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# A Brief Report on the Characteristics of Young Male Adults Experiencing their First Episodes of Psychosis: Implications for Developing Specialized First Episode Programs

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## Abstract

**Objective:** This study seeks to contribute to understanding the differences in the characteristics between individuals with severe and persistent mental illness (SPMI) and first episode of psychosis with an emphasis on the critical components of an early intervention program that differ from components of services for persons with SPMI.

**Methods:** Data compared two treatment cohorts - young males experiencing their first psychotic episode and older males with SPMI. The two cohorts were examined prior to enrollment in intensive community services and compared on diagnoses, symptom severity, service use and psychosocial functioning.

**Results:** There were no between group differences in terms of educational attainment, employment status, legal contacts or diagnoses. Large proportions of both groups were unemployed, did not complete high school, recently had a legal contact and had a diagnosis of schizophrenia. Both groups experienced similar levels of overall symptom severity. However, there were significant differences in psychosocial functioning.

**Conclusion:** These data provide information about the strengths and vulnerabilities of male adults experiencing their first psychotic episode. There are similarities between the groups in terms of symptom severity, educational attainment and legal system involvement. However, there are important differences with regard to the strengths or resources available to the two populations that should be considered in designing programs. The results can inform understanding of group differences in service needs and the program structure through which these services might best be delivered.

## INTRODUCTION

Schizophrenia is one of the most debilitating mental disorders. For a significant portion of individuals who suffer from this disorder, onset occurs in young adulthood, arresting important social and educational development that could initiate a downward spiral ending in poverty and isolation (1). Thus, the treatment of first episode psychosis (FEP) has become a global priority for mental health care (e.g., 2). There is little debate about the necessity of shortening the duration of untreated psychosis and decreasing delays in treatment to ensure quicker and more complete recovery (3). The outstanding question seems to be whether services for individuals experiencing FEP need

to be delivered in specialized programs or can they be integrated in current programs serving persons with schizophrenia and other severe and chronic mental illnesses.

Pelosi (4) writes that in many mental health systems, there are shortages of resources. Designating resources for specialized early intervention programs may result in reduced access to care for individuals with chronic and severe mental illness. However, in their review of the literature, Penn and colleagues (5) indicate that there is evidence regarding the effectiveness of specialized FEP programs for symptom reduction, cognitive functioning, tertiary service use and duration of untreated psychosis. Further, McGorry and Yung (6) assert that the system

developed to serve individuals with severe and persistent mental illness will not address the needs of those experiencing their first episode of psychosis. They argue that individuals with FEP are at critical developmental stages that require specialized knowledge and services. Similarly Penn et al ( 5 ), assert that “best practice treatments for later stages of disorder and for more persistently ill and disabled subgroups may not constitute best practice for early psychosis.” In addition, as Malla and Norman ( 7 ) assert, there is a need for more studies examining the level of care needed with initial intensive services for the FEP population.

It appears that the point of contention is not whether early intervention is effective; there is evidence that supports this ( 5,7 ). However, there is less information about psychosocial interventions required to serve individuals with FEP. In fact, Penn et al. ( 5 ) describe work in this area as being in its “infancy”. This suggests the need for more information about the characteristics of those with FEP as compared to the population of those with severe and persistent mental illness (SPMI). This knowledge will help us better understand the potential benefits of specialized programs for these groups.

This paper compared two treatment cohorts — young males experiencing their first psychotic episode and older males with SPMI. Because studies have shown that males are at a higher risk for early onset of psychotic disorder and often represent a large proportion of FEP clients ( 3,8 ), they were the focus of this study. The two cohorts were examined prior to enrollment in intensive community services and compared on diagnoses, symptom severity, service use and psychosocial functioning. The results can inform understanding of group differences in service needs and the program structure through which these services might best be delivered.

## **METHODS**

**Study Populations.** The two cohorts were drawn from two separate studies. Both received ethics approval from the Centre for Addiction and Mental Health's Research and Ethics Review Board. The FEP sample for this study (n=36) was a subset of individuals participating in a randomized study comparing a specialized home-based intervention to a specialized outpatient clinic intervention for clients experiencing a first episode of psychosis. Criteria for identifying individuals experiencing a first episode of psychosis were chosen to reflect current clinical practice in

