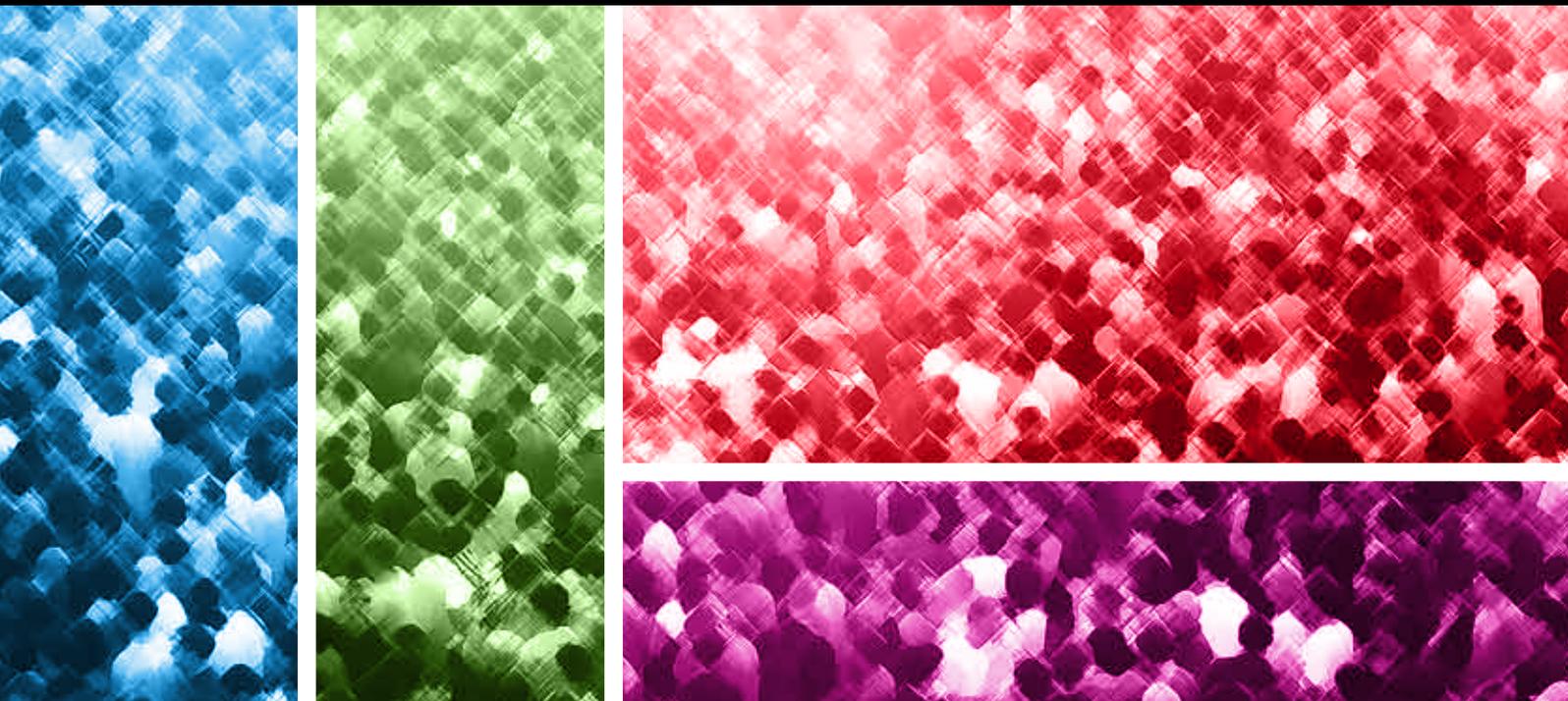


HEALTH AND WELL-BEING of IMMIGRANT CHILDREN AND YOUTH

GUEST EDITORS: CHERYLANN BASSANI, ANNE GEORGE, AND UYEN TRAN





Health and Well-Being of Immigrant Children and Youth

International Journal of Population Research

Health and Well-Being of Immigrant Children and Youth

Guest Editors: Cherylynn Bassani, Anne George,
and Uyen Tran



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Editorial

Health and Well-Being of Immigrant Children and Youth

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This special issue includes a wide spectrum of research papers: using qualitative, quantitative, and mixed methods; from a variety of countries (Australia, Canada, and the United States of America); examining a diverse array of immigrant children and their families. While some of the research follows a more “traditional” academic research approach, others are the product of program analyses. One thing, however, that all of the papers have in common is that they all focus on a marginalized immigrant group. This special issue is not only interesting, but it is encouraging to see scholars from around the world centre their attention on the health of marginalized children.

It has been a delight to edit this special issue. I thank my coeditors Dr. A. George and Dr. U. Tran for their efforts. We would like to thank the many researchers that sent in manuscripts to be included in this issue. The health and well-being of immigrant children is an important issue that needs our attention and dedication. While funding for such research tends to be limited, especially in the current global economic climate, I would encourage readers from all countries to continue on in their efforts to showcase the health disparities and related inequalities that immigrant children and their families endure. By doing this we can highlight the existing inequalities to policy makers and governments and collectively make a difference in the well-being of future generations.

Dr. U. Tran (MD) is a developmental paediatrician and researcher in Queensland, Australia. Her paper showcases the results of a pilot study that compared perceived parenting roles, child development, health service utilization, as well as child health, illness, and disability among Vietnamese immigrants in Australia versus Australian-born Caucasians. Her research makes a valuable contribution to what is known about Vietnamese immigrants’ perceptions of health

and health care practices, particularly in the Australian context since scant research can be found on the topic. Dr. U. Tran concludes that key differences between Vietnamese immigrant and Australian-born Caucasian parents were detected and that the immigrant parents were not only less familiar with health services that were available for their children, but they were also less satisfied with the mainstream services that they had utilized. These findings suggest that a better understanding of the health care needs of specific (i.e., immigrant) populations is warranted.

Dr. T. Tuma (PhD) is a researcher at the Hasbro Children’s Hospital Refugee Health Clinic in Rhode Island, USA. Together with her colleagues, Ms. L. Ratanaprasatporn, Dr. D. J. Watts (MD), and Dr. C. Lewis (MD), this team of researchers present their evaluation of the refugee “medical home”—the Hasbro Children’s Hospital’s Refugee Health Clinic that was established in 2007 to serve the health needs of refugee families in the Rhode Island area. Their evaluation illustrates truly amazing results; the medical home model has increased screening rates to 100% and increased completion of TB treatment to 100%. In addition, missed appointments dramatically declined (compared to the former nonfamily centred care). This refugee healthcare model is one that policy makers, health funders, and health authorities should take note of and consider implementing elsewhere.

