Surviving social assistance: 12-month prevalence of depression in sole-support parents receiving social assistance

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Abstract

Background: Although it is generally recognized that poverty and depression can coexist among single parents receiving social assistance, there is insufficient research on this topic. The goals of this study therefore were to investigate the prevalence, correlates and health care expenditures associated with depression among sole-support parents receiving social assistance.

Methods: Sole-support parents who had applied for social assistance in 2 regions of southwestern Ontario were included in the study. Depression was diagnosed with the 1994 University of Michigan Composite International Diagnostic Interview short forms.

Results: The 12-month prevalence rate of depressive disorder among the parents interviewed was 45.4% (345/760). A total of 247 (32.5%) had major depressive disorder alone, 19 (2.5%) had dysthymia, and 79 (10.4%) had both major depressive disorder and dysthymia ("double depression"). Those with major depressive disorder, particularly double depression, had significantly higher rates of coexisting psychiatric disorder than those without depressive disorders. Parents with depression reported higher rates of developmental delay and behaviour problems in their children than parents without depression. Expenditures for health care services were higher for parents with depression and for their children than for parents without depressive disorder and their children.

Interpretation: Single parents receiving social assistance have high rates of depression. Such parents with depression also have higher rates of other psychiatric disorders and higher expenditures for health care services, and their children have higher rates of developmental delay and behaviour problems.

Résumé

Contexte : Même si l'on admet généralement que la pauvreté et la dépression peuvent coexister chez les parents seuls qui touchent des prestations d'aide sociale, les études sont insuffisantes à ce sujet. Les buts de la présente étude visent donc à examiner la prévalence, les corrélats et les dépenses de santé associés à la dépression chez les parents seul soutien de famille qui touchent des prestations d'aide sociale.

Méthodes : Les parents seul soutien de famille qui avaient fait une demande d'aide sociale dans deux régions du sud-ouest de l'Ontario ont été inclus dans l'étude. On a diagnostiqué les cas de dépression à l'aide des formulaires abrégés «Composite International Diagnostic Interview» de 1994 de l'Université du Michigan.

Résultats : Le taux de prévalence sur 12 mois de troubles dépressifs chez les parents interviewés s'est établi à 45,4 % (345/760). Au total, 247 (32,5 %) éprouvaient des troubles dépressifs majeurs seuls, 19 (2,5 %) présentaient une dys-

thymie et 79 (10,4 %) avaient ce que l'on appelle une «double dépression» (troubles dépressifs majeurs et dysthymie). Chez les personnes affligées de troubles dépressifs majeurs, surtout une double dépression, le taux de coexistence de troubles psychiatriques était beaucoup plus élevé que chez ceux qui n'avaient aucun trouble dépressif. Par rapport aux parents non dépressifs, les parents dépressifs ont indiqué un retard de développement et des problèmes de comportement plus fréquents chez leurs enfants. Les dépenses de santé ont été plus élevées à l'égard des parents dépressifs et de leurs enfants que des parents qui n'avaient aucun trouble dépressif et de leurs enfants.

Interprétation : Les parents seuls qui touchent des prestations d'aide sociale présentent un taux élevé de dépression. Ces parents dépressifs affichent aussi un taux élevé de troubles psychiatriques et entraînent des dépenses de santé plus élevées, et leurs enfants éprouvent plus souvent un retard de développement et des problèmes de comportement.

Despite the recognition that poverty and depression can coexist among recipients of social assistance, there is little systematic research on the mental health status of this population and their pattern of use of health care services. Even less information is available documenting the proportion of sole-support parents who are resilient.[1] The prevailing view postulates that sustained dependence on social assistance can result in vulnerability, characterized by low self-esteem, loss of productivity and low mood.[2-5] Depression or low mood is not confined to the poor, but it has been associated with loss of productivity, low self-esteem and sustained dependence on social assistance.[6-13] Depression is thought to have some genetic basis.[14] Unrecognized, untreated and undertreated depressive disorders are associated with high human and economic cost in every socioeconomic class.[6,15-18] Although depression is not confined to the poor, it may well be concentrated in poorer populations.[8,9,19-24] However, the poor may not be uniformly vulnerable to depression.

Depression is more prevalent among women.[20,25-28] At highest risk are people who are separated or divorced and poor.[9,20] Today 80% to 90% of people with major depressive disorder, with or without a history of dysthymia (the "milder," chronic, unremitting and potentially more expensive type of depression[29-35]), can be treated successfully with antidepressants[36-40] or psychotherapy[41-45] or both.[6,7,46] However, only about 1 in 3 people with depressive disorder ever seeks treatment.[6,7] Even when help is sought, depressive disorders are poorly treated, undertreated or inappropriately treated[6] by primary care professionals.