specialized first episode psychosis programs. As considerable diagnostic uncertainty is very common early in the course of illness, individuals were included if they were considered to be suffering from a primary psychotic disorder or a mood disorder with psychotic features. Individuals presenting with a first episode of psychosis may present with highly variable durations of untreated psychosis ranging from days to decades; the precise duration of illness is often difficult to assess in a reliable way. The intent of the program was to provide the initial treatment for the psychotic disorder, irrespective of the duration of symptoms. Individuals were included if they were between 16 and 45 years of age, resided within the catchment area for the home-based intervention team, were capable and willing to provide informed consent, were experiencing a first episode of psychosis and met DSM-IV criteria for any of the following disorders: schizophrenia, schizophreniform disorder, brief psychotic disorder, delusional disorder, schizoaffective disorder, bipolar disorder with psychotic features, major depressive disorder with psychotic features, and psychotic disorder not otherwise specified. Individuals were excluded if their acuity required assessment within 3 days, were considered to be at serious risk of suicide or violence, were pregnant or suffering from a current major medical disorder, had received antipsychotic medication for greater than 26 weeks, met criteria for psychosis secondary to substance use or a medical condition, or had a current inpatient stay that exceeded 8 consecutive weeks. At the time of interview, the mean enrollment time for the clients was 1.08 months (SD = 0.88).

The comparison group consisted of male adults with histories of chronic mental illness (n = 118) who were new admissions (less than six months) to intensive community support services (i.e., ACT or intensive case management). This group was a subset of individuals participating in a multi-site community mental health program evaluation ( 9 ). The sample serves as a snapshot of this population who are newer program enrollees. At the time of interview, the mean enrollment time for the clients was 1.48 months (SD = 1.94).

**Baseline Interviews.** In each study, trained interviewers completed the baseline assessment. Information was gathered about client demographics (e.g., age, race/ethnicity, educational status), healthcare service use (e.g., hospitalization, emergency room episodes) and legal contacts. Measures assessed current or recent function (previous 9 months).

Participant functioning was assessed with two standardized measures. The 18-item Brief Psychiatric Rating Scale (BPRS) assessed symptom severity during the past week (10). The BPRS is a rater-completed measure of the severity of current psychiatric symptoms and was developed during the early 1960s to evaluate the efficacy of pharmacological and psychotherapeutic interventions (11,12). Since that time it has become widely used in the mental health field. The BPRS is not diagnosis-specific but rather assesses a broad spectrum of symptoms typically evaluated in a mental status examination and present in a range of psychiatric disorders. Items are rated on a 7-point scale from Not Present to Extremely Severe with higher scores indicating greater severity. The BPRS has four sub-scales measuring severity of: (1) hostile-uncooperative symptoms (e.g., hostility, distractibility), (2) negative symptoms (e.g., blunted affect, emotional withdrawal), (3) positive symptoms (e.g., hallucinations, disorientation) and (4) depression-anxiety symptoms (e.g., anxiety, depression, guilt). The total BPRS score provides an overall rating of the severity of psychiatric symptoms ranging from 18 to 126 (13). For this study, the reliability coefficient, Cronbach's alpha for the overall scale was 0.77. The reliability coefficients for the four sub-scales were: 0.55 for hostile-uncooperative symptoms, 0.83 for negative symptoms, 0.64 for positive symptoms and 0.75 for depression-anxiety symptoms.

The Multnomah Community Ability Scale (MCAS) was designed to measure the degree to which severe mental illness interferes with psychosocial functioning during the previous three months (14). Items are rated on a 5-point scale from Extreme to No Impairment; higher scores indicate less impairment. It has four sub-scales: (1) interference with functioning (e.g., physical health, thought processes), (2) adjustment to living (e.g., ability to manage money, acceptance of illness), (3) social competence (e.g., social acceptability, social effectiveness) and (4) behavioral problems (e.g., medication compliance, cooperation with treatment providers). For this study, the reliability coefficient, Cronbach's alpha for the overall scale was 0.86. The reliability coefficients for the four sub-scales were: 0.53 for interference with functioning, 0.64 for adjustment to living, 0.77 for social competence, and 0.77 for behavioural problems. The total MCAS score reflects a global rating of an individual's adaptation to living in the community. The MCAS has been widely used in treatment studies of persons with major mental illness, including to measure group differences, to predict outcome and to assess response to

treatment. These studies have included young adults who were considered to have a severe mental illness (15,16,17). However, few psychometric studies have specifically examined the utility of the measure for the FEP population.

Analyses. Pearson Chi-square tests were used to compare group differences for dichotomous variables (e.g., sex, race, educational attainment). In cases where the expected cell counts were less than 5, the Fisher's exact test was used (18). To compare group differences for continuous variables (e.g., age, MCAS scores), t-tests were conducted. The Kolmogorov-Smirnov tests were used to test data normality. Non-parametric Mann-Whitney U tests were used when data were not normally distributed.

