

Racial discrimination and depression among on-reserve First Nations people in rural Saskatchewan

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ABSTRACT

OBJECTIVES: To determine among rural-dwelling on-reserve Saskatchewan First Nations people whether racial discrimination is associated with depression, and in turn, if this relationship is moderated by gender.

METHODS: As a component of a community-based participatory research project, a cross-sectional, interviewer-administered survey of 874 adults living on 2 Cree First Nation reserves in rural north-central Saskatchewan was conducted during May–August in 2012 and 2013. Self-reported, health-provider diagnosis of depression was the dependent variable and experiences of interpersonal racial discrimination was the primary exposure. Chi-square and multiple logistic regression were the main analytic techniques. Generalized estimating equations were applied to account for clustering within households.

RESULTS: Overall, 64% of participants reported being treated unfairly in 1 or more situations because of their ethnicity; 38% indicated discrimination occurring in 3 or more situations. Nineteen percent reported a diagnosis of depression. Adjusted analyses indicated that compared to those with no experience of racial discrimination, those reporting 1–2 and 3 or more situations were 1.77 times (95% CI: 1.06–2.95) and 1.91 times (95% CI: 1.19–3.04) more likely to have diagnosed depression respectively. The relationship between racial discrimination and depression was not modified by gender, although women were 1.85 times (95% CI: 1.24–2.76) more likely to report depression than men.

CONCLUSION: Interpersonal racial discrimination was associated with depression among First Nations women and men in rural Saskatchewan. Research directed at identifying the most efficacious interventions, programs and policies to combat racism is required to advance the goal of health equity.

KEY WORDS: Racial discrimination; First Nations; depression

La traduction du résumé se trouve à la fin de l'article.

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Racial discrimination is increasingly recognized within the population health literature as an important determinant of health inequities. Different levels of racial discrimination exist, ranging from structural to interpersonal, the latter referring to racially motivated inequitable treatment of one person by another.¹ Interpersonal racial discrimination is a psychosocial stressor that can result in unfavourable psychological and physiological sequelae for targeted groups.² Numerous studies, many about the experiences of African Americans, have documented associations between interpersonal discriminatory exposures and poorer mental health, including depression.³ Few studies have examined such relationships among Indigenous peoples, although a small but growing body of work has reported associations between racial discrimination and compromised mental health in Indigenous adults in the United States,^{4,5} New Zealand⁶ and Australia.⁷ In Canada, quantitative research examining the mental health effects of racial discrimination among Indigenous peoples is sparse⁸ and largely restricted to urban samples.^{9–11} Limited research has examined the relationship between interpersonal racism and depression among rural-dwelling, First Nations adults living on-reserve in Canada. Also lacking is an understanding of how gender and racial discrimination may intersect to impact mental health; that is,

exposure to sexism may act as an additional psychosocial stressor for First Nations women,¹² translating into an even greater risk of compromised mental health compared to First Nations men. Indigenous women's mental health has received inadequate research attention in Canada.¹³

To address these gaps, the objectives of the current study were to determine among rural-dwelling on-reserve Saskatchewan First

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Nations people whether racial discrimination is associated with depression, and in turn, if this relationship is moderated by gender.

METHODS

The current study used cross-sectional data collected in 2012–2013 as part of the Saskatchewan First Nations Lung Health Project (FNLHP), a community-based participatory study examining the determinants of respiratory health in two rural Cree First Nations communities situated in north-central Saskatchewan. A detailed description of study methods is provided elsewhere.¹⁴ In brief, the nature and scope of the FNLHP evolved through multiple discussions and consultation sessions with communities. A Decision Makers Council comprised of band councillors, elders and youth was formed to monitor the project. In developing the study questionnaires, feedback was first obtained from community advisors (Elders and health services directors/staff) of the participating communities, and a pilot study was conducted. Trained research assistants who were local students residing in each community went door-to-door to explain the purpose of the FNLHP and invite every adult to visit the health care centre in their respective communities to complete interviewer-administered questionnaires. The study was approved by the Biomedical Research Ethics Board of the University of Saskatchewan and written consent was obtained from all participants. The work adhered to all guidelines of the Government of Canada, Tri-Council Policy Statement 2 – Chapter 9 - *Research Involving the First Nations, Inuit and Métis Peoples of Canada*.

