ABSTRACT

While a number of studies have documented higher period prevalence rates of depression among single as compared to married mothers, all of the data have been based upon community surveys of mental illness. In Canada, all of the published work comes from Ontario. As a result, we do not know whether these results hold true for other regions of the country. Using a nationally representative sample, we find, consistent with previous work, that single mothers have almost double the 12-month prevalence rates of married mothers (15.4% versus 6.8%). As well, there are no significant differences in rates of depression between single and married mothers by region/province of the country. Our findings are compared with other epidemiologic data on the mental health of single mothers from Ontario.

ABRÉGÉ

Bien que plusieurs études aient fait apparaître des taux de prévalence de périodes de dépression plus élevées chez les mères célibataires que chez les mères mariées, toutes les données faisaient d’enquêtes communautaires sur les maladies mentales. Au Canada, toutes les études publiées viennent de l’Ontario. En conséquence, on ne sait pas si ces résultats valent également pour les autres régions du pays. À partir d’un échantillon national représentatif, nous constatons, comme l’indiquent au demeurant les études antérieures, que les taux de prévalence sur 12 mois des mères célibataires sont près du double de ceux des mères mariées (15,4 % par rapport à 6,8 %). De même, il n’existe aucune différence significative entre les taux de dépression des mères célibataires et mariées par région et par province au pays. Nous comparons nos résultats à d’autres données épidémiologiques relatives à la santé mentale des mères célibataires en Ontario.

12-Month Prevalence of Depression Among Single and Married Mothers in the 1994 National Population Health Survey

John Cairney, MA,1,2 Cathy Thorpe, MA,2
John Rietschlin, MA,2 William R. Avison, PhD2

Single-parent mothers and their children have become a prevalent family structure in North America since the Second World War. Commensurate with the increase in single-parent families has been an interest in the health consequences associated with this emergent family structure. Previous research has shown that single mothers are at a greater risk of both physical and mental health problems compared to married mothers.1–6 While many different measures of health status have been used in these studies, depression has emerged as a particularly important measure to consider. This is understandable since many of the risk factors associated with depression (e.g., gender and disadvantaged socioeconomic status) are also associated with single parenthood. Studies from Canada,7–9 the United States,10 and Great Britain11 all document elevated rates of depression among single mothers (see Table I). While the results of all these studies show single mothers to be at greater risk for affective disorders, all of the aforementioned studies were conducted using community samples. Studies in Canada, for example, are all based upon samples drawn from Ontario. To date, there have been no published data on the prevalence of depression among single and married mothers using a sample of Canadians from different regions of the country. As a result, we do not know whether there are regional differences in the prevalence of depression among these groups.

Using data from the 1994 National Population Health Survey, we examine the 12-month prevalence of major depressive episodes among single and married mothers. This survey uses a representative sample from all 10 provinces in Canada.

METHODS

The following analyses were conducted using the 1994 National Population Health Survey (NPHS) by Statistics Canada. For a complete description of the methodology, consult the NPHS Public Use Microdata File Documentation.12 Using a multi-stage, stratified, random sampling procedure, 19,600 households across Canada were surveyed in which one person was selected to provide detailed personal information for the longitudinal component of the survey. People living in Indian reserves, military bases, institutions, and some remote areas in Ontario and Quebec were excluded, resulting in a response rate of 96%. For the purposes of this study, a sub-sample of single and married mothers aged 15 to 54 were selected for further analyses (N=2968).

Dependent variable

Depression is derived from the UM-CIDI (Short form), a depressive diagnos-
tic instrument designed to provide one-year population prevalence estimates of diagnosable depression. (For more information on this instrument, consult references 13 and 14). This instrument is a shortened version of the original CIDI and UM-CIDI which provide diagnoses of depressed mood based upon criteria from the DSM-III-R and the ICD-10. This diagnostic instrument predicts “caseness” based upon two central dimensions of depression: feeling sad, blue or depressed and/or losing interest in most things. If respondents reported experiencing either dimension at least most of the day, every day, for a period of two or more weeks in the previous 12 months, they were prompted to answer “yes” or “no” to a series of symptoms. Respondents answering “yes” to more than 4 symptoms had a probability of “caseness” greater than 0.90 and were classified as having had an episode of major depression. Field trials of the CIDI, conducted by the World Health Organization, have documented good inter-rater reliability,15 test-retest reliability,16 and validity for most diagnoses.17,18

Independent variables

Single mothers were defined by Statistics Canada as single, non-married, non-cohabiting women living with at least one child under the age of 25 in the home at the time of the survey. Married mothers were married or common-law women living with a partner and at least one child under the age of 25 in the home at the time of the survey.