This paper is a preliminary report of a 5-year trial funded by the National Health Research and Development Program and the Children's Mental Health Division of Health Canada. The aim of the trial is to determine which sole-support parents and their children receiving social assistance benefit from which mix of health care services, employment retraining and recreational–child care

services. This report on the prevalence of depression was compiled following the recruitment phase.

Since 95% of sole-support parents receiving social assistance are women, the sample chosen from the pool of new applicants was uniformly poor, single and female. Thus, we examined factors known to place people at risk for depression: poverty, single parenthood status and female sex. The study was designed to address the following questions.

- Among sole-support parents receiving social assistance, what is the prevalence of depressive disorder and its relation to previous use of social assistance?
- What variables distinguish parents with and without depressive disorder?
- What is the relation between parental depression and behaviour and emotional problems among children aged 3 years or less and among those aged 4 to 16 years?
- What are the annual per-person expenditures for parents' and children's use of services?

We postulated that there would be some association between the presence of parental depression and the duration of social assistance in this sample, which controlled for the effects of poverty, marital status and sex. If this were true, there would be implications for combining health care services with income maintenance and employment retraining strategies for some sole-support parents, as opposed to managing these as separate health and social services. Second, we postulated that there would be some interrelation among variables such that, for example, parental depression would be associated with poorer health status and poor social adjustment, and that the absence of depression may in fact indicate resilience in spite of the difficulties associated with poverty.

Methods

Between September 1994 and November 1995, sole-support parents who were applicants for social assistance

(income maintenance) in 2 regions of southwestern Ontario were invited by their regional social service caseworker to participate in the study.

Applicants for social assistance were described in terms of sex, family constellation and size, education, work history, prior applications for social assistance, employability status and mood. The female head of the household was designated the family respondent regarding measures of all members of the household except in cases in which the father was the sole-support parent.

We assessed the health status of the head of the household using questions from the Ontario Health Survey.[47] These questions ask the respondent to rate his or her physical function, worry and pain and elicit information about the use of medications and alcohol, and health conditions.

The parent's mood was assessed with the University of Michigan Composite International Diagnostic Interview (UM-CIDI, short forms).[2] This screening device, derived from the World Health Organization CIDI, reflects the third revised edition of the Diagnostic and Statistical Manual of Mental Disorder (DSM-III-R).[30] It is believed to be the best instrument to identify the 12-month prevalence of major depression, dysthymia, generalized anxiety disorder, simple and social phobia, panic disorder, and alcohol and substance dependence in community samples[48] and was used in the Ontario Mental Health Survey.[20]

There are a number of measures of adult adjustment and quality of life. We chose the Social Adjustment Scale by self-report[49] because of its applicability to the population (prior use in studies of depression and dysthymia), high degree of reliability, validity and use across samples with varying levels of mental, social and vocational competence.[50] This instrument is a self-rated measure of social functioning over the previous 2 weeks on 5-point scales for items assessing 8 areas of social and vocation function: work for pay, housework, schoolwork, social and leisure time, marital performance, family performance and extended family performance.

The Indices of Coping measure[51] focuses on the respondent's use of 33 different coping responses, indicated on a 4-point scale. Responses are categorized into the methods and foci of coping. The methods of coping are identified as active cognitive, active behavioural and avoidance. The foci of coping include problem solving, logical analysis, emotional discharge, affective regulation and information seeking.[13]

We gathered information from the parent about all children aged 4 to 16 in the household using the Child Behaviour Checklist of the Survey Diagnostic Instrument of the Ontario Child Health Study.[52,53] This instrument was developed from the Achenbach and Edelbrock Child Behavior Checklist,[54,55] which provides a basic pool of items to assess childhood psychiatric disorders: conduct disorder, hyperactivity and emotional disorder (neuroses). DSM-III criteria guided the selection of items for each scale. The item content for the emotional disorder scale was chosen to reflect elements of the DSM-III categories of overanxious disorder, affective disorder and obsessive-compulsive disorder. Checklist items applicable to a particular disorder or competence are grouped to form a scale. Each item is scored 0, 1 or 2, indicating that the behaviour is never, sometimes or often true, respectively, of the child. Checklist scale scores are converted to binary ratings of disorder based on their ability to discriminate the presence or absence of a diagnosis made by a child psychiatrist. Separate thresholds are established for each data source for 2 age groups (4 to 11 years and 12 to 16 years). Children in each group must have a score below the threshold to qualify as not having a disorder.

