definitively only after individuals develop schizophrenia. It is possible to identify individuals with at risk mental states (ARMS) and a high likelihood of onset of schizophrenia within a brief follow-up period.⁴ Up to 10.1% of help seeking individuals meeting the criteria for ARMS converted to psychosis

within 6 months of screening⁵ and up to 40% converted to psychosis within 12 months of being screened.⁴ This represents an incidence several thousand times the age adjusted incidence rate.

There is currently no consensus among Singapore psychiatrists or internationally with regard to the diagnosis of ARMS and its management. However, there is a rising awareness of ARMS and early psychosis with the establishment of the Early Psychosis Intervention Program (EPIP) in the Institute of Mental Health (IMH). EPIP has adopted a risk reduction approach⁶ towards schizophrenia and increasingly patients with ARMS rather than psychosis being seen by Singapore psychiatrists who must manage these patients with current best evidence. We conducted a survey of Singapore psychiatrists/psychiatry trainees and

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primary care doctors in one (of two) public primary care groups to assess and compare the current attitudes towards ARMS and its diagnosis and management.

Materials and Methods

The survey among psychiatrists and primary care doctors was conducted from July 2006 to September 2006 and May 2007 to June 2007 respectively. The study was approved by IMH Clinical Research Committee and the National Healthcare Group Ethics board. The target study population was all registered Singapore psychiatrists/psychiatry trainees and primary healthcare doctors in the National Healthcare Group Polyclinics (NHGP). Singapore is an island nation with a population of about 4 million. NHGP is one of two public primary healthcare groups in Singapore and provides comprehensive primary medical care for the northwestern half of Singapore via 9 polyclinics. The list of potential participants was obtained from the Singapore Ministry of Health's (MOH) website, the Graduate School of Medicine and NHGP. There were 108 registered psychiatrists in Singapore with 100 currently practicing in Singapore and who have a mailing address on the MOH website. There were 17 Advanced Specialty Trainees (AST) and 23 Basic Specialty Trainees (BST). Eight of the psychiatrists who were not practising in Singapore were excluded from the study, making the number of eligible participants to 140. There were 148 primary healthcare physicians in NHGP.

Study documents were mailed to all eligible participants. They included a cover letter stating the aim of survey and a one-page survey form. Three sets of study documents were mailed to non-respondents to increase the participation rate.

The survey form had questions to assess the participant's demographics, level of training, sub-specialty interest and place of practice. It contained a clinical vignette based on a recent clinical case discussion⁷ on the schizophrenia prodrome. The vignette is reproduced below:

An 18-year-old Chinese gentleman has been brought by his parents to see you for an assessment of his change in behaviour. The parents report that the patient's school grades have been deteriorating over the past 6 months and they feel the patient is more suspicious, withdrawn and sad. Otherwise the parents have not observed any change in his peer relationships and his self-care is good. When alone with the psychiatrist, the patient admits he thinks his classmates are looking and talking about him in particular and can possibly read his mind. He also feels that he can influence their actions simply by thinking about it. His speech is otherwise relevant and forthcoming and he denies perceptual disturbances. There is no family history of psychiatric disorder. His affect is mildly depressed and

your assessment rules out organic and drug related aetiologies. He is not suicidal.

ARMS was defined using the following criteria:⁴

1. Attenuated psychotic symptoms (magical thinking, ideas of reference, speech disorganisation with a frequency of several times a week for at least one week)
2. Brief limited intermittent psychotic symptoms (BLIPS) (Psychotic symptoms emerging in the recent past that last less than 1 week)
3. Genetic risk with functional decline (first-degree relative with a history of any psychotic disorder or the presence of schizophrenia spectrum disorder or schizotypal personality disorder with a decline in function of 30 points or more on the Global Assessment of Function)

Following the vignette, participants were asked if they would diagnose ARMS, psychosis, no diagnosis or other diagnosis for the hypothetical patient in the vignette. Subsequent questions assessed the participant's attitudes towards management, screening and research of ARMS.

All analyses were done using the Statistical Program for Social Sciences (SPSS) version 14 (Chicago, IL, USA). Comparisons between subgroups were done using chi-square and Fisher's exact tests as appropriate. Two-tailed tests of significance were used and statistical significance was set at $P < 0.05$.

Results

Eighty-seven (61.2%) psychiatrists and psychiatry trainees responded to the survey. Of all the respondents, 60.7% (53/87) were fully-trained psychiatrists. One hundred and seven (72.3%) primary healthcare physicians responded and 39.3% (42/107) had postgraduate qualifications. The demographics of the respondents are described in Table 1.

