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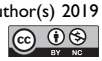

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Changes in the Prevalence of Child and Youth Mental Disorders and Perceived Need for Professional Help between 1983 and 2014: Evidence from the Ontario Child Health Study

Changements de la prévalence des troubles mentaux des enfants et des adolescents et du besoin perçu d'aide professionnelle entre 1983 et 2014 : données probantes de l' Étude sur la santé des jeunes Ontariens

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Abstract

Objectives: To examine: 1) changes in the prevalence of mental disorders and perceived need for professional help among children (ages 4 to 11) and youth (ages 12 to 16) between 1983 and 2014 in Ontario and 2) whether these changes vary by age and sex, urban-rural residency, poverty, lone-parent status, and immigrant background.

Methods: The 1983 ($n = 2836$) and 2014 ($n = 5785$) Ontario Child Health Studies are provincially representative cross-sectional surveys with identical self-report checklist measures of conduct disorder, hyperactivity, and emotional disorder, as well as perceived need for professional help, assessed by integrating parent and teacher responses (ages 4 to 11) and parent and youth responses (ages 12 to 16).

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Results: The overall prevalence of perceived need for professional help increased from 6.8% to 18.9% among 4- to 16-year-olds. An increase in any disorder among children (15.4% to 19.6%) was attributable to increases in hyperactivity among males (8.9% to 15.7%). Although the prevalence of any disorder did not change among youth, conduct disorder decreased (7.2% to 2.5%) while emotional disorder increased (9.2% to 13.2%). The prevalence of any disorder increased more in rural and small to medium urban areas versus large urban areas. The prevalence of any disorder decreased for children and youth in immigrant but not nonimmigrant families.

Conclusions: Although there have been decreases in the prevalence of conduct disorder, increases in other mental disorders and perceived need for professional help underscore the continued need for effective prevention and intervention programs.

Abrégé

Objectifs : Examiner 1) les changements de la prévalence des troubles mentaux et du besoin perçu d'aide professionnelle chez les enfants (de 4 à 11 ans) et les adolescents (de 12 à 16 ans) entre 1983 et 2014 en Ontario, et 2) si ces changements varient selon l'âge et le sexe, la résidence en milieu urbain ou rural, la pauvreté, la situation de famille monoparentale et l'origine immigrée.

Méthodes : Les Études sur la santé des jeunes Ontariens de 1983 ($n = 2836$) et de 2014 ($n = 5785$) sont des études transversales représentatives à l'échelle provinciale qui comportent des mesures de contrôle auto-évaluées identiques du trouble des conduites, de l'hyperactivité, et du trouble émotionnel, ainsi que du besoin perçu d'aide professionnelle, évalué en intégrant les réponses des parents et des enseignants (pour les 4 à 11 ans) et les réponses des parents et des adolescents (pour les 12 à 16 ans).

Résultats : La prévalence globale du besoin perçu d'aide professionnelle s'est accrue de 6,8% à 18,9% chez les 4 à 16 ans. Une augmentation d'un trouble chez les enfants (15,4% à 19,6%) était attribuable à des hausses de l'hyperactivité chez les garçons (8,9% à 15,7%). Même si la prévalence d'un trouble quelconque ne changeait pas chez les adolescents, le trouble des conduites diminuait (7,2% à 2,5%) alors que le trouble émotionnel augmentait (9,2% à 13,2%). La prévalence de tout trouble augmentait davantage en milieu rural et urbain petit ou moyen par opposition aux vastes milieux urbains. La prévalence de tout trouble diminuait pour les enfants et les adolescents de familles d'immigrants mais pas dans les familles de non-immigrants.

Conclusions : Bien qu'il y ait eu des diminutions de la prévalence du trouble des conduites, les augmentations des autres troubles mentaux et du besoin perçu d'aide professionnelle font ressortir le besoin continu de programmes de prévention et d'interventions efficaces.

Keywords

epidemiology, Ontario, child mental health, prevalence, time trends

Current epidemiological evidence indicates that the prevalence of child and youth mental disorders in Canada is high: the 2014 Ontario Child Health Study (OCHS) reports past 6-month prevalence rates of any mental disorder from 18% to 22% depending on age and informant.[1] The extent to which the prevalence of child and youth mental disorders has changed in recent decades is a subject of ongoing debate,[2] with limited evidence available in Canada. As a sequel to the 1983 OCHS with identical measurement approaches, the 2014 OCHS provides an opportunity to assess changes in the prevalence of child (ages 4 to 11) and youth (ages 12 to 16) mental disorders over a 30-year period.