Age was collapsed into 10-year intervals to create four dummy variables: 15-24, 25-34, 35-44, 45-54 (reference category). Three dummy variables were created for education: less than high school, high school and post secondary (reference category). Income adequacy is a measure of household income which also takes into account the number of individuals living in the home at the time of the interview. Households are placed into one of five categories based upon the total income from all sources during the year previous to the time of the survey, and the total number of permanent residents in the home. The five categories are lowest, lower middle, middle, upper middle and highest and are defined using the low-income cut-off criteria developed by Statistics Canada.19 From these, three dummy variables were created: low, middle and high income (reference category). A variable for employment status (working full or part-time versus not working) was also included. Finally, five dummy variables were created for region and province of the country: east (Newfoundland, PEI, Nova Scotia and New Brunswick), Ontario (reference category), Quebec, the Prairies (Saskatchewan, Manitoba and Alberta) and British Columbia.

RESULTS

Table II shows the demographic profiles for single and married mothers. Single mothers tend to be younger, have lower levels of education, lower levels of income adequacy and are less likely to be employed compared to married mothers. There are no significant differences in the number of

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<table>
<thead>
<tr>
<th>Place</th>
<th>n</th>
<th>Clinical Measure</th>
<th>Single Mothers</th>
<th>Married Mothers</th>
<th>References</th>
</tr>
</thead>
<tbody>
<tr>
<td>New Haven, United States</td>
<td>509</td>
<td>Diagnostic interview schedule (DIS)</td>
<td>16.0†</td>
<td>7.9†</td>
<td>Brown &amp; Moran¹¹</td>
</tr>
<tr>
<td>Islington, North London, United Kingdom</td>
<td>404</td>
<td>Present state examination (PSE)</td>
<td>10.0</td>
<td>5.0</td>
<td>Lipman, Offord &amp; Boyle⁷</td>
</tr>
<tr>
<td>Ontario, Canada</td>
<td>288 (single)</td>
<td>UM-CIDI</td>
<td>19.1</td>
<td>4.8</td>
<td>Davies, Avison &amp; McAlpine⁸</td>
</tr>
<tr>
<td>London, Ontario, Canada</td>
<td>1252 (married)</td>
<td>UM-CIDI</td>
<td>32.5</td>
<td>n/a</td>
<td>Byrne et al.⁹</td>
</tr>
<tr>
<td>Ontario, Canada</td>
<td>760</td>
<td>UM-CIDI</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* Results for white women only. No significant differences were observed among African-American women (5.9 per 100 for single versus 3.3 per 100 for married mothers).
† Incidence rates, not prevalence estimates.

Table II

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Single-Parent Mothers</th>
<th>Married Mothers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Place</td>
<td>n (%)</td>
<td>n (%)</td>
</tr>
<tr>
<td>Age (years)*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>15 to 24</td>
<td>89 (12.2)</td>
<td>98 (4.4)</td>
</tr>
<tr>
<td>25 to 34</td>
<td>290 (39.7)</td>
<td>841 (37.6)</td>
</tr>
<tr>
<td>35 to 44</td>
<td>248 (33.9)</td>
<td>885 (39.6)</td>
</tr>
<tr>
<td>45 to 54</td>
<td>104 (14.2)</td>
<td>413 (18.4)</td>
</tr>
<tr>
<td>Education*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Less than High School</td>
<td>207 (28.3)</td>
<td>392 (17.5)</td>
</tr>
<tr>
<td>High School</td>
<td>327 (44.7)</td>
<td>1022 (45.7)</td>
</tr>
<tr>
<td>Post Secondary</td>
<td>197 (27.0)</td>
<td>823 (36.8)</td>
</tr>
<tr>
<td>Income Adequacy*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low</td>
<td>399 (54.6)</td>
<td>289 (12.9)</td>
</tr>
<tr>
<td>Middle</td>
<td>204 (27.9)</td>
<td>656 (29.3)</td>
</tr>
<tr>
<td>High</td>
<td>128 (17.5)</td>
<td>1292 (57.8)</td>
</tr>
<tr>
<td>Employment Status*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Working</td>
<td>453 (62.0)</td>
<td>1651 (73.8)</td>
</tr>
<tr>
<td>Not working</td>
<td>278 (38.0)</td>
<td>586 (26.2)</td>
</tr>
<tr>
<td>Region/Province</td>
<td></td>
<td></td>
</tr>
<tr>
<td>East</td>
<td>139 (19.0)</td>
<td>515 (23.0)</td>
</tr>
<tr>
<td>Quebec</td>
<td>130 (17.8)</td>
<td>336 (15.0)</td>
</tr>
<tr>
<td>Ontario</td>
<td>204 (27.9)</td>
<td>612 (27.4)</td>
</tr>
<tr>
<td>Prairie</td>
<td>152 (20.8)</td>
<td>468 (20.9)</td>
</tr>
<tr>
<td>British Columbia</td>
<td>106 (14.5)</td>
<td>306 (13.7)</td>
</tr>
<tr>
<td>Total Sample (N)</td>
<td>731</td>
<td>2237</td>
</tr>
</tbody>
</table>

* Differences between single and married mothers significant p<0.01
single and married mothers by region of the country.