Dr. J. C. Rauch (MD) and his colleagues Dr. M. McCord (MD), Ms. M. Batista and Dr. E. Anisfeld report on the influence of social background and the Healthy Families America Home Visiting program on the health of a largely Dominican immigrant population. Their research adds to what is known about the health of immigrant families and their children, but perhaps most importantly Dr. J. C. Rauch and his colleagues illustrate a delayed effect of the Home Visiting program on the families that participated in the study.

This is particularly noteworthy for program developers, funders, and other stakeholders, as funding is only typically given for short segments of time. These findings suggest that long-term investments are needed to reap maximum health benefits for families and their children.

Ms. N. Iqbal, a community development worker from Cardinia Casey Community Health Service, Dr. A. Joyce, a researcher and lecturer at Monash University in Victoria, Australia, Ms. A. Russo, a health promotion worker from Cardinia Casey Community Health Service, and Dr. J. Earnest, associate professor at Curtin University in Western Australia present an interesting piece on the resettlement experiences of female Afghan Hazara youth in Melbourne, Australia. Considering the recent surge of Afghan refugees around the world, this piece is of particular importance; not only do the authors give these girls a voice but their research also uncovers a number of issues that need further examination and have direct policy and program implications. A central finding that the authors uncover is the importance of cultural connections both within the refugee community and the broader community. The creation of social capital, and ultimately cultural capital (in dominant and subdominant groups), appears to be pivotal in understanding the girls' health and well-being.

Dr. A. George (PhD), associate professor at the University of British Columbia in the Department of Pediatrics in Prince George British Columbia, Dr. C. Bassani (PhD), researcher and lecturer at the University of the Fraser Valley in Abbotsford British Columbia, and Dr. R. Armstrong (PhD, MD), Dean of Medicine at Aga Khan University in East Africa, examine the influence of perceived racial/ethnic discrimination on the health and behaviour of ethnic minority immigrant children in Canada. Their research is especially noteworthy since few publications have linked discrimination to the health of immigrant children. They highlight the particularly negative effect that perceived discrimination against the individual and ethnic group has on a variety of child's health measures. Their research also highlights the importance of considering "immigrant" children as a heterogeneous group.

Dr. K. Soldatic from Curtin University in West Australia, Dr. H. Meekosha from the University of New South Wales, and Dr. K. Somers from Curtin University provide an intriguing analysis of Australia's exclusionary and discriminatory immigration policy through the case of "Ernesto." Through the single case method approach, the researchers explore the intersectionality of temporary migration, disability, childhood, and health. The aim of this research is political—to showcase the need for civil society groups, community groups, researchers, and teachers to heighten their voices so to challenge the Australian government's discriminatory policy on disability. It is our hope that readers will heed their recommendations.

Cherylynn Bassani

Research Article

Resilience and Its Association with Depression, Emotional and Behavioural Problems, and Mental Health Service Utilisation among Refugee Adolescents Living in South Australia

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Background. Despite the frequency of traumatic or stressful events experienced by refugee children and adolescents prior to migration and following resettlement, the majority do not experience mental health problems emphasising the critical nature of resilience. While a host of factors deemed to be protective of mental health in young refugees have been identified, there has been little research exploring the role of resilience as a distinct psychological construct. This study aimed to explore the nature of psychological resilience in refugee adolescents and the relationship between resilience and depression, other emotional and behavioural problems, and mental health service uptake. *Method.* One hundred and seventy multiethnic refugee adolescents aged 13–17 from South Australia were administered a survey comprising the Connor-Davidson Resilience Scale (CD-RISC), Children's Depression Inventory (CDI), and Strengths and Difficulties Questionnaire (SDQ). *Results.* Females tended to have higher resilience, as did those adolescents who had been living in Australia longer. Adolescents suffering from depressive symptoms or other emotional or behavioural problems had lower resilience. There was little evidence of an association between resilience scores and exposure to trauma or service utilisation. *Discussion.* Fostering resilience may be critical to efforts to prevent or reduce mental health problems in refugee adolescents.

1. Introduction

Approximately 13,750 refugees arrive in Australia each year, with children and adolescents comprising at least half of this number [1]. Current knowledge suggests that some of these young new arrivals may be at elevated risk of mental health problems associated with a range of traumatic experiences before, during, and after migration [2, 3]. For example, two Australian studies on the prevalence of psychiatric disorders in refugee children reported rates of 18% [4] and 32% [5] for any psychiatric disorder. The most commonly reported

mental health problems in refugee children are posttraumatic stress disorder and depression though studies have found widely varying rates of incidence. For instance, 18% of Iranian refugee children in Sweden, 25% of Bosnian children, and 57% of Cuban refugee children in the US were found to suffer from PTSD [6–8]. Depressive disorders, including major depression, were reported among 17% of Bosnian adolescents [8] and 12.9% Cambodian children exiled in the US ([9]; see also, [10]); while 11.5% Tibetan refugee children in India were also diagnosed as suffering from both PTSD and major depression [11]. A systematic review combining

data from five studies with 260 refugee children from Bosnia, Central America, Iran, Kurdistan, and Rwanda, and residing in Canada, Sweden, and the US, found a mean rate of 11% for PTSD [12]. A dose-effect relationship has also been indicated with increasing exposure to traumatic experiences predicting more PTSD symptoms (e.g., [6, 13]). A recent Australian study demonstrated a rate of 7.2% for depression in refugee children and adolescents [14].

Although most young refugees exposed to trauma do not develop mental health problems [15, 16], resilience and coping are largely neglected in refugee research, theory, and practice [17–19]. Resilience is broadly defined as the ability of a person to successfully adapt to or recover from stressful or traumatic experiences [20]. For example, it is a school-aged child's ability to make friends, engage in academic pursuits, be guided by primary caregivers, and engage in other behaviours acceptable in his or her society, as well as, be resistant to psychological illness, despite experiencing significant adversity (e.g., war, political oppression, poverty, and child abuse). Although initially, resilience theory focused on personal attributes such as self-esteem, self-efficacy, and hardiness [21], resilience is currently recognised as a multidimensional construct including personal characteristics and skills (e.g., active problem solving) as well as external protective factors such as a supportive family and social environment [22]. It is also conceptualised as a dynamic process that fluctuates according to age, gender, individual circumstance and developmental, historical, and cultural context ([23]; see also [20]).