Recognizing the challenge of defining mental health need in the population, we report on changes in conduct disorder, hyperactivity, and emotional disorder, as well as perceived need for professional help, consistent with the typology of health need proposed by Bradshaw.[3] In this typology, the classification of mental disorder based on standard nosology represents 'normative' need, whereas the subjective perception of a mental health problem and need for professional help, assessed independently of 'normative' need, represents 'felt' need. Changes in the prevalence of mental disorders over time can improve our understanding of changes in the burden and distribution of disorder in the population. In contrast, changes in the prevalence of perceived need for professional help may provide insight into whether there have been changes in mental health literacy, the stigma associated with disclosing mental health problems, attitudes toward help seeking, and expectancies and concerns for child and youth mental health.[4]

Secular Changes in the Prevalence of Child and Youth Mental Disorders

A recent systematic review of studies from several high-income countries reported increases in the clinical diagnosis and treatment of child and youth mental disorders; increases in the prevalence of emotional disorder, particularly among youth; and decreases in conduct disorder.[2] Comparable evidence in Canada is limited by the time interval in which changes were assessed or the restricted age range of children and youth included in studies. For example, 1 study of 4- to

11-year-olds found no evidence of changes in emotional-behavioural problems between 1994 and 2000.[5] Another study from 1994 to 2007 reported increases in parent ratings of physician-diagnosed hyperactivity among children aged 6 to 9.[6] Yet another study from 1996 to 2008 that focused on 10- to 15-year-olds found increases in hyperactivity and decreases in emotional and conduct disorder.[7] This latter finding was consistent with decreases in self-reported anti-social behaviour, violent behaviour, and bullying since the 1990s among grade 7 to 12 students participating in the Ontario Student Drug Use and Health Survey (OSDUHS).[8] However, the OSDUHS also revealed increases in the percentage of students with self-reported attention-deficit hyperactivity disorder and symptoms of anxiety and depression. With respect to subjective perceptions of mental health need, the OSDUHS found increases in the percentage of students who rated their mental health as fair/poor, but we are unaware of any studies that assess changes in the prevalence of perceived need for professional help.

Sociodemographic Correlates

The 1983 OCHS found associations between several important sociodemographic variables and child and youth mental disorders. For example, children and youth living in urban versus rural areas were at increased risk for mental disorders.[9] A number of variables linked with socioeconomic disadvantage were also associated with child and youth mental disorders, including poverty[10] and lone-parent status.[11] In contrast, the prevalence of child and youth mental disorders did not vary by immigrant background.[12]

Since the 1983 OCHS, there have been notable changes in these sociodemographic characteristics. The urban-rural settlement patterns of Ontario families have changed, with fewer families living in rural and small- to medium-sized urban areas but more living in large urban areas.[13,14] Although the poverty rate in Ontario has been stable since the 1980s,[13,14] its distribution among families has changed. For example, a large increase in the percentage of lone-parent families in the population has been accompanied by decreases in levels of poverty among them. Levels of poverty have also decreased among Canadian-born families in Ontario (nonimmigrant), but they have remained stable among immigrant families. Income partly accounts for the association between lone-parent status and child mental disorders,[15] and it is now well established that children in immigrant versus nonimmigrant families have lower levels of mental health problems despite being disproportionately exposed to poverty.[16,17] Could secular changes in the distribution of poverty alter gradients of mental disorder among these family types?

The objectives of this study are to provide much-needed epidemiological evidence on the extent to which the prevalence of child and youth mental disorders and perceived need for professional help in Ontario changed between 1983 and 2014, as well as whether these changes vary as a function of age and sex, urban-rural residency, household poverty, lone-parent status, and immigrant background.