## **RESULTS**

There were no between group differences with regard to educational attainment, employment status, legal contacts or diagnoses. A large proportion of both groups were unemployed, did not complete high school, recently had a legal contact and had a diagnosis of schizophrenia (Table 1). However, among those who did not complete high school, there was a large proportion who completed up to 11<sup>th</sup> grade.

There was a significant difference in average ages ( $t(145.1) = -13.84, p < 0.001$ ); individuals experiencing their FEP were significantly younger (23 versus 39 years). However, on average, both groups experienced their first psychiatric hospitalization at a similar age.

Both groups experienced similar levels of overall symptom severity as indicated by their total BPRS scores. However, there were differences in BPRS sub-scale scores. On average, FEP subjects experienced greater positive (Mann-Whitney U = 1483.50,  $p = 0.006$ ) and negative (Mann-Whitney U = 1414.00,  $p = 0.002$ ) symptoms. In addition, on average the chronic group were less likely to use emergency room services ( $\chi^2(1) = 9.69, p = 0.002$ ).

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**Figure 1**

Table 1: Population Demographics, Service Use, Symptom Severity and Psychosocial Functioning

	First Episode (n = 36)		Individuals with Severe Mental Illness (n = 110)		Statistical Tests of Differences between First Episode & SMI
	Estimate	SD or n	Estimate	SD or n	
<b>DEMOGRAPHIC &amp; ILLNESS CHARACTERISTICS</b>					
Average Age (in yrs) **	23.3 yrs	SD=3.9	39.0 yrs	SD=10.1	t = -13.84, df=145.1, p<0.001
<b>Main Housing Situation</b>					
Street/other	13.9%	n=5	21.2%	n=25	$\chi^2 = 0.934$ , df=1, p=0.333
Living in an apartment/own or others	30.6%	n=11	28.8%	n=34	$\chi^2 = 0.040$ , df=1, p=0.841
Living with family**	52.8%	n=19	5.1%	n=6	$\chi^2 = 46.14$ , df=1, p<0.001
Living in a group home / Other**	2.8%	n=1	44.9%	n=50	$\chi^2 = 21.51$ , df=1, p<0.001
% Never Married	100%	n=36	79.7%	n=84	$\chi^2 = 8.67$ , df=1, p=0.003
<b>Race/Ethnicity*</b>					
Black	33.3%	n=12	10.5%	n=12	$\chi^2 = 11.00$ , df=2, p=0.004
White	50.0%	n=18	60.5%	n=69	
Other	16.7%	n=6	28.9%	n=33	
<b>Educational Attainment</b>					
< High school	47.2%	n=17	47.0	n=55	$\chi^2 = 1.37$ , df=2, p=0.51
Of those < high school, education interrupted in 11 <sup>th</sup> grade	52.9%	n=9	32.7%	n=18	$\chi^2 = 2.26$ , df=1, p=0.13
High school	16.7%	n=6	24.8%	n=29	
> High school	36.1%	n=13	28.2%	n=33	
<b>Psychiatric Diagnoses (Categories not Mutually Exclusive)</b>					
Schizophrenia	77.8%	n=28	79.5%	n=90	$\chi^2 = 0.049$ , df = 1, p=0.83
Mood Disorder	38.9%	n=14	25.6%	n=30	$\chi^2 = 2.36$ , df = 1, p=0.13
Anxiety Disorder	5.6%	n=2	4.3%	n=5	Fisher's exact test p=0.67
Substance-related Disorder*	38.9%	n=14	19.7%	n=22	$\chi^2 = 5.55$ , df = 1, p=0.019
Other*	2.8%	n=1	18.3%	n=22	$\chi^2 = 5.54$ , df = 1, p=0.019
Average Age at First Psychiatric Hospitalization (in yrs)	22.2 yrs	SD=3.6	24.3 yrs	SD=8.6	Mann-Whitney U = 1021.00, p=0.647*
% employed during past 30 days	19.4%	n=7	16.1%	n=19	$\chi^2 = 0.22$ , df = 1, p=0.64
<b>SERVICE USE AND LEGAL CONTACTS</b>					
Proportion with legal contacts in past 9-months	33.3%	n=12	30.5%	n=36	$\chi^2 = 0.10$ , df = 1, p=0.75
Proportion hospitalized in past 9-months	58.3%	n=21	66.4%	n=77	$\chi^2 = 0.78$ , df = 1, p=0.38
Mean # of days in hospital in past 9-months (in days)	22.0 days	SD=11.37	58.3 days	SD=66.4	Mann-Whitney U = 608.50, p=0.063*
% using emergency department in past 90 days*	77.8%	n=28	48.3%	n=57	$\chi^2 = 9.69$ , df = 1, p=0.002
% using psychotropic medications in past 30 days	88.9%	n=32	89.0%	n=105	Fisher's exact test p=1.000
<b>SYMPTOM SEVERITY</b>					
Total Brief Psychiatric Rating Scale (BPRS)	43.1	SD=9.9	41.6	SD=12.6	Mann-Whitney U = 1951.50, p=0.461*
Hostile-uncooperativeness sub-scale	7.3	SD=2.4	8.0	SD=3.2	Mann-Whitney U = 1927.00, p=0.397*
Negative symptoms sub-scale**	8.0	SD=3.4	6.3	SD=3.5	Mann-Whitney U = 1414.00, p=0.002*
Positive symptoms sub-scale**	11.1	SD=4.0	9.1	SD=4.3	Mann-Whitney U = 1482.50, p=0.006*
Depression-anxiety sub-scale	8.5	SD=3.3	8.9	SD=3.7	Mann-Whitney U = 2031.00, p=0.690*
<b>PSYCHOSOCIAL FUNCTION</b>					
Multnomah Community Ability Scale (MCAS)**	65.5	SD=7.3	53.1	SD=9.9	Mann-Whitney U = 602.50, p<0.001*
Interference with functioning sub-scale*	18.8	SD=2.0	17.4	SD=2.8	Mann-Whitney U = 1465.50, p=0.004*
Adjustment to living sub-scale**	12.4	SD=2.3	8.8	SD=2.7	Mann-Whitney U = 700.50, p<0.001*
Social competence sub-scale**	16.8	SD=3.6	13.7	SD=3.0	Mann-Whitney U = 1062.50, p<0.001*
Behavioral problems sub-scale**	17.5	SD=2.7	13.1	SD=3.4	Mann-Whitney U = 643.00, p<0.001*