Although increasing exposure to traumatic experiences has been related to higher levels of psychiatric symptoms in both young and adult refugees, a number of protective/risk factors have been found to impact on their psychological well being. For instance, increased well being and reduced psychological problems in their mothers as assessed at a clinical interview and positive peer relationships (having one or more peers to play with) predicted better well being and social adaptation in refugee children, while physiological, psychological, or developmental vulnerabilities prior to the traumatic event predicted slower recovery from posttraumatic symptoms ([24], see also [25, 26]). Long-time exposure to moderate stressors in refugee camps subsequent to the traumatising events [8] and relative young age at the time of atrocities ([27]; see also [28, 29] were related to relative low levels of posttraumatic symptoms. Other protective factors included religious beliefs and practices, which were relatively accessible and afforded a sense of continuity, comfort, and meaning in life ([30] see also [11, 31]), and psychosocial training on nonviolent communication, cooperation, and tolerance [32].

Religious beliefs and practices, supportive family, and community relationships protected against mental health problems and promoted adaptation in adolescent refugees in Australia [33]; while intergenerational conflict between parents struggling to maintain cultural values, gender roles, and traditional forms of discipline and children asserting their freedom and rights and striving to acculturate was a potential risk factor (e.g., [34, 35]). In the present study with young Australian refugees, resilience (as measured by

the CD-RISC scale; [23]) primarily encompasses personal characteristics and skills (sense of personal competence and active problem solving) but does include some protective factors such as social relationships and religious faith.

However, despite this exploration of various factors deemed to be protective of mental health, there has been no systematic attempt to explore the nature and predictors of resilience as a distinct psychological construct in young refugees in the literature to date. This may be critical as research has found that poor resilience predicted the development of psychological symptoms such as depression and anxiety [36], moderated the relationship between childhood adversity and psychiatric sequelae [37], or was a strong predictor of positive affect which in turn predicted depression and, to a lesser extent, anxiety [38]. Recent cross-sectional research with Norwegian adolescents has revealed a strong association between diminished resilience and psychological symptoms such as depression and anxiety [22, 39]. Thus, the psychological construct of resilience may be a critical element of any interventions to alleviate psychological symptomatology. However, the nature of resilience as a distinct psychological construct has yet to be explored in young refugees. This study therefore aimed to explore the nature and predictors of psychological resilience in refugee adolescents and the association between this resilience and depression, emotional, and behavioural problems and mental health service utilisation.

2. Method

2.1. Participants. Participants included 170 refugee adolescents aged 13–17 from the former Republics of Yugoslavia (Bosnia and Serbia) ($N = 35$, 20.59%), the Middle East and South Asia (Iran, Iraq and Afghanistan) ($N = 82$, 48.24%), and Northern and Western Africa (Sudan and Liberia) ($N = 53$, 31.18%) who had migrated, or whose parents had migrated, to Australia between June 1996 and June 2007. This timeframe was used because detailed settlement data only became available in 1996 and these countries were selected because they represented the top refugee source countries at the time. The languages spoken by the participants included Bosnian, Serbian (former Yugoslavia), Arabic, Persian (Middle East and South Asia), Dinka (Sudan), and English (Liberia).

As there was no complete sampling frame from which to draw a random sample, convenience and snowball sampling were used to recruit the participants. The study was widely promoted to the target communities through refugee settlement agencies, schools, community groups, and ethnic media. The data were collected by 20 trained bilingual lay interviewers from the same or similar ethnic backgrounds as participants.

2.2. Instruments. Sociodemographic variables such as age, gender, and ethnicity were assessed using a questionnaire developed by the investigators. Resilience was assessed using the Connor-Davidson Resilience Scale (CD-RISC; [23]) which was translated into the target languages by

an accredited professional translator and back-translated by an independent bilingual professional from each of the population groups. Participants were given the choice of choosing either the English or the translated version. The CD-RISC is a self-report measure comprising 25 items, with each rated on a 5-point scale as follows: 0 = not at all true, 1 = rarely true, 2 = sometimes true, 3 = often true, and 4 = true nearly all of the time. The CD-RISC yields a total resilience score from 0–100, with higher scores reflecting greater resilience.

Factor analysis has demonstrated a five-factor structure as follows: factor 1 relates to personal competence, tenacity, and high standards and is comprised of 8 items including “I believe I can achieve my goals, even if there are obstacles”; factor 2 relates to trust in one’s instincts, tolerance of negative affect, and resolve in the face of stress and is comprised of 7 items including “I prefer to take the lead in solving problems, rather than letting others make all the decisions”; factor 3 relates to acceptance of change and feelings of security in relationships and is comprised of 5 items including “I can deal with whatever comes my way”; factor 4 relates to perceived control and is comprised of 3 items including “I have a strong sense of purpose in life”; and factor 5 relates to spiritual beliefs and is comprised of 2 items including “when there are no clear solutions to my problems, sometimes fate or God can help” [23].

The CD-RISC has good internal consistency and test-retest reliability, correlates well with measures of stress and hardiness, and differentiates well between community and clinical populations [23]. Increases in resilience measured with the CD-RISC are strongly associated with clinical improvements in psychiatric patients and reflect global improvements in general functioning [23]. The CD-RISC has been used in various cross-cultural studies with population groups from China [40], Korea [41], Turkey [42], Iran [43], Pakistan [44], Russia [45], and South Africa [46]. It has also been used in adolescents from culturally diverse backgrounds [40, 45, 46].

Depressive symptomatology was assessed using the adolescent version of the Children’s Depression Inventory (CDI; [47]). This version of the CDI consist of 27 items and provides a total score along with five subscale scores corresponding with the components of negative mood, interpersonal difficulties, negative self-esteem, ineffectiveness, and anhedonia. The recommended cut-off for determining clinical depression was a total score of 20. The CDI has been used in studies comprising participants from a diverse range of cultural and linguistic backgrounds [48–51].

Other emotional and behavioural problems were measured using the Strengths and Difficulties Questionnaire (SDQ), a widely used questionnaire designed to identify the presence of emotional and behavioural difficulties in children and adolescents [52]. The validity and reliability of the SDQ has been confirmed in research with culturally diverse populations [53–55] and has been utilised in numerous studies with culturally and linguistically diverse children and adolescents [56–60]. The self-rated SDQ gives rise to a total score and 5 subscales labelled emotional symptoms, conduct problems, hyperactivity, peer problems,

and prosocial behaviour as well as an impact score. Scores are classified as normal if they fall between 0 and 15, borderline if between 16 and 19, and abnormal if between 20 and 40. Higher scores on all scales except the prosocial behaviour scale indicate greater difficulties.