Methods

Data

The 2014 OCHS is a stratified, random cluster sample of 10,802 children and youth aged 4 to 17 nested in 6537 families and 484 neighbourhoods. The original 1983 OCHS enlisted 3294 children and youth aged 4 to 16 and 1869 families using a similar survey design. The response rate was 91% in the 1983 OCHS and 50.8% in the 2014 OCHS. Identical measurement was used in 1983 and 2014 for all concepts and scales in this study. Additional details on the methodologies used in the 1983[18] and 2014[19] OCHS are available elsewhere. The analyses are restricted to 4- to 16-year-olds in 1983 ($n = 2836$) and 2014 ($n = 5785$) with assessments from parents and teachers (ages 4 to 11) and parents and youth (ages 12 to 16). Teacher response was much higher in 1983 (81.7%) than in 2014 (42.0%). Approximately 8.6% of children and youth in 1983 were missing information on at least 1 variable of interest in this study compared with 9.2% in 2014. Children and youth with missing data were more likely to live in a lone-parent family (20.1% vs. 15.0%), meet criteria for conduct disorder (6.2% vs. 4.4%) and emotional disorder (14.2% vs. 10.9%), and perceive needing professional help for a mental disorder (19.9% vs. 12.9%). Missing data were addressed by age group separately in 1983 and 2014 using multivariate, multiple imputation by chained equations (MICE) in STATA.[20] Imputation models included all variables in the present study, sampling design variables, and auxiliary variables associated with missed responses. A total of 10 data sets were imputed and results were combined using Rubin's rules.[20,21] Results based on the imputed data sets did not differ from those based on a complete case analysis.

Concepts and Measures

Mental disorder. In both 1983 and 2014, identical checklist items were administered to the child or youth's parent (ages 4 to 16) and teacher (ages 4 to 11) and to youth (ages 12 to 16) to classify conduct disorder (15 items), hyperactivity (6 items), and emotional disorder (depression and anxiety, 13 items) based on *DSM-III* criteria. The items were rated as 0 (*never or not true*), 1 (*sometimes or somewhat true*), or 2 (*often or very true*) over the last 6 months. They were summed to create individual scale scores and converted to binary classifications of disorder within age groups for each informant at thresholds that maximized their joint agreement with child psychiatrist diagnoses. Disorders were classified as present if parent and/or teacher ratings were above threshold (ages 4 to 11) and if parent and/or youth assessments were above threshold (ages 12 to 16). The development and evaluation of our approach to classification are described in detail elsewhere.[9,18,22]

A multiple group confirmatory factor analysis[23] tested for measurement invariance of the 1983 OCHS scales between 1983 and 2014. Within informants over time, this testing involves a stepwise sequence of constraints to demonstrate that 1) items are associated with their hypothesized scales (configural invariance), 2) the strength and pattern of associations between items and their hypothesized scales are similar (metric invariance), and 3) there is no evidence of response bias—the tendency to respond positively or negatively, irrespective of item content (scalar invariance).[24] Comparing model fit at each step, all scales met the standard guidelines for testing measurement invariance except hyperactivity assessed by youth. Accordingly, with the exception of youth-assessed hyperactivity, any changes in the prevalence of mental disorder assessed using the OCHS scales are not artifacts of changes in the interpretation of items or structure of the mental health constructs over time. Additional details and the results of our invariance testing appear in the online Appendix.

Perceived need for professional help. Parents, teachers, and youth were asked whether they thought the child or youth had emotional-behavioural problems over the past 6 months and, if so, whether they thought professional help was needed for these problems. A 'yes' response to both questions identified children and youth with a perceived need for professional help. The same rule used to combine informant responses in classifying mental disorder was applied here.

Sociodemographic and economic characteristics. Urban-rural residency consists of 3 categories based on population size and density: rural (<1000 or <400 per square kilometer), small to medium urban (1000-99,999), and large urban (100,000+).[25] Household poverty was classified using Statistics Canada's Low-Income Measure (LIM).[26] Adjusting for family size, this designation was applied if the total before-tax household income reported by the parent fell below the LIM (0 = income above LIM; 1 = income equal to or below LIM). A lone-parent family is one headed by a lone adult, and an immigrant family is one in which one or both parents were born outside of Canada.