Measures

Depression, the dependent variable, was measured dichotomously (yes, no) by the question “Has a doctor or primary care giver ever said you have ... depression?” Self-reported, health professional-diagnosed depression has been shown to be a suitable proxy measure for diagnosis of depression based on clinical interview.^{15,16}

The primary exposure was interpersonal racial discrimination, measured by the 9-item Experiences of Discrimination (EOD) scale.¹⁷ Participants were asked “Have you ever experienced discrimination or racism, been prevented from doing something, or been hassled or made to feel inferior (badly) in any of the following situations because of your race, cultural group or color?” (at school, getting hired or getting a job, at work, getting housing, getting medical care, getting service in a store or restaurant, getting credit bank loans or mortgages, on the street or public setting, from the police or the courts). Affirmative responses were summed and categorized into 3 groups: 1) no situations; 2) 1–2 situations; 3) 3 or more situations.¹⁷ Cronbach’s alpha calculated for this study was 0.87. Considerable evidence exists for the validity and reliability of the EOD.¹⁸ In the current study, piloting of the scale also suggested that the EOD items resonated with community members.

In addition to age (measured continuously), potential socio-economic confounders included educational attainment (less than high school, high school graduate) and financial strain (yes, no), the latter based on participants’ response to the question “In the past 12 months, did you ever struggle to meet basic living requirements (i.e., food, housing, power, heating, water, clothing, etc.)?” Current occupation was measured with three categories: employed/student, unemployed, and other (retired, homemaker, disabled on employment insurance). Participants were also asked

whether their residence was in need of repairs (major, minor, and regular maintenance). Given previous research linking the presence of physical morbidity with depression,¹⁹ also included as a covariate was the number of chronic conditions. This was a derived variable based on participants’ response (yes/no) to the question of whether they had ever been diagnosed with the following conditions: diabetes, heart problems, stroke, cancer, chronic bronchitis, chronic obstructive pulmonary disease (COPD), emphysema, sleep apnea, and tuberculosis. Inspection of the distribution of the variable in continuous form indicated that it was highly skewed, resulting in the decision to categorize participants’ responses into one of three groups: none, 1 condition, 2 or more conditions.

Analysis

Chi-square and multiple logistic regression were the main analytic techniques. To account for within-subject dependencies that occur due to clustering within households, a generalized estimating equation was applied in both bivariate and multivariable analyses. The multivariable analyses consisted of two steps, with the first model simultaneously entering the exposure variable and covariates, and the second model entering two-way multiplicative interaction terms between gender and each independent variable. Statistical analyses were conducted using SPSS version 21 (IBM Corporation, Armonk, New York, USA).

RESULTS

Of the 1570 eligible adults (18 years of age and older) and 580 eligible households in the two First Nations communities, 874 (55.7%) individuals living in 406 (70%) households participated in the survey.

Table 1 shows the distribution of study variables for the total sample and by gender. The average age of participants was 35.2 years. Overall, 64% of participants reported being treated unfairly in 1 or more situations because of their ethnicity; 38% indicated discrimination occurring in 3 or more situations. One half of respondents indicated having a high school education or greater, 47% indicated being unemployed, 47.2% experienced financial hardship in the last year and 42.7% said their housing was in need of major repairs. Just over 35% of respondents reported at least one chronic condition and 19.4% had received a diagnosis of depression. No gender differences were reported for age, needed housing repairs, number of chronic conditions, and interpersonal discrimination. A greater proportion of men than women indicated being employed/student and having a less than grade 12 education. A higher percentage of women than men reported financial strain and a diagnosis of depression.

Table 2 displays unadjusted associations between depression and each of the study variables. The odds of a depression diagnosis were 1.79 times greater in women than men. Significantly elevated odds of depression were also reported for participants with housing in need of major repair (compared to regular maintenance) and for those with 2 or more chronic health conditions (compared to none). Participants who reported 3 or more instances of racism were more likely to report depression than those who reported no such occurrences. None of the remaining variables were significantly related to depression.