Prevalence and regional variation in prevalence estimates of depression for single and married mothers

The period prevalence estimate of depression for single mothers is 15.4 per 100 persons compared to 6.8 per 100 persons for married mothers ($X^2=38.75$, $p=0.001$). Figure 1 shows the results of the first part of this analysis. Within each region or province, single mothers have consistently higher rates of depression compared to married mothers. Although it appears that the prevalence of depression among single mothers living on the east coast and Quebec may be slightly higher than the rest of the country, these differences are not statistically significant.

Differences in depression among single mothers based on the age of the youngest child

In this public use data set, the criteria for single parenthood includes the stipulation that at least one child under the age of 25 must live in the home at the time of the survey. This criteria is much more inclusive than other research which stipulates a much lower limit for age of child living in the home (i.e., under the age of 17 or 16$^\text{th}$). In the interest of testing whether or not this more inclusive definition influenced the prevalence estimates, we decided to re-run the analysis in light of this concern. Given the limitations of this public use data set, we were not able to simply select a lower cut-off age (e.g., 16 years of age). It was possible, however, to create sub-categories of single parents based upon two indicator variables for age of the youngest child living in the home (see Table III for categories). In the second part of the analysis, we used this expanded categorical measure of family structure to estimate period prevalence differences in major depression. Bivariate results are reported in Table III. The results show that as the age of the youngest child increases, the prevalence estimates for depression among single mothers decreases. While there are significant differences in prevalence estimates between these three single-parent groups and married mothers, analyses within single-mother groups revealed that these differences were not statistically significant. In the interest of testing for similar differences in depression among married mothers, we also examined whether or not the age of the youngest child had any effect among married mothers. The prevalence estimates for depression within the married mother group ranged from 6.4 % to 7.1%. These differences were not significantly different ($X^2=0.44$, $p=0.801$).

In the final part of the analysis, we ran a multivariate model with the family structure variable controlling for other correlates of depression (see Table IV). The results were comparable with the bivariate analyses. Single mothers were more than twice as likely to report depression in the previous 12 months compared to married mothers (Odds Ratio=2.4, 95% C.I.=1.7-3.4, $p<0.05$). The introduction of the various correlates had little or no effect on the coefficients for single-parent mothers. Thus, these variables do not account for the observed differences between single and married mothers.

**DISCUSSION**

Our findings are congruent with previous research conducted in Ontario. Single mothers are significantly more likely to report an episode of depression in the previous 12 months compared to married mothers (Odds Ratio=$2.4$, 95% C.I.=1.7-3.4, $p<0.05$). The introduction of the various correlates had little or no effect on the coefficients for single-parent mothers. Thus, these variables do not account for the observed differences between single and married mothers.
London, Ontario. Period prevalence estimates of depression among single and married mothers from the Ontario Mental Health Supplement were slightly lower than our study and the London study. None of these estimates, however, come close to the high prevalence rates reported in the same provinces are included rather than just Ontario. Since all of these studies used versions of the UM-CIDI, it is difficult to attribute differences in estimates to diagnostic instrumentation.

The introduction of sociodemographic variables into the full model had no appreciable effect on the coefficients for single-parent mothers. Further research is required to assess those variables that mediate or moderate the relationship between single parenthood and depression. Previous research has employed a stress process model to explain differences in psychological distress between married and single mothers. Since the NPHS contains data on a variety of social stressors and psychosocial resource variables, it is possible to assess the adequacy of the stress process model with a large, nationally representative sample of Canadians. Our research team is currently investigating this question.

Finally, the findings show that there are no significant differences in rates of depression between single and married mothers based upon where they live in this country. This has important implications for policy and primary prevention. Since there are no differences in depression by region/province, no one part of this country would appear to have policies or intervention programs that are more effective in addressing the needs of single mothers. The situation, then, for single mothers is equally poor across this country. Single mothers, as evidenced by these results, are significantly disadvantaged in terms of their mental health and socioeconomic status. Broad-based policies at both the federal and provincial levels are required to address the social, psychological and economic conditions in need of modification if we hope to alleviate the disadvantage faced by single mothers. The net benefit for everyone is that such broad-based programs may improve circumstances not only for single-parent families, but for other families as well. As McLanahan and Sandefur and Avison have noted, the problems faced by single-parent families are not different from those of other families, they are simply greater in number and intensity. Therefore, programs which address the underlying social and economic inequities that affect single-parent families will undoubtedly improve the social circumstances for all families in this country.

REFERENCES


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