Note: SD = standard deviation \*Indicates difference between groups p<0.05. \*\*Indicates difference between groups p<0.001.

\*The non-parametric Mann-Whitney U test was used because data were not normally distributed.

There were significant differences in MCAS ratings of psychosocial functioning overall (Mann-Whitney U = 602.50, p<0.001) and for each subscale, with scores consistently indicating higher functioning for the FEP cohort. However, within the FEP group, item ratings indicated challenges in several areas. In the 'interference with function' domain, more than 80% (n=31) had trouble with thoughts, mood or handling stress; and in the 'social skills' domain, over 80% (n=31) reported difficulties with getting together with other people, a small social circle or low involvement in satisfying activities. There was also a group difference related to housing; a significantly larger proportion of FEP subjects were stably housed; about 53% (n=19) lived with family members ( $\chi^2 = 46.14$ , df = 1, p<0.001).

## DISCUSSION

These data provide information about the strengths and vulnerabilities of male adults experiencing their first psychotic episode. There are similarities between the groups in terms of symptom severity, educational attainment and legal system involvement. However, there are important differences with regard to the strengths or resources available to the two populations that should be considered in designing programs. Compared to individuals with long illness histories, this younger group was more stably housed, had more family support and was less impaired in community functioning.

These areas of difference are important because programs for the SPMI population frequently focus on tertiary prevention - intensive psychosocial rehabilitation - consistent with this population's low community functioning scores. The FEP group, being higher functioning, may require fewer intensive rehabilitative services. Rather, our results suggest the FEP population may require secondary prevention strategies to maintain or improve their level of functioning and reduce relapse ( 6 ).

For example, if we consider educational and employment needs, program interventions would be different for the two groups. Although within the two groups the same proportions did not finish high school, a significantly higher proportion of the FEP finished up to 11<sup>th</sup> grade. Because many are living with their families and have support, they may have more opportunities to complete their high school education and go on to either university, college or trade schools. To support this goal, program staff must develop links with other sectors such as education to develop joint programs and accommodations in collaboration with educational faculty that would allow these young adults to complete their education ( 19 ). This aim contrasts with the supported employment interventions that are considered best practice for persons with SPMI which emphasize skill development and rapid placement in work settings ( 20 ). This latter practice requires program staff to develop links with employers to identify work opportunities and arrange workplace accommodations.