The Migration and Settlement Questionnaire (MASQ; Minas & Klimidis, unpublished) covered various sociodemographic and settlement information including satisfaction with the Australian sociocultural environment, English language proficiency, and premigration rural/urban origin. Additionally, the instrument included a checklist of 24 traumatic events possibly experienced prior to migration, for example, murder of stranger or strangers, witnessing someone being badly injured or killed, and sustaining a serious injury. Responses to this 24-item checklist were used to assess “exposure to traumatic event.” Service utilisation was assessed using questions developed for the Child and Adolescent Component of the Australian National Survey of Mental Health and Wellbeing [61, 62]. These questions assess the six-month history of utilisation of various mental health or support services in schools, health and community services, outpatient hospital-based services, and various other formal service settings. The Survey was completed by the adolescents and one of their parents.

The CDI, SDQ, MASQ and the Australian National Survey were also translated in the Serbian, Bosnian, Arabic, Persian, and Dinka languages using a similar procedure to that followed in translating the CD-RISC (aforementioned).

2.3. Statistical Analysis. Intercooled Stata 10.1 for Windows was used to perform data analysis. Descriptive statistics were used to describe the demographic features of the study populations and their resilience scores. As the total scores and factor scores were significantly skewed, nonparametric tests including Spearman’s rho and the Kruskal-Wallis test were employed to test associations and differences between sociodemographic variables and resilience scores.

2.4. Ethical Considerations. This study was approved by the ethics committees of the University of South Australia, the Women’s and Children’s Hospital, and the South Australian Department of Education and Children’s Services.

3. Results

The total sample comprised 170 adolescents, 86 (50.6%) of whom were male. The median age of the sample was 15.56 years (Range 12.25 to 18.16, $N = 166$). The total resilience scores ranged from 0 to 98, with a median total score of 65.5 (IQR = 28 (77–49)). Total and factor subscale scores were analysed with respect to a number of social, demographic, psychological, and behavioural factors as illustrated in Table 1. Females were found to have significantly higher resilience for total ($\chi^2 = 14.37, P < 0.001$) factor 1 ($\chi^2 = 13.62, P < 0.001$), factor 2 ($\chi^2 = 9.20, P = 0.002$), factor 3 ($\chi^2 = 7.85, P = 0.005$), and factor 4 ($\chi^2 = 16.85, P < 0.001$) scores, and also exhibited a strong trend towards higher factor 5 ($\chi^2 = 3.80, P = 0.051$) scores. No significant correlation was found

TABLE 1: Sociodemographic correlates of, and group differences in, CD-RISC total and factor scores.

Variable	Group	Total resilience		Factor 1		Factor 2		Factor 3		Factor 4		Factor 5							
		Median	n	P	Median	n	P	Median	n	P	Median	n	P	Median	n	P			
Age	12-14	66.5	64	0.321	24	64	0.116	14	64	0.808	14	64	0.595	9	64	0.051	5	64	0.627
	15-16	68	66		24	66		14	66		14	66		9	66		6	66	
	17-18	57.5	36		20	36		15.5	36		13	36		7	36		6	36	
Gender	Male	58	86	<0.001	20	86	<0.001	13	86	0.002	12	86	0.005	7.5	86	<0.001	5	86	0.051
	Female	70	84		25	84		16	84		14	84		9	84		6	84	
Migration region	Africa	60	53	0.192	21	53	0.189	13	53	0.070	12	53	0.002	8	53	0.934	6	53	0.048
	Former Yugoslavia	69	35		24	35		17	35		15	35		9	35		5	35	
	Middle East	67	82		23	82		13.5	82		13	82		9	82		6	82	
Years since arrival	<5	59	84	<0.001	20	84	0.002	13	84	<0.001	11.5	84	<0.001	8	84	0.041	6	84	0.477
	≥5	71	82		25	82		17	82		15	82		9	82		5	82	
Exposed to trauma	Yes	60	59	0.166	21	59	0.259	14	59	0.172	12	59	0.026	8	59	0.300	6	59	0.415
	No	68	98		24	98		15	98		14	98		9	98		6	98	
Help sought (self-report)	Yes	52	13	0.076	18	13	0.088	11	13	0.016	12	13	0.178	8	13	0.317	5	13	0.493
	No	65	145		23	145		14	145		14	145		9	145		6	145	
Help sought (parent report)	Yes	54.5	10	0.060	19	10	0.100	11.5	10	0.072	9.5	10	0.012	8	10	0.129	6.5	10	0.381
	No	68	118		23.5	118		15	118		14	118		9	118		6	118	
CDI category	Nondepressed	68	138	0.010															
	Depressed	48	8																
SDQ category	Normal	68	153	0.004															
	Borderline	49	10																
	Abnormal	44	7																

Note. Results reaching statistical significance at an alpha level of $P < 0.05$ appear in boldface. Maximum $N = 170$ participants with no missing data on the CD-RISC. Further missing data in some of the sociodemographic correlates resulted in some N 's being less than 170.

between age and resilience for total ($r_s = -0.07, P = 0.41$), factor 1 ($r_s = -0.12, P = 0.11$), factor 2 ($r_s = 0.04, P = 0.64$), factor 3 ($r_s = -0.09, P = 0.26$), factor 4 ($r_s = -0.11, P = 0.15$), or factor 5 ($r_s = 0.001, P = 0.99$) scores.

No significant difference was found between migration regions with regards to total ($\chi^2 = 3.30, P = 0.19$), factor 1 ($\chi^2 = 3.33, P = 0.19$), factor 2 ($\chi^2 = 5.33, P = 0.07$), or factor 4 ($\chi^2 = 0.14, P = 0.93$) scores, but there was a significant difference for factor 3 ($\chi^2 = 12.24, P = 0.002$) scores, with former Yugoslavians scoring the highest (median = 15), followed by Middle Easterners (median = 13) and Africans (median = 12). A significant difference was also found for factor 5 scores ($\chi^2 = 6.09, P = 0.047$), with Middle Easterners scoring the highest (median = 6), followed by Africans (median = 6) and former Yugoslavians (median = 5). A significant positive correlation was found between length of time in Australia and total ($r_s = 0.25, P = 0.001$), factor 1 ($r_s = 0.22, P = 0.004$), factor 2 ($r_s = 0.28, P < 0.001$), and factor 3 ($r_s = 0.32, P < 0.001$) scores but not factor 4 ($r_s = 0.15, P = 0.06$) or factor 5 ($r_s = -0.11, P = 0.14$) scores. Adolescents within the first five years of resettlement had significantly lower resilience scores than those who had been in Australia for five years or longer on total scale ($\chi^2 = 12.29, P < 0.001$), factor 1 ($\chi^2 = 9.87, P = 0.002$), factor 2 ($\chi^2 = 14.49, P < 0.001$), factor 3 ($\chi^2 = 16.59, P < 0.001$), and factor 4 ($\chi^2 = 4.19, P = 0.04$), but not factor 5 ($\chi^2 = 0.51, P = 0.48$) scores.