The psychiatrists were almost evenly split regarding the diagnosis of ARMS vs psychosis (44.8% vs 43.7% respectively). Primary healthcare physicians were more likely to diagnose psychosis rather than ARMS (54.2% vs 40.2% respectively), although the difference in proportion did not reach statistical significance. Subgroup analysis among primary care physicians showed that being female and having postgraduate qualifications increased the proportion of diagnosis of psychosis (61.8% and 61.5% respectively). Most psychiatrists who diagnosed the patient with ARMS (74.4%) chose to treat the patient actively rather than with watchful waiting. Of the psychiatrists who elected to observe the patient (25.6%), the most common choice was to observe the patient for 1 to 2 years' duration (40%). Primary healthcare physicians who diagnosed ARMS would almost uniformly (95.3%) refer the patient to a psychiatrist. Only 14% would treat the patient. There was no significant relationship between diagnosis and

Table 1. Demographics of Respondents

	Psychiatry N (%)	Primary Care N (%)
Age (y)		
20 to 30	16 (18.4)	23 (21.5)
30 to 40	34 (39.1)	62 (57.9)
40 to 50	22 (25.3)	15 (14)
50 to 60	7 (8.0)	2 (1.9)
> 60	7 (8.0) (1 missing data)	3 (3.7) (1 missing data)
Gender		
Male	53 (60.9)	52 (48.6)
Female	33 (37.9) (1 missing data)	55 (51.4)
Training (Psychiatry)		
Basic Specialty Trainee	18 (20.7)	
Advanced Specialty Trainee	14 (16.1)	
Associate Consultant	6 (6.9)	
Consultant	18 (20.7)	
Senior Consultant	29 (33.3) (2 missing data)	
Training (Primary Care)		
Locum/Part time		4 (3.7)
Medical Officer		30 (28)
Family Doctor		43 (40.2)
Family Physician		26 (24.3) (4 missing data)
Place of practice		
Public	68 (78.2)	107 (100)
Private	16 (18.4) (2 missing data)	

management / age / gender / training / place of practice among both psychiatrists and primary healthcare physicians.

Almost half of psychiatrists (49.4%) would advocate screening of ARMS in high-risk groups (e.g. polytechnics, university students, National Servicemen) compared to only a third of primary healthcare physicians (30.8%). The difference in opinion between psychiatrists and primary healthcare providers approached but did not reach statistical significance ($P=0.06$). There was no significant relationship between screening choice and age, gender, training, place of practice or diagnosis of the vignette among both psychiatrists and primary healthcare physicians.

More than half of psychiatrists, 64.4% (56/87) felt that there was no consensus about the management of ARMS while 14.9% (13/87) felt that it should be actively treated and 16.1% (14/87) felt it should be closely monitored. No

significant relationships were found between consensus and age / gender / training / place of practice / diagnosis of the vignette.

Detailed results are summarised in Table 2.

Discussion

ARMS represents the potential for prevention in psychiatry. This concept is new and indicates a paradigm shift in thinking. While once psychiatrists primarily made post-hoc diagnoses and treatments, we can now identify individuals with substantial risks of developing schizophrenia. The question then becomes one of risks (medication side effects) compared to benefits (protection from unmonitored and untreated schizophrenia) of treatment. While doctors abide by the dictum of 'first do no harm', this does not mean not treating or conducting research on ARMS, as convincingly argued by Dr McGlashan in a recent letter.⁸ A fitting analogy is the treatment of hyperlipidaemia with medication where the strategy is to treat the risk (high lipids) not disorder (coronary heart disease) and the vast majority of patients are false positives.

The most striking result of the survey is the almost even split between the diagnosis of ARMS and psychosis among psychiatrists, underscoring the uncertainty regarding the diagnosis and management of ARMS and demonstrating the clinical equipoise the psychiatric community has towards ARMS. This is also mirrored in the removal of the tentative symptom criteria for the schizophrenia prodrome in DSM-III-R from DSM IV.

Despite the lack of consensus regarding ARMS, the psychiatric community seems to acknowledge the clinical utility of the concept of a 'prodrome'. Half of the psychiatrists would advocate screening of at risk groups for ARMS and three quarters would treat ARMS actively, suggesting a willingness to aggressively screen and treat individuals with ARMS. However, only a third of primary healthcare physicians support screening and far fewer will treat it, preferring to refer the patient to a psychiatrist. This could be due to the reluctance of giving the stigma of a psychiatric label to a patient, pessimism about the treatment of schizophrenia and perhaps feeling untrained to screen or treat ARMS.