For children under 4 years of age, 3 scales from the Minnesota Child Development Inventory were used: the Infant Development Inventory for infants aged 15 months or less, the Early Child Development Inventory for children 16 months through 35 months, and the Preschool Development Inventory for children aged 36 through 47 months.[56–58] The Infant Development Inventory measures development in 5 areas: gross-motor ability, fine-motor ability, language, comprehension and personal–social functioning. If the infant's development in an area is below the behaviour of infants 30% younger, the infant's development in that area is considered to be below age expectations or delayed.

The Early Child Development Inventory is a parent report for use with children aged 6 months to 3 years. This measure includes 6 sections, of which 2 were used in this study: general development and possible problems. These 2 sections provide objective, standardized measures of developmental and other problems. The general development scale covers 7 developmental areas: language comprehension, expressive language, gross-motor ability, fine-motor ability, self-help, situation comprehension and personal–social functioning. A child is considered to be possibly developing at below-age expectations if he or she obtains a score that is lower than the average score for children who are 20% younger. Different thresholds are used for boys and girls in children over 18 months old.

The Preschool Development Inventory measures general development, symptoms and problems, 3 parent-reported descriptors of the child, special problems, and questions or concerns. If the child is functioning below expected age- and sex-related cutoffs, he or she is said to have a general delay. If the parent reports 3 or more behaviour problems, or 1 or more uncommon symptoms, the child is deemed to have a behaviour problem. Scoring positively for either general delay or a behaviour problem indicates child disorder.

The dependent measure was the lifetime use of social assistance (in months), which was multiplied by the dollar value of the benefit per month. The monthly benefit was adjusted for current family constellation (age and number of children). In addition, the number of previous applications for general social assistance was tallied.[59]

We measured health care service use and socioeconomic data using a previously developed inventory questionnaire to capture direct and indirect health care expenditures.[59-61] The respondent's use of direct health care services is categorized by visits to general practitioners and specialists, emergency department visits, hospital admissions, services of other health professionals (e.g., occupational therapists, physiotherapists, community nurses and social workers) and laboratory investigations. These frequencies of utilization are annualized and multiplied by a unit dollar value to provide a total annual expenditure for each service consumed.[59-61] Direct out-of-pocket expenditures for illness or treatment are captured through questions about expenditures for medication, medical device purchases and rentals, baby-sitter and homemaker services, and travel and parking. Indirect expenditures are assessed for the number of days off and amount of income lost by the respondent and any family members because of illness or treatment. Cash-transfer effects of illness include government and private insurance cheques received for unemployment, workers' compensation, disability pension, old-age pension and social assistance.

Results

During the study period caseworkers approached 1708 new clients, of whom 1087 consented to participate. Of the 1087, 327 refused when contacted by the interviewer or were not located. Thus, 760 parents (response rate 44.5%) were ultimately interviewed. The 760 participants had 1203 children.

Of the 760 participants 735 (96.7%) were women and 25 (3.3%) were men. Compared with the nonparticipants, the participants were more often first-time recipients of social assistance, were older and had more lifetime months of receipt of social assistance.

The 12-month prevalence rate of depressive disorders among the parents was 45.4% (345/760). Most of the 98 participants with dysthymia also had major depressive disorder ("double depression"). Nineteen participants had dysthymia alone; these we grouped with the double depression group because of the chronicity of the disorder. A total of 247 participants (32.5%) had major depressive disorder without dysthymia.

The participants with double depression were statistically significantly older (mean 33 [standard deviation (SD) 8.2] years) than those without depression (mean 31 [SD 8.2] years) ($F = 4.1$, $p = 0.017$); however, the difference was not thought to be clinically significant. The average age of the participants with major depressive disorder alone was 32.4 (SD 8.1) years. There was no difference in high school education between parents with and those without depressive disorder. Parents with and without depression had an average of 2 children, but depressed parents had children who were slightly older (9.5 years v. 7.6 years) ($p = 0.01$).

The participants with major depressive disorder, particularly double depression, showed consistently and significantly higher rates of coexisting psychiatric disorders than those with no depressive disorder (Table 1). For example, 51 (20.6%) of the parents with major depressive disorder alone and 36 (36.7%) of those with double depression also had panic disorder, as compared with 38 (9.2%) of the parents without depressive disorder ($p < 0.001$).