The results also indicate the majority of the first episode population lives with family members. This underscores the need for family supports including psychoeducation. Indeed, it is recognized that these services are important because families are viewed as collaborators in the recovery process (

<sup>19</sup>). But, there may be a need for education beyond information about the illness. Because a significant portion of individuals with FEP experience onset in young adulthood, they are at critical points in their social and educational development (<sup>1,7</sup>). This suggests an additional challenge of helping families to support young adults with their disorder in a way that assists them to achieve appropriate developmental milestones (<sup>21</sup>). Sin and colleagues (<sup>22</sup>) found that caregivers are concerned about identifying “normalizing” activities that would equip them to live independently and to fulfill their goals. They also note that the involvement of families requires specialized skills and knowledge. This means that it is critical for FEP case managers to have an expertise in adolescent development and training to care for caregivers. In this way, mental health workers can work with families to assist them in helping FEP clients become successful adults who are fully participating in their communities.

The study assessment measures were generally sensitive to the range of function represented in both populations. While the MCAS has typically been used to measure community function in more chronic populations, most items were relevant to the FEP group. However, ceiling effects (where more than 75% respondents indicated low or no impairment – ratings of 4 or 5) were demonstrated in several items – independent function, compliance with medications, active participation in treatment, and problems with drug use or lost of control over behavior. Also, functioning related to educational achievement and workforce participation, important areas of growth for the FEP group, are not assessed in the MCAS.

This study represents one step toward understanding the differences in the characteristics between individuals with SPMI and FEP and in turn, some of the critical components of an early intervention program that differ from components of services for persons with SPMI. There have been numerous programs for first episode psychosis described in the literature (<sup>5</sup>) but there have been few published evaluations of the effectiveness of the various approaches to service delivery of specialized services with regard to objective psychosocial outcomes such as educational attainment or current employment(<sup>7,23</sup>). Rather, most of the existing studies focus on improvement in quality of life or global functioning(<sup>5</sup>). Although employment and educational attainment may be associated with quality of life and functioning, the latter two are conceptually broader and

may be more difficult to interpret. In contrast, with objective measures such as education, we are able to identify what are age-appropriate levels.

In addition, not surprisingly studies on early intervention programs focus on the early intervention population. A comparison between the groups is rare. This study adds to the literature by comparing an early intervention population with a population with chronic and severe mental illness using the same metrics. This facilitates comparisons between the two groups that can be quantified and tested.

There are several limitations of our data that should be noted. Our analyses are based on relatively small samples. In the future, rather than using secondary data from program evaluations, it might be useful to draw samples that represent a census of individuals enrolled in these types of programs. In addition, given the importance of substance use in the early intervention population, future research should include measures of dependence(<sup>24</sup>). It should also be noted that we do not have measures of inter-rater reliability for the interviewers for the two groups. As such, one explanation for the differences that we observed may be due to differences in interviewer technique. However, interviewers for both groups were trained using the same training material. Thus, they began with the opportunity for similar competencies.

In addition, the reliability coefficients for two of the MCAS sub-scales were low – 0.53 for interference with functioning and 0.64 for adjustment to living. This was also true for two of the BPRS sub-scales – 0.55 for hostile-uncooperative symptoms and 0.64 for positive symptoms. Ideally, the Cronbach alpha should be 0.70 and above. The low values for these four sub-scales indicate that there is relatively low consistency within the sub-scales and these scores should be interpreted cautiously.

Another limitation is that our data reflect the characteristics of individuals who were capable and willing to participate in research studies and who were accepting of being randomly assigned to a treatment team. Both of these requirements are expected to substantially reduce the percentage of eligible individuals who participate. As a result, they limit the generalizability of our findings. Similarly, individuals with very high clinical acuity and those considered to be at serious risk of suicide or violence were excluded. Using administrative data, individuals will not be excluded based on ability to consent to an interview or whether they are at

risk for self-harm. In future studies, it would be important to understand the extent to which these patterns are consistent with other FEP and SPMI populations.

Additional inquiry should also focus on examining what combination of strategies are both effective and cost-effective methods of treating this population. In addition, as Malla and Norman (7) point out, there have been few evaluations of FEP programs that have incorporated special interventions to improve vocational outcomes.

### Conclusions

Absence of specialized services require FEP clients to seek intensive community supports that have typically been reserved for persons with SPMI. These supports generally focus on tertiary rehabilitation rather than secondary prevention. There is a need for programs that focus on providing specialized strategies to nurture social and educational development of the first episode population while working with and supporting their families.

Differences in the two populations raise the question of the ramifications of failing to develop specialized programs.

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