While no difference was found between adolescents exposed to trauma and those not exposed on total ($\chi^2 = 1.92, P = 0.17$), factor 1 ($\chi^2 = 1.27, P = 0.26$), factor 2 ($\chi^2 = 1.86, P = 0.17$), factor 4 ($\chi^2 = 1.12, P = 0.29$), or factor 5 ($\chi^2 = 0.66, P = 0.42$) scores, those exposed to trauma had significantly lower factor 3 ($\chi^2 = 4.97, P = 0.03$) scores. No significant correlation was observed between the number of traumatic events experienced and resilience scores for the total subscale ($r_s = 0.04, P = 0.74$), factor 1 ($r_s = 0.11, P = 0.40$), factor 2 ($r_s = -0.02, P = 0.90$), factor 3 ($r_s = 0.19, P = 0.14$), factor 4 ($r_s = 0.13, P = 0.34$), or factor 5 ($r_s = 0.19, P = 0.15$).

Total resilience scores were significantly negatively correlated with total CDI ($r_s = -0.37, P < 0.001$) and total SDQ ($r_s = -0.39, P < 0.001$) scores. Adolescents in the “depressed” diagnostic category of the CDI had lower total resilience scores (median = 48) than those who were not depressed (median = 68) ($\chi^2 = 6.70, P = 0.01$). Similarly, adolescents in the “borderline” (median = 49) and “abnormal” (median = 44) diagnostic categories of the SDQ had lower resilience scores than those in the “normal” (median = 68) category ($\chi^2 = 10.89, P = 0.004$). Adolescents who sought mental health care had significantly lower factor 2 ($\chi^2 = 5.79, P = 0.02$) scores (median = 11 versus median = 14), and also exhibited a trend towards lower total ($\chi^2 = 3.15, P = 0.08$) (median = 52 versus 65) and factor 1 ($\chi^2 = 2.90, P = 0.09$) (median = 18 versus 23) scores. No observable difference was found with respect to factor 3 ($\chi^2 = 1.82, P = 0.18$), factor 4 ($\chi^2 = 1.00, P = 0.32$), or factor 5 ($\chi^2 = 0.47, P = 0.49$) scores.

Multiple linear regression analysis, to determine possible predictors of total CD-RISC score, was complicated by the

significant correlations existing between each of the SDQ subscales and each of the CDI subscales and also between the total CDI and total SDQ scores. At the univariable level, both the CDI and SDQ total scores as well as each of their subscale scores were significantly associated with the total CD-RISC score. All associations were negative except for a highly significant positive association of the prosocial behaviour score from the SDQ with resilience. In the multivariable model, the CD-RISC scores of females were significantly higher compared to males; the CD-RISC scores of those who had been in Australia for 5 years or more were significantly higher compared to those who had been in Australia for less than 5 years; and the prosocial behaviour score was persistently significant irrespective of other SDQ or CDI scores included in the model.

4. Discussion

Our investigation of resilience in refugee adolescents found a mean total score of 62.2 ($SD = 20.4$), which is lower than that found by Connor and Davidson [23], in the general population ($M = 80.4, SD = 12.8$), primary care patients ($M = 71.8, SD = 18.4$), and psychiatric outpatients ($M = 68.0, SD = 15.3$). This score was, however, comparable to that found in generalised anxiety disordered patients ($M = 62.4, SD = 10.7$) and higher than that found in PTSD patients ($M = 47.8, SD = 19.5$) [23]. While further research is needed to compare refugee resilience with that of matched population controls, our findings suggest refugee adolescents may have diminished resilience.

Another important finding was that adolescents who indicated higher levels of resilience had lesser depressive symptomatology and emotional/behavioural problems as assessed by the CDI and SDQ total scores, as well as scores on the CDI subscales (negative mood, interpersonal difficulties, negative self-esteem, ineffectiveness, and anhedonia) and SDQ subscales of emotional and conduct problems, and hyperactivity and peer problems except prosocial behaviour, which was positively related to resilience. This may indicate that resilience protects young refugees against the future onset of mental health and/or that mental health problems have an adverse effect on resilience and coping. Research with nonrefugee adolescents has found that higher resilience including external protective factors such as family cohesion and support from outside the family, predicted lower levels of depression, anxiety, and obsessive-compulsive symptoms [22, 39]. Though the present study is unable to conclude about the directionality of the associations found between resilience and mental health and behaviour problems, it is likely that the use of more sophisticated research designs as well as instruments that emphasise more on the family and social domains of resilience may enable future researchers to identify resilience as a predictor of mental illness in young refugees. Additionally, it appears that resilient people are also motivated to engage in prosocial behaviours or that helping others facilitates resilience. Future research can investigate the directionality of this relationship, which in turn could aid in the design of effective interventions to enhance resilience and thereby, mental well being.

A gender difference was demonstrated in total and subscale scores, with females demonstrating greater resilience across all scales. Lower resilience among male adolescents may indicate an increased risk of mental health problems, which is supported by our broader investigation which found that males scored higher on the CDI [14], while females scored higher on the prosocial behaviour subscale of the SDQ [63]. While we found no significant ethnic differences in total resilience scores, ethnic differences were found in some subscale scores, for example, former Yugoslavians reported greater resilience associated with acceptance of change and security in relationships (factor 3), while Middle Easterners and Africans reported greater resilience associated with religious beliefs (factor 5).

A relationship was also found between length of time in Australia and total resilience and subscale scores, with adolescents in the “5 years or more” group reporting higher total and factors 1, 2, 3, and 4 scores than those in the “less than 5 years” group. This may suggest that resilience increases with adaptation and acculturation to Australian society and culture and with the duration of time since experiencing premigratory traumatic events, or a combination of both. Although time since the experience of traumatic events was not specifically assessed in the present study, sociodemographic data indicate that a substantial proportion of children were not exposed to, or could not remember, experiencing traumatic events, but instead were exposed to stressors of a lower intensity during prolonged displacement and/or in Australia (see [8]). For these children at least, adaptation and acculturation to Australian society and culture appear to be associated with greater resilience. Additionally, adaptation and acculturation of their parents or primary caregivers as well as improvement in socio-economic conditions whilst in Australia (e.g., [64]) could also have impacted upon aspects of the children’s resilience.