Statistical Analysis

Changes in the prevalence of child and youth mental disorders and perceived need for professional help were based on cross-tabulations by survey year. Changes in prevalence as a function of age and sex were tested using binary logistic regression models that included interaction terms between study year and age or sex. A significant interaction term indicated that changes in prevalence by age or sex were statistically significant. The extent to which changes in prevalence varied by urban-rural residency, lone-parent status, household poverty, and immigrant background were tested by estimating separate odds ratios (ORs) in 1983 and 2014 then comparing them for statistically significant differences. To account for the OCHS complex survey design, which includes the clustering of children and youth in families and neighborhoods, the test statistics for changes in prevalence between 1983 and 2014 and across groups were computed in STATA[27] using the second-order Rao-Scott correction to chi-squared tests (design-based F statistic)[28] to produce accurate test statistics and associated P values. The false discovery rate method was employed to account for multiple comparisons.[29] The 1983 and 2014 data were weighted using their respective sampling weights provided by Statistics Canada to account for the probability of participation in each survey year.

Results

Table 1 presents characteristics of 1983 and 2014 OCHS participants and corresponding population estimates from the 1981 and 2011 census files. Both the 1983 and 2014 OCHS samples are representative of the Ontario population in the closest census years available; all differences are less than 5%. Two notable changes between census years were observed. First, there was an increase in lone-parent families from 12.2% to 22.8%. Second, while the percentage of families living in rural (21.2% to 13.7%) and small to medium urban areas (21.7% to 16.6%) decreased, it increased in large urban areas (57.1% to 69.7%).

Table 2 presents changes in the prevalence of mental disorders and perceived need for professional help between 1983 and 2014. Among 4- to 16-year-olds, change in the prevalence of 1 or more disorders was not statistically significant. In contrast, there was a large increase in perceived need for professional help (6.8% to 18.9%) similar in magnitude for males and females.

The prevalence of 1 or more disorders increased among 4- to 11-year-olds (15.4% to 19.6%)—a difference attributable to males (17.3% to 24.2%) and arising from proportionately greater increases in hyperactivity (8.9% to 15.7%).

Among 12- to 16-year-olds, there were no changes in the overall prevalence of 1 or more disorders or hyperactivity. Emotional disorder increased from 9.2% to 13.2% and conduct disorder decreased from 7.2% to 2.5%. The reduction in conduct disorder is greater for males aged 12 to 16 (10.3% to 3.1%) compared to males or females aged 4 to 11.

Table 3 presents changes in the prevalence of 1 or more disorders and perceived need for professional help as a function of urban-rural residency, lone-parent status, household poverty, and immigrant background. The prevalence of any disorder and perceived need for professional help increased more in rural (any disorder: $F(1, 5491) = 5.60$, $P \leq 0.05$; perceived need: $F(1, 4877) = 43.36$, $P \leq 0.05$) and small to medium urban areas (any disorder: $F(1, 5618) = 4.05$, $P \leq 0.05$; perceived need: $F(1, 5625) = 40.27$, $P \leq 0.05$) compared to large urban areas. Relative increases in the prevalence of perceived need for professional help were lower among children in lone-parent families compared to their counterparts in 2-parent families ($F(1, 5423) = 7.77$, $P \leq$

Table 1. Sociodemographic and Economic Characteristics of 1983 and 2014 OCHS Samples.

Characteristics	1983 OCHS ($n = 2836$), % (95% CI)	1981 Census, %	2014 OCHS ($n = 5785$), % (95% CI)	2011 Census, %
Age				
4 to 11	59.0 (56.8 to 61.2)	58.7	54.3 (51.7 to 56.9)	58.9
12 to 16	41.0 (38.8 to 43.2)	41.3	45.7 (43.1 to 48.3)	41.1
Sex				
Male	51.6 (49.5 to 53.6)	51.3	51.4 (48.9 to 53.8)	51.5
Female	48.4 (46.4 to 50.5)	48.7	48.7 (46.2 to 51.1)	48.5
Poverty				
Yes	17.5 (15.2 to 19.8)	17.0	19.1 (17.1 to 21.1)	19.8
No	82.5 (80.2 to 84.8)	83.0	80.9 (78.9 to 82.9)	80.2
Lone parent				
Yes	10.5 (8.78 to 12.2)	12.2	20.2 (17.9 to 22.5)	22.8
No	89.5 (87.8 to 91.2)	87.8	79.8 (77.5 to 82.1)	77.2
Immigrant background				
Immigrant	40.7 (37.7 to 43.6)	41.6	40.2 (37.2 to 43.2)	42.9
Nonimmigrant	59.4 (56.4 to 62.3)	58.4	59.8 (56.8 to 62.8)	58.1
Urban-rural residency				
Rural	19.8 (17.4 to 22.1)	21.2	13.4 (11.5 to 15.4)	13.7
Small-medium urban	22.0 (19.7 to 24.3)	21.7	19.0 (16.1 to 22.0)	16.6
Large urban	58.3 (55.4 to 61.1)	57.1	67.5 (64.4 to 70.6)	69.7