Table 1. Distribution (N, %) of study variables for total sample (n = 874) and by gender (men = 431; women = 443)*

Characteristics	Total sample	Women	Men	p-value
Age (years), mean ± SD	35.22 ± 14.39	35.05 ± 14.42	34.37 ± 14.32	0.084
Housing in need of repairs				
Yes, major repairs	345 (42.3)	186 (44.0)	159 (40.6)	0.58
Yes, minor repairs	232 (28.5)	119 (28.1)	113 (28.8)	
No, regular maintenance	238 (29.2)	118 (27.9)	120 (30.6)	
Employment				
Employed/student	301 (34.7)	121 (27.6)	180 (42.1)	<0.0001
Unemployed	410 (47.3)	198 (45.1)	212 (49.5)	
Other	156 (18.0)	120 (27.3)	36 (8.4)	
Educational attainment				
High school or greater	441 (50.6)	248 (56.2)	193 (44.9)	0.001
Less than high school	430 (49.4)	193 (43.8)	237 (55.1)	
Financial hardship				
No	460 (53.0)	218 (49.5)	242 (56.5)	0.039
Yes	408 (47.0)	222 (50.5)	186 (43.5)	
Chronic conditions				
None	585 (66.9)	286 (64.6)	299 (69.4)	0.306
1 condition	193 (22.1)	106 (23.9)	87 (20.2)	
2 or more conditions	96 (11.0)	51 (11.5)	45 (10.4)	
Racial discrimination				
No situations	305 (35.8)	159 (36.8)	146 (34.7)	0.590
1 or 2 situations	224 (26.2)	107 (24.8)	117 (27.8)	
3 or more situations	324 (38.0)	166 (38.4)	158 (37.5)	
Depression diagnosis				
No	668 (80.6)	324 (76.2)	344 (85.1)	0.001
Yes	161 (19.4)	101 (23.8)	60 (14.9)	

* Due to missing values of variables, frequency may not add up to totals.

Table 2. Unadjusted odds ratios and 95% confidence intervals for associations between study variables and depression (n = 874)

Characteristics	Odds ratio (95% CI)
Age (years)	1.01 (1.00–1.02)
Gender	
Men	1.00
Women	1.79 (1.26–2.55)**
Housing in need of repairs	
No, regular maintenance	1.00
Yes, minor repairs	1.50 (0.91–2.45)
Yes, major repairs	1.68 (1.07–2.64)*
Employment	
Employed/student	1.00
Unemployed	1.45 (0.97–2.16)
Other	1.37 (0.56–1.13)
Educational attainment	
High school or greater	1.00
Less than high school	0.80 (0.56–1.13)
Financial hardship	
No	1.00
Yes	1.08 (0.76–1.53)
Chronic conditions	
None	1.00
1 condition	1.48 (0.97–2.26)
2 or more conditions	3.38 (2.09–5.46)**
Racial discrimination	
No situations	1.00
1 or 2 situations	1.53 (0.96–2.00)
3 or more situations	1.76 (1.16–2.69)**

* p < 0.05; ** p < 0.01.

The results of the multiple logistic regression are shown in Table 3. Gender did not significantly moderate any of the exposures and therefore only model 1 results are presented, with all variables entered simultaneously (without interaction

Table 3. Odds ratios and 95% confidence intervals for the association between racial discrimination and depression, adjusting for covariates (n = 874)

Characteristics	Odds ratio (95% CI)
Age (years)	0.99 (0.98–1.01)
Gender	
Men	1.00
Women	1.85 (1.24–2.76)**
Housing in need of repairs	
No, regular maintenance	1.00
Yes, minor repairs	1.44 (0.89–2.34)
Yes, major repairs	1.46 (0.88–2.44)
Employment	
Employed/student	1.00
Unemployed	1.42 (0.91–2.21)
Other	1.13 (0.64–2.01)
Educational attainment	
High school or greater	1.00
Less than high school	0.80 (0.55–1.18)
Financial hardship	
No	1.00
Yes	0.84 (0.57–1.23)
Chronic conditions	
None	1.00
1 condition	1.31 (0.80–2.14)
2 or more conditions	3.63 (2.04–6.47)**
Racial discrimination	
No situations	1.00
1 or 2 situations	1.77 (1.06–2.95)*
3 or more situations	1.91 (1.20–3.04)**