Of the parents with double depression 31.2% (30/96) rated their health as fair to poor, as compared with 8.9% (37/414) of those without depression ($p < 0.001$). A total of 48.4% (46/95) of the parents with double depression indicated that they worried about their health half to most

Table 1: Prevalence of psychiatric disorders other than depression among sole-support parents receiving social assistance, by depression status

| Psychiatric disorder* | Depression status; no. (and %) of subjects | | | | |
	No depressive disorder n = 415	MDD alone n = 247	MDD and dysthymia n = 98†	Total n = 760	p value
Generalized anxiety disorder	2 (0.5)	4 (1.6)	6 (6.1)	12 (1.6)	< 0.001
Simple phobia	122 (29.4)	101 (40.9)	49 (50.0)	272 (35.8)	< 0.001
Social phobia	52 (12.5)	54 (21.9)	31 (31.6)	137 (18.0)	< 0.001
Agoraphobia	17 (4.1)	34 (13.8)	18 (18.4)	69 (9.1)	< 0.001
Panic disorder	38 (9.2)	51 (20.6)	36 (36.7)	125 (16.4)	< 0.001
Alcohol dependence	11 (2.7)	14 (5.7)	8 (8.2)	33 (4.3)	0.025
Drug dependence	7 (1.7)	9 (3.6)	8 (8.2)	24 (3.2)	0.004

Note: MDD = major depressive disorder.
*Not mutually exclusive.
†Includes 19 with dysthymia alone because of the small size of this group and the strong association between MDD and dysthymia.

of the time, and 40.0% (38/95) indicated they had pain that limited activities; the corresponding figures for those without depression were 15.5% (64/414) and 22.2% (90/406) ($p < 0.001$). Significantly higher proportions of parents with double depression than without depression indicated that they had mental health conditions (25.3% [24/95] v. 6.5% [27/414]), took medication for their mood (46.3% [44/95] v. 22.4% [81/361]) and took medication for sleep (29.5% [28/95] v. 9.1% [33/361]) ($p < 0.001$). The type and dosage of medicine and compliance with therapy were not assessed.

Parents with depression had lower scores on the 7 domains of the Social Adjustment Scale than those without depression (mean cutoff score ≥ 2.0) ($F = 13.9$ to 85.9, $p < 0.001$) and used less effective patterns of coping, such as avoidance and emotional discharge ($F = 31.3$ to 59.1, $p < 0.001$).

Of the 1203 children in the sample, 180 (15.0%) were aged 15 months or less, 157 (13.1%) were aged 16 to 35 months, 81 (6.7%) were aged 36 to 47 months, and 785 (65.3%) were aged 4 to 16 years. Of the 785 children aged 4 to 16 years, 121 (15.4%) displayed some type of childhood behaviour disorder; of the 418 children aged 47 months or less, 135 (32.3%) showed evidence of childhood developmental delay.

For children aged 36 to 47 months, parents with depression were 1.98 times more likely than those without depression to have children with developmental delay (Table 2). For children aged 16 to 35 months, parents with depression were 1.27 times more likely to have offspring with developmental delay than parents without depression. The association between parental depression and developmental delay among children aged 15 months or less was not statistically significant.

The prevalence rate of any childhood behaviour disorder among children aged 4 to 16 years was 8.4% for families without a depressed parent, as compared with 22.1% for families with a depressed parent (Table 3). Significantly higher rates of child conduct disorder and emotional childhood disorder were also reported by parents with a depressive disorder than by parents without depression.

Table 4 shows the mean annual per-person direct expenditures for health care for the participants and their children. Because of the nonhomogeneity of variance, we performed parametric analyses of variance and the Kruskall–Wallis nonparametric test of differences between groups. Significant differences were found with both tests. There was a statistically significant gradient effect for expenditures for ambulatory services, parents with no depression having the lowest expenditures, those with major depressive disorder alone having the next highest expenditures, and those with double depression having the highest expenditures. Although this was not true for expenditures for hospital services, the double depression group had higher expenditures, almost double those for the 2 other groups. Children of depressed parents also had higher expenditures for ambulatory and hospital services than children of nondepressed parents. This may have been related to the higher prevalence of behaviour problems among the former.

Interpretation

Although 10.7% of Canadian families[62] and 18.7% of families in Ontario[63] are headed by single mothers, this group accounted for 30% to 40% of the local social assistance caseload in our study. Our 12-month prevalence rate of depressive disorder among sole-support parents receiving social assistance, 45.4%, compares with a rate of 10% observed among single mothers in Ontario and 5% among Ontario mothers in 2-parent families.[63,64] Over

Table 2: Relation between parental depression and developmental delay in children under 4 years of age

Child's age; parental depression	Developmental delay; no. (and %) of children		Relative risk	95% CI
	Yes	No		
≤ 15 mo*				
Yes (n = 73)	7 (9.6)	66 (90.4)	1.28	0.49–3.38
No (n = 107)	8 (7.5)	99 (92.5)		
16–35 mo†				
Yes (n = 57)	48 (84.2)	9 (15.8)	1.27	1.06–1.52
No (n =100)	67 (67.0)	33 (33.0)		
36–47 mo‡				
Yes (n = 34)	23 (67.6)	11 (32.4)	1.98	1.25–3.15
No (n = 47)	16 (34.0)	31 (66.0)		

