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ORIGINAL ARTICLE

A UNIQUE TRANSITION FROM CHILD MENTAL HEALTH SERVICES (CMHS) TO ADULT SERVICES: AN AUDIT OF THE CLINICAL PROFILE OF PATIENTS PROGRESSING FROM CMHS TO THE FIRST SPECIALISED, MULTIDISCIPLINARY ADULT NEURODEVELOPMENTAL SERVICE IN SINGAPORE

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Abstract

Objective: **The transition from child mental health services to adult mental health services can be challenging for patients. Transition is a critical aspect of continuity of care but little is known of the profile of the patients who makes such transitions and their unique characteristics, which could place special demands on subsequent mental health services. The Adult Neurodevelopmental Service at the Institute of Mental Health, Singapore is the first integrated service for adults with neurodevelopmental disorders and psychiatric co-morbidities in Southeast Asia. This audit aims to analyse the profile and characteristics of patients who have made this transition to ensure that the service addresses their specific needs.** ***Methods:*** **The electronic records of 50 patients who were seen in 2015 were analysed in relation to socio-demographics, diagnosis and psychiatric co morbidities, pharmacotherapy, functioning and illness severity scores.** ***Results:*** **All patients except 3(6%) were seen as outpatients. 41(82%) of whom were male and 9(18%) female with the mean age of 21.1 years (SD±2.68). 32(64%) had autistic spectrum disorder, 28(56%) had intellectual disability and 8(16%) had attention deficit/hyperactivity disorder. Co morbid psychiatric disorders included anxiety disorders (16%), mood disorders (14%), psychotic disorders(8%), and obsessive-compulsive disorders(8%). Risperidone and fluoxetine were the most commonly used antipsychotics and antidepressants respectively. The mean initial clinical global impression score was 4.05(SD±0.87) ± 0.87), and the mean global assessment scale was 53.78(SD±9.42) in patients who were scored.** ***Conclusion:*** **Patients in transition from a child to adult mental health services are a complex and vulnerable group which requires services adapted to their unique needs. Analysing the profile of these patients is critical in evolving the service to meet the needs of this group of young patients to achieve an ideal level of care.** ***ASEAN Journal of Psychiatry, Vol. 18 (1): January – June 2017: XX XX.***

Keywords: Autism Spectrum Disorder, Intellectual Disability, Health Care Transition, Clinical Profile

Introduction

The transition from child mental health services to adult mental health services can be challenging for patients. Any disruption of care during this transition can adversely affect the health, well-being and potential of this vulnerable group [1].There is evidence that indicates that poor life transitions can be tied to higher rates of mental-health problems [2]. Age cut-offs to delineate service boundaries as defined by the individual child mental health services and adult mental health services may create gaps in the provision of care for such patients in transition. Studies have shown that this is an ongoing issue present in diverse settings across several countries [3]. In addition, there is little comparable literature in mental healthcare regarding models of practice to improve the process and outcomes of transition [3]. Transition is a critical aspect of continuity of care but little is known as the profile of the patients who makes such transitions and their unique characteristics, which could place special demands on subsequent mental health services. Without such information, it is difficult for mental health services to develop and evaluate efficient models that promote successful transition or to plan future development programmes to improve the transition of care [1]. Disruption in the continuity of care, disengagements from mental health services and poorer clinical outcomes are often the result of poor transition. The risk of such unfortunate outcomes is increased with certain population subgroups such as those with neurodevelopmental disorders and complex needs. There is a greater risk of such patients falling through the care gap during transition. However, effective intervention strategies can only be developed with robust and high-quality evidence on such patients [3].

The Adult Neurodevelopmental Service (ANDS) at the Institute of Mental Health, Singapore, is an integrated multidisciplinary service for adult patients with neurodevelopmental disorders (Intellectual Disability and Autism-Spectrum Disorders) and psychiatric co-morbidity and/or behavioural problems. It was established in 2011 and is the first service of its kind in Singapore and also in Southeast Asia, and possibly one of the very few such as services in Asia to cater to the needs of adult patients with neurodevelopmental disorders. It is run by a team of dedicated healthcare workers, including psychiatrists, psychologists, occupational therapists, medical social workers, case managers and nurses. The multidisciplinary team works closely together to identify various causes of a patient's behaviour, provide clinical care to patients and provide support to caregivers via both inpatient and outpatient services. It operates both inpatient and outpatient services. As neurodevelopmental disorders generally and typically had its onset in early childhood, many of our patients had their first contact with healthcare services since a young age. When they reached adulthood (defined as 19 years old and above), they would be transferred over to the Adult Neurodevelopmental Service for further treatment and continued care.

In the recent years, we had noticed that young adults who were transferred from child psychiatry services to the adult neurodevelopmental service may have certain profile and characteristics, and having knowledge of these characteristics will help us to fine tune our services to better suit the needs of these patients. No audit has been conducted in Singapore on the profile and characteristics of such patients. Young patients in transition are recognised as a unique group which required services and interventions specifically tailored to their individual characteristics, rather than as a mere extension to either child or adult mental health services [4]. In order to evolve the service to address the specific needs and to provide an efficient yet holistic level of care for such patients, we looked at the clinical profile and characteristics of such patients who were seen by the Adult Neurodevelopmental Service from January 2015 to December 2015.