CI, confidence interval; OCHS, Ontario Child Health Study.

Table 2. Changes in the Prevalence of Mental Disorder and Perceived Need for Professional Help by Age and Sex, 1983 and 2014.

	Total ($n = 8621$)		Males ($n = 4347$)		Females ($n = 4274$)	
	1983	2014	1983	2014	1983	2014
Ages 4 to 16						
Any disorder	15.99	18.39	17.05	19.87	14.90	16.86
Needs help	**6.76**	**18.92**	**8.43**	**20.19**	**5.04**	**17.61**
Ages 4 to 11						
Disorder						
Conduct disorder	3.91	4.70[a]	6.24	7.19[c]	1.54	2.17[e]
Hyperactivity	**6.11**	**10.78**	**8.92**	**15.72**	3.28	5.75
Emotional disorder	9.97	11.93	9.12	12.01	10.84	11.85
One or more disorders	**15.37**	**19.57**	**17.28**	**24.17[i]**	13.45	14.90
Perceptions						
Needs help	**6.83**	**21.99**	**9.36**	**26.10**	**4.27**	**17.81[g]**
Ages 12 to 16						
Disorder						
Conduct disorder	**7.18**	**2.52[b]**	**10.26**	**3.08[d, f]**	**4.02**	**1.92**
Hyperactivity	5.22	6.26	7.06	8.56	3.33	3.85
Emotional disorder	**9.23**	**13.17**	**4.70**	**8.59**	13.88	18.00
One or more disorders	16.68	16.79	16.52	14.44[j]	16.85	19.27
Perceptions						
Needs help	**6.00**	**15.05**	**5.87**	**12.90[h]**	**6.14**	**17.31**

Note: Ages 4 to 11 based on parent and teacher reports. Ages 12 to 16 based on parent and youth reports. Bold typeface denotes differences in prevalence between 1983 and 2014 at nominal P values <0.05. All associations are robust to false discovery rate correction. Prevalence estimates with different subscripts within disorders differ significantly at $P < 0.05$.

[a,b]Total change in conduct disorder is greater for 12- to 16-year-olds compared 4- to 11-year-olds.

[c,d]Change in conduct disorder is greater for males aged 12 to 16 compared to males aged 4 to 11.

[e,f]Change in conduct disorder is greater for males aged 12 to 16 compared to females aged 4 to 11.

[g,h]Change in needs help is greater for females aged 4 to 11 compared to males aged 12 to 16.

[i,j]Change in 1 or more disorders is greater for males aged 4 to 11 compared to males aged 12 to 16.

0.05). There were no changes in the prevalence of any disorder as a function of household poverty, but relative increases in perceived need for professional help were lower in poor versus nonpoor children ($F(1, 5472) = 10.99$, $P \leq 0.05$). In addition, the prevalence of any disorder decreased among children living in immigrant families but not

Table 3. Changes in the Prevalence of Any Disorder and Perceived Need for Professional Help by Urban-Rural Residency, Lone-Parent Status, Poverty, and Immigrant Background, 1983 and 2014.