With the exception of lower factor 3 scores among adolescents exposed to trauma, no significant relationship was found between trauma and resilience. This is supported by a study which found no relationship between childhood trauma and CD-RISC scores in substance-dependent adults [65]. Our finding suggests that exposure to trauma does not necessarily reduce overall resilience in refugee adolescents, although it may affect their ability to successfully accept change and feel secure in relationships. We found that those who self-reported seeking help from formal services, or those whose parents reported their child seeking help, had significantly lower factor 2 (tolerate negative effect and resolve in the face of stress) and factor 3 (accepting change and security in relationships) resilience scores, respectively, and exhibited a strong trend towards lower total and factor 1 (personal competence, tenacity, and high standards) scores for adolescent reports and lower total and factor 2 scores for parent reports. However, due to the low numbers of self- and parent-reported help seekers in the sample, it is likely that the failure to reach statistical significance in the analyses is the result of a type 2 error. Lower resilience among adolescents who accessed mental health care is to be expected as presumably those utilising services are in need of them due to limited resilience. This is supported by the finding

of lower resilience scores in psychiatric patients compared to community controls in Connor and Davidson’s original study [23].

5. Limitations

There are a number of limitations to the present study. Firstly, the instruments utilised in this study have not been validated in young refugees from the cultural backgrounds investigated and this limits the confidence in the validity of the findings. However, the instruments have been used in research with children and adolescents from a wide range of countries, cultures, and languages. A second limitation is the recruitment strategy of convenience and snowball sampling which may result in sampling bias and, therefore, limit the generalisability of our findings. However, the large and ethnically diverse sample obtained was comparable according to sociodemographic characteristics with the ethnic populations from which they were drawn when matched against current Australian Bureau of Statistics migration data. Thirdly, not including a control group does not allow the comparison of the results with that of nonrefugee adolescents of both mainstream and culturally diverse backgrounds.

Several limitations regarding the use of CD-RISC as the sole measure of resilience are worth noting. As aforementioned, CD-RISC indicates adequate psychometric properties, reflects the diversity of the resilience construct to some extent, and is a promising measure of resilience in normal and clinical populations [23]. Nonetheless, it does not wholly capture the heterogeneity (personal, family, and social resources; e.g., [22]) or the dynamic processes underlying the resilience construct as it is currently conceptualised. For instance, a refugee child may excel academically at school while having serious conflict at home with his or her parents; and/or the child’s resilience level may vary at different stages of development (e.g., younger versus older adolescence); these changes have not been considered. Conversely, some researchers have suggested narrowing its focus and refining the definition of resilience that it captures on the basis that some factors (e.g., spirituality) appear to be less relevant to resilience (e.g., [37]), though in the present study spiritual beliefs were more relevant to some cultural groups (e.g., the Middle Eastern and African adolescents) than to others. Additionally, CD-RISC is based on subjective self-reports of participants and hence subject to the limitations of other self-measurements (e.g., social desirability and demand characteristics). Nonvalidation through objective measures, such as biological and physiological markers or independent coding of reported behaviours by experts, is a limitation of the CD-RISC as well as the present study that has relied solely on the resilience construct captured by the instrument (e.g., [20, 23, 37]).

6. Implications

The key findings in this study were the low resilience scores found in this heterogeneous sample of young refugees

and the significant relationships demonstrated between decreased resilience and mental health and behavioural problems, though no predictions could be made regarding the direction of these associations. If the level of resilience is hypothesised to predict mental health, then young refugees who appear to be lower on resilience may be at greater risk of developing psychopathology than their counterparts in mainstream society as well as within their own communities. Future research is needed to appropriately compare the resilience of young refugees with matched population controls in order to conclusively determine if refugee adolescents' resilience is significantly diminished. If resilience predicts psychopathology in refugee adolescents as the literature with nonrefugee young people suggests, [22, 39] then targeting and enhancing resilience including its various components may be critical to interventions designed to alleviate psychological symptoms and improve psychosocial well being in young refugees. Future research could longitudinally track the progression of resilience and mental health in young refugees to determine the directionality of this relationship.

Due to the complex relationship between resilience and both sociodemographic characteristics as well as pre- and postmigration factors, any interventions will need to be targeted with sensitivity to these factors. The use of resilience measures that more fully capture not only the personal, but the family and social domains of the resilience construct, can also inform future research. This appears to be especially relevant in studies with refugee populations who mainly originate from collectivist societies where family and the community are paramount to one's well being and identity. Such research could also benefit from exploring the association between resilience and mental health service use which was hampered by the low numbers of service users in this sample but which suggests that service users tend to be lower on resilience. Finally, the present study could be extended to explore the nature of resilience in younger refugee children and examine the changes, if any, in the relationship between resilience and mental health from childhood to adolescence.

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Research Article

Finding Ernesto: Temporary Labour Migration and Disabled Children's Health

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We seek to expose the implications of Australia's exclusionary and discriminatory disability migration provisions on the health and wellbeing of disabled children who have arrived in Australia through alternative migratory routes. By undertaking an in-depth analysis of a single case study, Ernesto, we bring to the fore the key issues facing disabled immigrant children. These children, like our case study Ernesto, are only granted visas on the proviso that their parents/primary caregivers agree to cover the full costs associated with their disability, including medical care and additional expenses such as educational inclusion. The story of Ernesto reveals the extreme impact of these discriminatory policies on this population's health and wellbeing. Further, we discuss how the state's "right to exclude" people with disabilities from the migratory process negatively affects the health and wellbeing of their siblings and parents.

1. Introduction

Disabled immigrant children, including refugees, rarely receive attention in the international research. The omission of this group from the international literature is, however, not surprising given that nation states have readily implemented a range of legal measures to effectively disallow either the temporary or permanent entry of disabled people across their borders [1–3]. Australia is no exception to this long-standing international trend, and since the inception of the Immigration Restriction Act (1901), disabled people (adults and children) have been actively excluded from the Australian migration process [4]. This process of exclusion has remained unchanged despite numerous changes to both migration and disability discrimination law [5]. The Migration Act of 1957 was explicitly exempted from the passage of the Disability Discrimination Act in 1992 [6]. Any migrant to Australia, even those granted international refugee status via the United Nations High Commissioner for Refugees, must meet the Health Requirement, for which a cost-benefit assessment of a health condition, under which disability is defined for migration purposes, is factored into a visa decision. While all applicants are required to endure

this "health test" as a condition of entry, disabled people are considered to be "exceptions to the rule" where the Australian government automatically calculates and applies a maximum health cost as a means to activate its right to exclude certain potential migrants from the Australian polity [5] (see [7] for a full discussion of this point).

Over recent years, there has been a limited number of empirical studies that have directly evaluated the impact of these exclusionary policies on disabled people and their families (see [2, 4]). These studies have found that disability of one member impacts the health and wellbeing of all family members involved in the migration process. Rather than this being directly due to the health status of the disabled family member, it is largely due to the way in which disability is situated within Australian immigration policy.