Methods

The electronic records of 50 patients who were formerly under child mental health services who had transitioned to the Adult Neurodevelopmental Service were obtained. These patients were seen from between

January 2015 to December 2015 by the Adult Neurodevelopmental Service either in an inpatient or an outpatient setting. These records were then analysed in relation to the patient's socio-demographics, diagnosis and psychiatric co morbidity, medications, functioning and illness severity scores. The data obtained was subsequently analysed using Microsoft Excel. In accordance with institutional policy, approval for the audit was obtained from the head of department of the clinical service. As the patient data collected was non-identifying, research ethics board approval was not required.

Results

Table 1. Summary of socio-demographics, diagnosis and comorbid psychiatric conditions

Characteristics	**N**	**%**
Setting		
Outpatient	47	94%
Inpatient	3	6%
Age		
18	1	2%
19	18	36%
20	15	30%
21	5	10%
22	2	4%
23	5	10%
24	2	4%
25	1	2%
Sex		
Male	41	82%
Female	9	18%
Primary Diagnosis		
Autism Spectrum Disorder(ASD)	32	64%
Intellectual disability(ID)	28	56%
Mild	20	71.43%
Moderate	6	21.43%
Profound	1	3.57%
Undetermined	1	3.57%
Combined ID and ASD	13	26%
Attention deficit hyperactivity disorder(ADHD)	8	16%
Comorbid psychiatric conditions		
Anxiety disorders	8	16%
Mood disorders	7	14%
Obsessive compulsive disorders	4	8%
Schizophrenia spectrum and other psychotic disorders	4	8%

With reference to Table 1, all patients except 3(6%) were seen as outpatients with the majority of the patients being male and relatively young with a mean age of 21.1 years (standard deviation ±2.68 years). The majority of patients were diagnosed with Autism Spectrum Disorder or Intellectual Disability with 26% of patients having both Autism Spectrum Disorder and Intellectual Disability. Most of the patients (71.4%) with intellectual disability were classified as having a mild level of intellectual disability.

With regards to the comorbid psychiatric conditions, 8(16%) patients had anxiety disorders which comprised of 3 who had anxiety disorder not otherwise specified (NOS), 1 with social anxiety, 1 with both social and separation anxiety, 1 with generalised anxiety disorder, 1 with agoraphobia and 1 with social phobia. For the 7(14%) patients with mood disorders, 3 had bipolar disorder, 3 had a unilateral major depressive disorder and 1 patient had mood disorder NOS. The 4 patients with psychotic disorders consisted of 2 patients with schizophrenia, 2 patients with psychotic disorder NOS.

Risperidone was the most common antipsychotic with 11(22%) of patients on risperidone. There were 6(12%) patients on chlorpromazine, 4 (8%) patients on olanzapine, 3(6%) of patients on haloperidol, 2(4%) of patients on quetiapine and 1(2%) patient on trifluoperazine. 2(4%) of patients were on both olanzapine and chlorpromazine, 2(4%) patients were on both risperidone and chlorpromazine and 1(2%) patient was on both quetiapine and chlorpromazine. In terms of selective serotonin reuptake inhibitors (SSRIs), fluoxetine, was the most common SSRI used with 16(32%) patients on fluoxetine and 1(2%) on escitalopram. The mean initial clinical global impression score was 4.05 (standard deviation ± 0.87), deviation±0.87) and the mean global assessment scale was 53.78(standard deviation±9.42) in patients who were scored.

Discussion

Adult Neurodevelopmental Services have been set up in several western countries such as that in Canada. In Canada, these services started amidst the backdrop of a drive in the 1990s to deinstitutionalise individuals with intellectual disability [4]. Correspondingly, in those situations, the patient profile shifted from that of a chronic, large inpatient psychiatric population to that of a smaller unit for individuals with a dual diagnosis consisting of both developmental disability and other psychiatric co morbidities [4]. In Singapore as in other countries, there are the twin challenges of an aging population and the growing burden of chronic disease. There are efforts to transform and create new services to cater for the health needs within the population. This includes moving away from standalone acute-care services to that of formalised partnerships, integrated clinical pathways and care coordinators working with a multi-disciplinary team over the patient's lifetime [5].The Adult Neurodevelopmental Service aims to work towards that through multidisciplinary involvement and partnerships with both governmental and non-governmental organisations to create a seamless pathway for patient care.

The majority of our patients were seen in an outpatient setting possibly reflecting the moderate severity and functioning scores of the overall patients mean clinical global impression score and the global assessment scale. The young age group of our patients with a mean age of 21.1 years reflects the population in transition from child mental health services to adult services which we are targeting. The gender distributions of the patients were studied was very similar to what is already known in literature. When Leo Kanner published his first paper in 1943, he found that there was 4 times as many boys as girls in Autism [6]. This gender ratio continued to be observed in the more recent decades in western populations, although there is a lack of data in Asian populations [7].Recent studies have still shown that autism-spectrum disorders typically show a 4:1 male to the female ratio which was mirrored in our audit with our 50 patients demonstrating an almost 4:1 male-female ratio [8]. This reflects that a large proportion of our patients (64%) had Autism Spectrum Disorder.