	Any Disorder			Perceived Need for Professional Help		
	1983	2014	*F* Statistic (*P* Value)	1983	2014	*F* Statistic (*P* Value)
Urban-rural residency, %						
Rural	12.1	18.5		3.9	18.1	
Small-medium urban	14.4	20.0		5.6	25.2	
Large urban	18.0	17.9		8.3	17.3	
OR (95% CI)						
Rural	0.63** (0.46 to 0.86)	1.03 (0.74 to 1.45)	5.60 (0.018)	0.44*** (0.27 to 0.71)	1.06 (0.76 to 1.48)	43.36 (<0.001)
Small-medium urban	0.76 (0.57 to 1.02)	1.16 (0.82 to 1.63)	4.05 (0.044)	0.65 (0.40 to 1.04)	1.67** (1.11 to 2.50)	40.27 (<0.001)
Lone parent, %						
Yes	22.8	23.8		15.9	26.4	
No	15.2	16.8		5.8	16.8	
OR (95% CI)	1.70*** (1.22 to 2.37)	1.55*** (1.17 to 2.07)	0.02 (0.897)	3.02*** (1.90 to 4.80)	1.75*** (1.32 to 2.32)	7.77 (0.005)
Poverty, %						
Yes	23.1	21.9		13.1	23.7	
No	14.5	17.5		5.5	17.8	
OR (95% CI)	1.74*** (1.28 to 2.37)	1.33** (1.03 to 1.71)	0.10 (0.749)	2.51*** (1.61 to 3.91)	1.41** (1.08 to 1.85)	10.99 (0.001)
Immigrant background, %						
Immigrant	15.2	11.7		5.6	11.1	
Nonimmigrant	16.4	22.8		7.6	24.1	
OR (95% CI)	0.91 (0.71 to 1.17)	0.45*** (0.34 to 0.59)	4.01 (0.045)	0.72 (0.48 to 1.10)	0.39*** (0.29 to 0.52)	11.91 (0.001)

Note: The odds ratios represent the association between each sociodemographic characteristic and any disorder or perceived need for professional help separately in 1983 and 2014. The odds ratios are compared for significant differences using a Wald chi-square test.
CI, confidence interval; OR, odds ratio.
*$P < 0.05$. **$P < 0.01$. ***$P < 0.001$.

nonimmigrant families ($F(1, 5005) = 4.01$, $P \leq 0.05$), and relative increases in perceived need for professional help were lower among children in immigrant versus nonimmigrant families ($F(1, 5376) = 11.91$, $P \leq 0.05$).

Discussion

This study provides evidence about changes in the prevalence of mental disorders and perceived need for professional help among Ontario children and youth over a 30-year period. The overall prevalence of mental disorders among 4- to 16-year-olds did not change between 1983 and 2014, which is consistent with previous Canadian studies examining changes in child mental disorder of limited duration[5] and among older youth.[7,8]

The lack of change overall obscures age-specific changes in the prevalence of mental disorders. For example, we observe increases in the prevalence of any disorder among 4- to 11-year-olds attributable to increases in hyperactivity among males. This finding contrasts with previous reports that hyperactivity has remained stable[2] or decreased.[30] Notably, our classification of hyperactivity was based exclusively on symptom levels, unlike the study by Sawyer et al.,[30] which also required impairment. Additional research is needed to better understand changes in the prevalence of hyperactivity in Ontario children when impairment is added to symptom scores. In contrast, we observe no changes in the prevalence of hyperactivity among 12- to 16-year-olds. This finding should be interpreted with caution given the lack of measurement equivalence over time for youth-assessed hyperactivity.

Among 12- to 16-year-olds, we observed increases in the prevalence of emotional disorder consistent with previous research.[2,8] Whereas some studies report greater increases in emotional disorder among females versus males,[2,30,31] we did not observe any sex differences. Changes in the prevalence of emotional disorder among youth in Ontario occurred during a period when socioeconomic inequalities,[32] lone-parent families,[13,32] social media use,[8] expectations related to body image[8] and academic performance,[33] and perceived uncertainties among youth about future occupational prospects were increasing.[34] Given their salience to youth, how these multifaceted phenomena contribute to emotional disorders warrants further study.

In contrast to emotional disorder, the prevalence of conduct disorder decreased substantially among 12- to 16-year-olds, particularly in males. In a number of high-income countries, there is evidence that conduct disorder peaked in the early 1990s and then decreased,[2] a trend that was also observed in Ontario among students in grades 7 to 12.[8] Over the past 50 years, large public investments were made in research on violence prevention programs. Many of these programs focused on at-risk children in the early years and successfully reduced serious behavioural problems, including criminal activity, arrests, and incarcerations.[35] Along with these prevention programs were large investments in the youth justice system and community programs for disadvantaged youth (e.g., Ontario's Youth Action Plan[36]), all of which may have contributed to the decrease in the prevalence of conduct disorder we observe.