Despite the reluctance to screen for ARMS, primary healthcare physicians appear more likely to diagnose psychosis than psychiatrists in this survey. This probably reflects less familiarity with ARMS than psychosis and perhaps a lower tolerance of low grade psychotic symptoms than psychiatrists. Previous work has shown that there was little difference between primary healthcare and psychiatry in detecting signs of psychosis from vignettes.⁹ Fortunately research has shown that brief interventions are effective at

Table 2. Summary of Results

	Psychiatry N (%)	Primary Care N (%)
Diagnosis		
1. ARMS	39 (44.8)	43 (40.2)
2. Psychosis	38 (43.7)	58 (54.2)
3. Depression	3 (3.4)	4 (3.7)
4. No diagnosis	2 (2.3)	0 (0)
5. Other diagnosis	5 (5.7)	2 (1.9)
Management of ARMS		
6. Active treatment	29 (74.4)	6 (14) (includes Treat and Refer/ Treat and Review groups under item 8 and 9)
(a) Type of treatment (multiple treatment options allowed)		
• Atypical antipsychotics	25 (79.3)	0 (0)
• Typical antipsychotics	4 (13.8)	1 (16.7)
• Antidepressants	4 (13.8)	2 (33.3)
• Anxiolytics	3 (10.3)	2 (33.3)
• Psychosocial therapies	8 (27.6)	1 (16.7)
(b) Duration of treatment		
• 3 to 6 months	1 (3.4)	
• 6 to 12 months	6 (20.7)	
• 1 to 2 years	7 (24.1)	
• 2 to 5 years	3 (10.3)	
• Till symptom resolution	10 (34.5)	
• Others	1 (3.4) (1 missing data)	
7. Watchful waiting	10 (25.6)	
• 3 to 6 months	1 (10)	
• 6 to 12 months	1 (10)	
• 1 to 2 years	4 (40)	
• 2 to 5 years	1 (10)	
• Till symptom resolution	2 (20)	
• Others	1 (10)	
8. Refer to psychiatrist		41 (95.3)
• Urgent referral		8 (19.5)
• Non-urgent referral		29 (70.7)
• Treat and refer		4 (9.8)
9. Treat and review (will not refer)		2 (4.7)

increasing diagnostic accuracy in primary healthcare physicians.¹⁰ Improving the attitudes towards screening and diagnosing ARMS at the primary healthcare level will be vital to improving early detection and preventing /

Table 2. Contd.

	Psychiatry N (%)	Primary Care N (%)
Management of Psychosis		
10. Active treatment	38 (100)	5 (8.6)
• Atypical antipsychotics	33 (86.8)	1 (20)
• Typical antipsychotics	7 (18.4)	2 (40)
• Antidepressants	4 (10.5)	2 (40)
• Anxiolytics	1 (2.6)	0 (0)
• Psychosocial therapies	10 (26.3)	0 (0)
11. Refer to psychiatrist		57 (98.3)
• Urgent referral		25 (43.1)
• Non-urgent referral		26 (44.8)
• Treat and review		0 (0)
• Treat and refer		5 (8.6) (1 missing data)
Screening for ARMS		
12. Yes	43 (49.4)	33 (30.8)
13. No	31 (35.6)	46 (43)
14. Not sure	13 (14.9)	25 (23.4) (3 missing data)
Consensus for management of ARMS		
15. Yes, it should be actively managed	13 (14.9)	
16. Yes, it should be closely monitored	14 (16.1)	
17. No, there is no consensus	56 (64.4)	
18. Not sure	4 (4.6)	

ARMS: At Risk Mental States

delaying schizophrenia onset. Primary healthcare is more acceptable and less stigmatising to patients than a psychiatric setting, especially in an Asian context.¹¹ Patients treated in this setting are more likely to have better follow-up rates and adherence with therapy. The stretched psychiatric services in Singapore (and worldwide) coupled with decreasing conversion rates from ARMS to psychosis⁵ necessitate greater involvement of primary healthcare providers to effect population based screening and treatment of ARMS.¹²

There is a low preference for psychosocial treatments, antidepressants or anxiolytics for ARMS among Singapore psychiatrists. The diathesis-stress model¹³ suggests that environmental stressors (biological or psychosocial) may potentiate the expression of schizophrenia in vulnerable patients. Primary or secondary prevention may be able to reduce the conversion of ARMS to schizophrenia.¹⁴ The Hillside Hospital Recognition and Prevention (RAP)

program has suggested that treatment with selective serotonin reuptake inhibitors (SSRI) was as or more effective than antipsychotics in improving overall level of functioning in adolescents with ARMS.¹⁵ Biopsychosocial intervention programs¹⁶ have also shown some effect in reducing the progression of ARMS to psychosis. The preference of antidepressants seen in the RAP program is also mirrored in the survey of primary healthcare physicians in Singapore, where the prescription of antidepressants is more acceptable than that of antipsychotics. This finding would support the need for increased awareness of alternative treatment modalities and more evidence of effective treatment for ARMS.

The main limitation of the survey is the small sample size of both groups that may have resulted in the inability to find a statistically significant difference between them. A mitigating factor was the relatively good response rates for the 2 surveys.

Conclusion

This survey represents the first attempt to establish the current attitudes of psychiatrists and primary healthcare providers in Singapore with regards to ARMS. We have found that psychiatrists are generally more aggressive towards both screening and treatment than primary healthcare providers. Conversely primary healthcare providers may be more likely to diagnose psychosis rather than ARMS. The concept of ARMS has yet to enter common usage and is at a clinical equipoise both internationally and locally. Urgent research is required to help patients and clinicians manage ARMS in an evidence based manner.

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