The disabled child appears to be particularly disadvantaged within Australian immigration policy. In nearly all of the recent high-profile cases cited by the media, it has been the disabled child that has been rejected for permanent Australian residency on the grounds of disability [8]. As Natalier and Harris-Rimmer point out, the heightened level of disadvantage experienced by disabled children under the Australian Migration Act is due to the cost calculation

system that determines residency eligibility [9]. This can be seen as a type of “triple jeopardy” where a disabled child faces additional barriers due to the intersecting factors of disability, age and migration. The “cost of disability” calculation framework within the Australian Migration Act assesses the child’s potential costs in terms of health services and costs of other social supports across the life span of the child. Natalier and Harris-Rimmer suggest that these assumptions make the disabled child appear as an enormous economic impost upon the Australian public system given the assumed additional years of health, education and social services that are included in this assessment [9].

As a result, disabled children rarely make it through Australia’s immigration system [5]. Migrating families, particularly those from the global South, are often forced to make the extreme decision of leaving their disabled child behind to guarantee their own and other family members’ chances of migration [5]. The population of temporary migrant workers in Australia is but one category of migrant that is affected by the “health test.” As Mirza has argued elsewhere, disabled refugees are rarely considered for resettlement in countries such as Australia, despite their higher level of vulnerability when remaining in refugee camps [10]. The cost-burden argument of disability as a drain on the healthcare and social service systems reflects and further embeds prevailing negative attitudes toward disability within “mainstream” populations [11, 12]—a key reason for the Australian government in maintaining its discriminatory immigration policy, despite extensive community advocacy to have this overturned [5].

Despite this broader sociopolitical context and the resultant exclusionary migratory policies towards disability, there are some children who “make it to Australia” via alternative migratory routes. In nearly all instances, the disabled child is part of a family unit that is considered eligible for short-term entry as the parents have been given temporary migration status, commonly in the category of a skilled guest worker. As Ciupijus suggests, there are significant moral dilemmas associated with temporary labour migration systems [13]. A range of severe social inequalities exist which are maintained by such a system due to “the class subordination of immigrant groups and higher profits both for employers and the nation-states [which are] achieved by passing of labour renewal costs (accommodation, travel, training and welfare) to migrants and their families” [13]. In Australia, migrants wishing to claim the Disability Support Pension must be resident for 10 years before becoming eligible, while family members of a person with disability must be resident for two years before being able to claim the Carer Payment [5]. The ongoing perpetuation of broader sociostructural inequalities through temporary migratory labour programs has long been recognized in the international literature (see [14, 15]).

While guest worker programs are presented as a win-win situation whereby the workers, their families, the host countries, and the countries of origin all gain, there is clearly a risk in compromising human rights. In Australia the Temporary Business (Long Stay) visa, also known as a 457 visa, was introduced in 1996 with the purpose of allowing employers to sponsor workers on a short-term basis

[16]. Concerns about this visa category raised by community organizations and the Australian Congress of Trade Unions have centred around wage and salary rates, English-language skills and qualifications, and employer compliance [17]. One serious social consequence of the 457 visa system relates to disabled children of the visa holder. While primary and secondary holders may have access to health services via employer insurance policies, children who are disabled—and thus have “pre-existing medical conditions”—have no medical protection nor access to disability-related services. This appears to us to be in breach of both the UN Convention on the Rights of the Child and the UN Convention on the Rights of Persons with Disabilities. A 2008 review into the integrity of the 457 visa program recommended that workers in this category be given Medicare coverage, allowing them and their dependants access to the public health system, though the government is yet to respond to the report’s recommendations [18].

A significant body of research navigates the impact of temporary labour migration systems on the health and wellbeing of the children of such families [19, 20]; but, as Berman suggests, it still remains largely underdeveloped [21]. Despite the growing interest in the area, there is scant empirical research that seeks to elucidate the impact of temporary labour migratory systems on the health and wellbeing of children who are disabled and migrate temporarily with their families.

In this paper, we begin to fill this significant gap in the literature by critically engaging with a single-site case study of a recently arrived temporary migrant worker family in Australia. As the case study exemplifies, the intersectionality of temporary migration, age and disability results in a web of complex issues and barriers which, in turn, affects not only the health and wellbeing of the disabled child but also has repercussions onto other family members. We suggest that the analysis adds a new dimension to the field of child migrant health research and practice. We attempt to critically examine the contradictory discourses, practices, and effects of temporary migrant labour programs on the various migratory categories that intersect with disability.

Bedolla’s discussion on contemporary developments in theories of intersectionality is suggestive of the ways in which single analytical categorization acts to hide the heterogeneity of a group and the “crosscutting political effects of both marginalisation and privilege within and among groups” [22]. In the field of child migrant health research, disability is clearly a marginalized category. We seek to draw attention to the uneven effects of disability on complex intersecting child migrant identities as a means to encourage greater research in the area.

2. Methodology: The Single-Case Method

As discussed above, in this paper we draw upon a single-case methodology to reveal the complex intersecting factors that impede the health and wellbeing of disabled children of temporary migrant workers and the resultant impact on their able-bodied family members. The family and their child

Ernesto (a pseudonym) first came to our attention when one of the researchers (Soldatic) visited a rural town in the north of Western Australia as part of a large national study funded by the Australian Research Council on disability in rural Australia. While targeting other disability population groups, including indigenous Australians with disability living in rural and remote parts of the country, the original methodological framework of the research had not captured disabled children on temporary migrant worker visas. In fact, we too, as disability researchers, had omitted this group from our original framework and admit to a clear oversight. On arrival in the rural town to carry out the project, we were encouraged by local disability advocacy groups to meet with Ernesto and his family. The local advocacy groups had not come across a situation like Ernesto before within a rural setting but felt, and we now agree, that Ernesto and his family provided a critical window into exploring the intersectionality of temporary migration, disability, childhood, and health. After initial discussions, we agreed that Ernesto and his family's participation could be readily included in the study and that they provided a pertinent contribution to current debates within Australian public policy—both in terms of temporary migratory visas for guest workers and the implications of disability exclusion within migration law and policy. Several field sites across Australia have been visited as part of the research project and, to date, Ernesto and his family are the first to emerge in this visa category. Considering the fact that two of the researchers have extensive practice and research expertise in the intersecting fields of immigration and disability [2, 3], this experience appeared to make clear that temporary migration status and its impact on disabled children are an invisible area within disability, immigration, and health research. While historically there has been criticism of the limitations of the single-case method within the health sciences, there is growing recognition of the power of this methodological approach to greatly inform health research for various population groups [23]. The single-case method, as Sayer suggests, provides the researcher with the opportunity to investigate the phenomenon under study in all of its particularities and complexities [24]. This particular in-depth case study revealed several complexities that have not been discussed in any of the research on disability, immigration, or health. The issues faced by Ernesto and his family are unique to the category of temporary migrants. Our example supports the growing recognition that the single-site case study provides a rich contextual environment allowing deeper exploration of the issues that arise. Further, the themes arising from our discussion with Ernesto's family, particularly in relation to family stability, gaps in insurance coverage, and the implications for Ernesto's health and education are mirrored in the issues that have emerged from government inquiries into temporary migration. Thus, while the findings of the single-site case study are nuanced, they appear to be shared across a spectrum of populations that have in common their temporary migrant status as guest workers [25]. The richness of data that comes through such intensive empirical investigation increases our capacity to understand the implications of policy at the level of implementation and practice [26].