* p < 0.05; ** p < 0.01.

terms). Women were more likely to report depression than men (OR = 1.85; 95% CI: 1.24–2.76), as were those with 2 or more chronic conditions compared to participants reporting none (OR = 3.63; 95% CI: 2.04–6.47). Compared to those with

no experience of racial discrimination, participants who experienced 1–2 and 3 or more situations were 1.77 times (95% CI: 1.06–2.95) and 1.91 times (95% CI: 1.20–3.04) more likely to have been diagnosed with depression respectively.

DISCUSSION

The main finding of this study was that exposure to interpersonal racism among rural-dwelling, on-reserve First Nations women and men in Saskatchewan was associated with an increased odds of depression in a dose-response manner, after adjusting for potential confounders.

The current study adds to the growing body of research documenting a relationship between exposure to interpersonal racially-based discriminatory experiences and compromised mental health among Indigenous peoples.^{4,5} Our findings are consistent with recent Canadian work linking racial discrimination in primarily urban-dwelling samples of Indigenous people to an increased risk of depressive symptomatology^{10,11} and post-traumatic stress disorder symptomatology.⁹ Recent research in rural settings has reported an association between racial discrimination and greater life stress among Kettle and Stony Point First Nation adults in Ontario²⁰ and with depressive symptoms in a combined sample of Indigenous adolescents from Canada and the US.²¹

The association between interpersonal racial discrimination and depression observed in this study was not moderated by gender. Although rarely investigated, research with other marginalized groups has produced mixed results, with some work suggesting a greater impact of racism on mental health for women^{22,23} or no difference by gender.³ Women in our study, however, were 1.85 times more likely than men to report a diagnosis of depression. Research in general population samples of Canadians have similarly reported the prevalence of depression and psychological distress to be greater among women than men.^{24,25} Indigenous women's mental health has received inadequate research attention in Canada, although some very limited research suggests similar gendered patterns among First Nations people living on-reserve.^{26,27} The relationship between gender, depression and related symptomatology is likely a result of a complex interplay of social, economic, psychological and biological factors, including gender-role-related differences in help-seeking behaviour and expressions of distress.²⁸ Indigenous women's social and economic disadvantage relative to Indigenous men has been recognized and causally linked to the denigration of gender-egalitarian Indigenous culture following colonization.¹²

Physical health disparities between Indigenous and non-Indigenous people in Canada have been well documented²⁹ and some research suggests the same may hold true for depression and psychological distress.^{13,24,26,30} A Canadian study showed that health status differences between Indigenous people living off-reserve and non-Indigenous people, although lessened, remain after adjustment for differences in socio-economic circumstances, access to health services and health behaviours, leading the authors to suggest that unmeasured "... factors of racism and social exclusion may play an important role in generating and maintaining health inequalities".³¹ Although not yet studied in Canada, research from New Zealand³² and Australia⁶ reported that, after accounting for socio-economic factors, adjustment for interpersonal

discrimination further attenuated disparities in mental health between Indigenous and non-Indigenous people.

Increasing evidence of the deleterious health effects of discrimination among Indigenous people in Canada⁸ points to a need for interventions that prevent or at least minimize the impact of such exposures. Regarding the latter, considerable research has focused on elucidating personal resources, such as a strong identification with one's culture, which may be protective in the face of racial discrimination. However, results have been mixed,^{5,7,10,33} likely due, in part, to limitations in measurement; ethnic identity is a complex construct¹⁰ and the psychometrically non-validated, single-item measures often used in quantitative research with Indigenous people (e.g., knowledge of traditional language) may serve as poor proxies. Alternatively, there is increasing consensus that reducing health inequities also requires addressing the behaviour and belief systems of non-Indigenous people.^{34–36} At the root of discriminatory behaviours, whether at the institutional or interpersonal level, are beliefs of ethnic superiority which ultimately serve to benefit the dominant group – economically, politically, socially, and ultimately, in terms of individual and population health.¹