We also observed large increases in perceived need for professional help for mental disorders. Evidence from our companion article indicates that, at the service area level, the alignment between expenditures on child and youth mental health and perceived need for professional help is closer than the alignment between expenditures and the presence of disorder.[37] In this study, perceived need for professional help was assessed among children and youth independently of their mental health status or service contacts. Accordingly, we are unable to determine if this increase represents better mental health literacy, a greater willingness to disclose and seek help for mental health concerns, or more children and youth with mental disorders who are not in contact with mental health services. The growing prominence of anti-stigma and mental health awareness campaigns over the past 3 decades may have increased the likelihood that parents, teachers, and youth will recognize mental health symptoms and seek help for them. The extent to which this awareness has translated into the identification and use of mental health services is difficult to estimate. Our companion article[1] reports that only 26% of children and 34% of youth with mental disorders had contact with a mental health provider.

Whereas our findings suggest that changes in the prevalence of any disorder did not vary as a function of poverty or lone-parent status, relative increases in perceived need for professional help were lower in poor versus nonpoor children and youth and in lone-parent versus 2-parent families. This finding may suggest that the gradient in mental disorder associated with poverty and lone-parent status has decreased between 1983 and 2014 in Ontario. However, additional research is needed to better understand if classifications of mental disorder versus perceived need for professional help operate differently across the socioeconomic spectrum and in different family contexts or whether increases in perceived need for professional help is a phenomenon more likely in higher-income and 2-parent families. Given that perceived need for professional help was assessed independently of mental health status and service contacts, we are unable to determine whether this finding indicates that children and youth in poor or lone-parent families are less likely to identify mental disorders requiring professional help or have contacts with mental health service providers now compared to 30 years ago. Our companion article[1] reports that mental health–related service contacts were more likely among children in lone-parent versus 2-parent families, but they did not differ across poor versus nonpoor families. How socioeconomic status and family context is associated with mental health service contacts now compared to 30 years ago warrants further research.

The 1983 and 2014 OCHS survey designs included stratification by urban-rural residency, enhancing our ability to examine changes in prevalence associated with this variable. We find a reversal in the distribution of disorder associated with residency: whereas the prevalence of disorder and

perceived need for professional help was highest in large urban areas in 1983,[9] it is now more elevated in rural and small to medium urban areas compared to large urban areas. Our companion article also observes a higher prevalence of mental disorders in small to medium urban areas compared to large urban areas.[1] Additional research is needed to better understand family and community-related conditions in rural and small to medium urban areas and how they may have changed over time to influence child and youth mental health in these settings.

The prevalence of any disorder and perceived need for professional help was much lower for immigrant versus nonimmigrant children and youth in 2014 compared to 1983. Our companion article also reported a lower prevalence of mental disorder in immigrant children and youth using the Mini International Neuropsychiatric Interview for Children and Adolescents.[1,38] The mental health advantage of immigrant children and youth in Canada may be due to immigrant selection policies, which result in healthier and better-educated immigrant populations.[39] Importantly, previous research suggests that the relatively better health of immigrant versus nonimmigrant populations decreases in relation to length of residence in Canada,[40] highlighting the need for longitudinal studies that follow immigrant children and youth over time to better understand if their mental health advantages persist into adulthood.

Limitations

Potential bias associated with the low response rate in 2014 is a concern that we trust has been addressed by the use of Statistics Canada's sample weights that include sample selection variables associated with nonresponse. Although changes in informant response patterns using behaviour checklists can account for changes in the prevalence of child and youth mental disorders,[2] we establish scalar invariance with the OCHS scales for all disorders except youth-assessed hyperactivity, suggesting that the changes we observe are not attributable to response bias over time.

Conclusion

Although there have been decreases in the prevalence of conduct disorder, increases in other mental disorders and perceived need for professional help, particularly among children and youth in nonimmigrant families and in rural and small- to medium-sized urban areas, underscore the continued need for effective and efficient prevention and intervention programs.

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Data Access

Data access available through Statistics Canada Research Data Centres.

Declaration of Conflicting Interests

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Supplemental Material

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