In comparison with another study in 2014 which looked at the clinical profiles of patients with intellectual disabilities presenting at a disability certification clinic in a tertiary care general psychiatric unit in New Dehli, India our population showed a similar make-up with the 40% of our patients having a mild level of intellectual disability versus 43.4% in their study [9]. Patients with a mild level of intellectual disability made up the majority of patients with intellectual disability in both our audit and the study in New Dehli, India [9].

Anxiety disorders and mood disorders are both common conditions seen in Singapore's general population. A study by Chong et al found that 7.0% of people in Singapore suffered from a mood disorder in their lifetime, while 1.5% of people suffered from an anxiety disorder [10].Although the rates of co morbid anxiety disorders and mood disorders appeared to be higher in the group that we studied, this should not be compared to the figures found in a general population as we were analysing a group of patients being treated at a tertiary hospital.

A large meta-analysis study in 2011 showed that nearly 40 percent of children with Autism Spectrum Disorder were estimated to have clinically elevated levels of anxiety or at least one anxiety disorder [11]. These studies are largely based on DSM-IV criteria where anxiety disorders and obsessive-compulsive and related disorders were classified together under anxiety disorders, in contrast to our study where we thought, it was important to reflect the changes in DSM-V where obsessive-compulsive disorders are classified separately. In our study, 24% of patients had either anxiety disorders or obsessive-compulsive and related disorders. This reflects the significant proportion of patients with intellectual disability seen in our service as studies have shown that adults with intellectual disabilities have been reported to have a lower prevalence of anxiety disorders ranging from <2% to 17.4% as compared to patients with Autism Spectrum Disorder [11]. A total of 8% of the patients in our study had schizophrenia spectrum and other psychiatric disorders, which were slightly lower compared to a population-based study in Western Australia where over one in ten of individuals with dual diagnosis had intellectual disability with co-occurring schizophrenia spectrum and other psychiatric disorders [12]. However, it has to be noted that this population-based study included only patients with intellectual disability and not patients with autism-spectrum disorders as we were unable to find other similar studies [12].

Over the last several years, the field of neurodevelopmental disorders has seen several notable changes. Mental retardation, has been renamed as intellectual disability in the 5th edition of the Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5) keeping with US law, and in some professional journals and advocacy organizations had been given equal weight as other psychiatric disorders as they are all considered on a single axis. The 4th edition of the DSM initially listed mental retardation on Axis II on the multi-axial system of the DSM-4 where it was identified as an associated impairment alongside other mental disorders rather than an independent diagnosis. The Neurodevelopmental Work Group recommended the current DSM-5 criteria for Autism Spectrum Disorder to be a better reflection of the state of knowledge about autism and to improve the diagnosis of Autism Spectrum Disorder without limiting the sensitivity of the criteria. Previously, patients could be diagnosed with four separate disorders: autistic disorder, Asperger's disorder, childhood disintegrative disorder, or the catch-all diagnosis of pervasive developmental disorder not otherwise specified [13].

Neurodevelopmental disorders first appear during development and maturation, and they are caused by a variety of genetic and environmental conditions [14]. The prevalence estimates of disorders such as Autism Spectrum Disorder have increased over time albeit with varying figures in different regions with several reviews noting such an increase [15,16]. This has been postulated to happen due to a variety of reasons such as a broadening of the diagnostic criteria, increased service availability and an increase in awareness of such disorders in the general

public [15]. However, a true risk due to some, as yet to be identified, environmental risk factor cannot be ruled out [16]. As the diagnosed prevalence of such disorders increases, the demand for such services will inevitably increase.

Risperidone was the most common antipsychotic used in our patient population reflecting the fact that risperidone was licensed for short-term use for aggression and mood instability. Studies have reflected that risperidone at low doses was effective for behavioural symptoms, particularly with associated autism [17,18]. However, studies have found that weight gain was the most frequent adverse event, with the gain ranging from 1 to 10 kg. Weight increase usually stabilises over time, but it is more pronounced during the first 2–3 months of therapy. Hypertension, heart disease, diabetes, and dyslipidemia are several potential long-term health risks that can arise with the weight gain. In most studies have encountered sedation as another common side effect, but it is usually referred to as transient, and it has does not cause withdrawal or any other major effect. An increase in prolactin levels is very common but monitoring is not required since the higher levels are predictive of clinical symptoms [19].

Conclusion

Individuals with intellectual disability are a complex and vulnerable group. Assessment and intervention for mental health problems may be challenging in this population, particularly for patients with severe cognitive and communication impairments. A combination of biological, psychosocial and environmental factors is related to an increase in the incidence of psychiatric disorders, emotional disturbances and behaviour problems. Indeed, young patients with neurodevelopmental disorders undergoing a transition in terms of their care providers are a distinct group who require services which are adapted to their unique needs rather than having to adapt to the varying demands placed on them by different care providers. Analysing the profile of these patients is key step towards evolving the service to meet the needs of this group of young patients to achieve an ideal level of care.

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