There are a number of strengths to this study, including its participatory methodology and community partnerships, a moderate response rate, statistical control of key confounders, the use of a psychometrically sound measure of interpersonal discrimination, and its attention to gender. Limitations were also present. Misclassification was likely introduced by this study's focus on *perceived interpersonal* discrimination, meaning that only discriminatory behaviours apparent to the individual and at the interpersonal level were assessed, likely resulting in an underestimation of our primary exposure. Additional measurement limitations included our use of a self-reported, single-item measure of depression and our application of a Westernized ethnocentric conceptualization of depression.³⁷ The cross-sectional design prevents us from making causal inferences, which may be further exacerbated by our simultaneous use of lifetime prevalence of depression and lifetime exposure to racism. Recall bias is also a possibility, as the presence of depression may increase the likelihood of appraising social interactions more negatively.² However, longitudinal research with other oppressed groups suggests that experiences of discrimination are more likely to precede the development of mental health problems rather than the reverse.³⁸ In addition, the dose-response relationship observed in this study provides potential evidence of causality, as does the theoretical plausibility and consistency of our findings with other research. Finally, our response rate may have introduced some degree of selection bias which may impact estimates of prevalence, but this is of less concern with regard to the main focus of this investigation, estimating the association between racial discrimination and depression.³⁹

CONCLUSION

Interpersonal racial discrimination was associated with depression among First Nations women and men in rural Saskatchewan. Research directed at identifying the most efficacious interventions, programs and policies to combat racism is required to advance the goal of health equity.

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RÉSUMÉ

OBJECTIFS : Déterminer, chez les membres des Premières Nations de la Saskatchewan vivant dans des réserves en zone rurale, si la discrimination raciale est associée à la dépression et si, en retour, cette relation est modulée par le sexe.

MÉTHODE : Dans le cadre d’un projet de recherche participative communautaire, nous avons mené une enquête transversale administrée par un intervieweur auprès de 874 adultes vivant dans deux réserves de la Première Nation crie dans le centre-nord rural de la Saskatchewan entre mai et août en 2012 et en 2013. La variable dépendante était un diagnostic de dépression autodéclaré posé par un dispensateur de soins de santé, et l’exposition directe était l’expérience de la discrimination raciale interpersonnelle. Nos principales techniques étaient l’analyse du khi-carré

et l'analyse de régression logistique multiple. Nous avons appliqué des équations d'estimation généralisées pour tenir compte des regroupements au sein des ménages.

RÉSULTATS : Dans l'ensemble, 64 % des participants ont déclaré avoir été traités injustement dans une situation ou plus en raison de leur ethnicité; 38 % ont fait état de discrimination dans trois situations ou plus. Dix-neuf p. cent ont dit avoir un diagnostic de dépression. Les analyses ajustées ont indiqué que comparativement aux répondants n'ayant aucune expérience de discrimination raciale, ceux qui ont déclaré une ou deux situations et trois situations ou plus étaient 1,77 fois (IC de 95 % : 1,06–2,95) et 1,91 fois (IC de 95 % : 1,19–3,04) plus susceptibles d'avoir un diagnostic de

dépression, respectivement. La relation entre la discrimination raciale et la dépression n'était pas modulée par le sexe, mais les femmes étaient 1,85 fois (IC de 95 % : 1,24–2,76) plus susceptibles de déclarer un diagnostic de dépression que les hommes.

CONCLUSION : La discrimination raciale interpersonnelle était associée à la dépression chez les femmes et les hommes des Premières nations vivant en zone rurale en Saskatchewan. Pour atteindre l'objectif de l'équité en santé, il faut faire de la recherche pour déterminer quels sont les interventions, les programmes et les politiques les plus efficaces pour combattre le racisme.

MOTS CLÉS : discrimination raciale; Premières Nations; dépression

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