Note: CI = confidence interval.
*Assessed with the Minnesota Infant Development Inventory.
†Assessed with the Minnesota Early Child Development Inventory.
‡Assessed with the Minnesota Preschool Development Inventory.

one-quarter of the depressed parents in our study had major depressive disorder with dysthymia (double depression). The parents with double depression, who accounted for 12.9% of the study population, consumed 12.0% of the general income maintenance budget for sole-support parents. They were older than those without depression and had older children, poorer social adjustment and less effective patterns of coping than parents without depression. Given the generally weak relations between measures of coping and social adjustment, we conclude that these are distinct dimensions in one's life. Consequently, an intervention in one area will not necessarily correct the other areas. A multifaceted comprehensive program of health and social care may be required for some sole-support parents.

According to parental report, 15.4% of the children aged 4 to 16 years in our study had some type of behaviour problem. A higher proportion of children of de-

Table 3: Relation between parental depression and childhood disorder in children aged 4 to 16 years

Parental depression*	No. (and (%) of children		Relative risk	95% CI
	Any childhood behaviour disorder			
	Yes	No		
Yes (n = 402)	89 (22.1)	313 (77.9)	2.65	1.81–3.87
No (n = 383)	32 (8.4)	351 (91.6)		
	Emotional childhood disorder			
	Yes	No		
Yes (n = 370)	58 (15.7)	312 (84.3)	2.76	1.70–4.50
No (n = 353)	20 (5.7)	333 (94.3)		
	Child conduct disorder			
	Yes	No		
Yes (n = 378)	30 (7.9)	348 (92.1)	2.02	1.09–3.74
No (n = 355)	14 (3.9)	342 (96.1)		
	Child hyperactivity			
	Yes	No		
Yes (n = 378)	37 (9.8)	341 (90.2)	1.65	0.98–2.76
No (n = 353)	21 (5.9)	332 (94.0)		

*The numbers of children in parentheses do not total 785 for emotional disorder, conduct disorder or hyperactivity because of missing information.

Table 4: Mean annual per-person direct expenditures for health care,* by parental depression status

Group; type of service	Parental depression status; expenditure, $				$F_{2,757}$ or Kruskal–Wallis statistic	p value
	No depressive disorder	MDD alone	MDD and dysthymia	Total		
Parents						
Ambulatory services						
Mean	1277	1900	3012	1703	20.6†	< 0.001
SD	1946	2728	3573	2538		
Hospital services						
Mean	2124	2705	4728	2649	11.0†	< 0.001
SD	4144	4018	8713	5001		
Children						
Ambulatory services						
Mean	1364	1644	2080	1547	23.4‡	< 0.001
SD	2825	3098	3238	2977		
Hospital services						
Mean	1740	2473	2358	2058	17.0‡	< 0.001
SD	3247	5724	3365	4237		

Note: SD = standard deviation.
*See Methods.
†F value.
‡Kruskal–Wallis statistic.

pressed parents than children of nondepressed parents had behaviour problems, and mean direct expenditures for ambulatory and hospital services were higher for the former group. It is conceivable that depressed parents may rate their children as having more difficulties than nondepressed parents. Also, given the design of our study, the direction of this association can be questioned. Specifically, developmental delay and behaviour problems in children may contribute to parental depression.

We conclude that a sizeable proportion of sole-support parents (who are primarily women) and children receiving social assistance are living their lives with few problems. However, given the nature of depression, particularly double depression, current strategies such as employment retraining in the absence of proactive health care may be of little value for those who are depressed. Certainly, any interventions for parents with depressive disorder will be of little value to them or their children unless the depression is treated. The role of the primary care clinician in adequately treating depression should be emphasized. Although 46.3% of the parents with double depression in our study were receiving medication for their mood, they still were depressed.

Our study does not answer the debate regarding which comes first, poverty or depression. However, from the clinician's perspective, the debate is irrelevant. What is clear is that a sizeable group of sole-support parents show adequate to superior mental health, coping and social adjustment and have few children with problems. On the other hand, approximately half of these families have co-existing disadvantages. Any initiative targeting this latter population must address the mix of their health and social circumstances, including depressive conditions, which can perpetuate reliance on piecemeal health care and social assistance services. A comprehensive and proactive multi-sectoral effort to meet all the needs of all the beneficiaries of social assistance is required.

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