Patton argues that this method should be used in association with hard-to-reach populations given their heightened level of invisibility within the research field [27]. We suggest that Ernesto, the disabled child of a temporary migrant worker family who arrived in Australia in early 2011, exemplifies these necessary analytical conditions. Having extensively searched the literature, we found that the impact of Australia's migration policy on the health and wellbeing of disabled immigrant children appears to be largely underexplored. This is further intensified once the lens of temporary migration status intersects with the two broader categories of disability and children. Given these extenuating conditions, despite the initial limitations that the method may appear to hold, in-depth qualitative analysis of a single-site case study can clearly identify trends and consistencies emerging within the broader specified sample population [28].

3. Coming to Australia: Contesting Official Rhetoric

At the time of the research in late 2011, Ernesto, an eight-year-old boy from the Philippines, had been living in Australia with his younger brother, his mother, and father for approximately six months. Ernesto was born with cerebral palsy and had two operations within the first eight months of his life, including the insertion of a cerebral shunt to treat infant hydrocephalus at approximately eight months of age. Given the severity of the operations, Ernesto was hospitalized for several months at a time. While living in the Philippines, Ernesto's mother provided full-time care, accepting primary responsibility for Ernesto's daily care needs with the help of relatives and friends living close by. Ernesto's father, since graduating with a Bachelor of Science in Hotel and Restaurant Management, has worked extensively in international hotel management as a temporary migrant worker. It is this history of working as an international migrant worker that provided the opportunity for the family to move to Australia. His previous employer offered Ernesto's father temporary employment as a manager in one of the organization's international tourist resorts in rural Australia.

Despite Ernesto's father's working background as a transitory migrant worker, Ernesto, his mother, and younger brother had always remained in the Philippines. Temporary migration to Australia was the first time that the entire family had considered such a move, and, in turn, the family's decision to migrate to Australia temporarily involved extensive deliberation of a number of issues. The most significant consideration in these family discussions, however, surrounded the provision of health care and disability supports for Ernesto, as his father articulates:

I came to Western Australia first for actually two years before they arrived because they just arrived six months ago. The reason why I did that one is because I wanted to settle in first and see how it goes. How the life goes on here, you know because I have a special son. I just wanna know how we gonna survive here in [rural town] especially when the young fellow gets sick. So that's one of the

concern that I got. Just make sure that we gonna live in [rural town]. If I bring them altogether, we gonna struggle in the first year.

As this narrative suggests, deciding to migrate temporarily under Australia's skilled migration program for families with a disabled child is a difficult decision for all members. In this particular case, it resulted in a lengthy period of separation of almost two years. Both parents felt that this was necessary to ensure the long-term health and wellbeing of their disabled child despite the encouragement from the father's employer to move the family across from the Philippines within the first 12 months of arrival, as Ernesto's father states:

Our employer said we can apply for our visa when we are in our first year over here but we did not do that because we still not stable in here. I'm not really keen to bring them here.

The theme of family stability, as a critical component of ensuring the long-term health and wellbeing of Ernesto, dominated his parents' narrative and was articulated as their overriding concern throughout the interview. Interestingly, this strong narrative on issues of family stability contests the dominant assumption underpinning the Migration Act that families with disabled children want to migrate to Australia, temporarily or permanently, to gain access to the country's public health system [5].

The theme of family stability was coupled by a subtheme of embedded local networks and the critical role these networks play in navigating healthcare systems for disabled children. As Ernesto's parents suggest, there are certain privileges that come from being embedded in your own local community which play a vital role in accessing local health services both immediately and in the longer term. As the parents identified, residing in your home country means that you have a degree of social capital within your local community, such as personal networks, which allows for a certain level of privilege. The family resided in a small rural Filipino village approximately 16 hours' drive out of Manila. Being part of this small local village meant that they were well established in their own community and could therefore draw on these networks when necessary. Ernesto's mother points this out when she states that:

That's why when we came here it was really a big adjustment. I had my siblings and the doctors, like the neurologist and the pediatrician, were close family friends so sometimes they did not charge us. So before coming here they asked us many times "Are you really sure you want to bring your son?"

Ernesto's father also reflected on the central role of local supports that are attained through long-term friendships and family networks, and how this can provide a level of security for the family with a disabled child, particularly economically, as they can gain access to the required health care when needed: *Like in the Philippines we can just get the medical attention for cheaper sometimes or for free because we*

know the doctors and there's like family friends and stuff so we save lots of money with them.

Family stability and having local networks to support their negotiation of the healthcare system were two crucial considerations for the family when deciding whether to temporarily migrate. This, of course, appears to contradict internationally accepted understandings of the benefits of temporary migrant labour. Lutz posits that temporary labour migration has been promoted by western governments and global policy institutes (such as the OECD, IMF, and World Bank), which frequently present it as facilitating significant long-term economic security for temporary migrant workers and their families in their country of origin, particularly those families who come from the global South, such as Ernesto's [29]. Further, it is frequently cited as a pivotal form of wealth production for the development of the workers' countries of origin, due to the return of international remittances [30]. As an example, a recent Canadian government report argued that guest workers benefit as "many workers earn much more in Canada than would be possible in the country of origin. These earnings are significant sources of income for family members left behind" [31].

However, these arguments do not necessarily reflect the way in which having a family member with disability appears to negate the so-called benefits of such programs. While employers of temporary migrant workers in Australia are required to ensure that these workers are covered with a range of insurances, including insurance for health care, these insurances are not structured around the needs of disability. While disability insurance, as a part of the health economics school, is an area that has received considerable attention in the international literature [32, 33], there has been little consideration of the intersecting factor of temporary migrant labour within the research.

From the interview with Ernesto's family and their experience of the Australian immigration process for their disabled child, we could surmise that this could be partly due to the invisibility of disability. The level of invisibility is reinforced for temporary migrant workers as they are required to agree to sign a health cost waiver prior to the granting of a visa to ensure that the family covers any health costs associated with the disabled family member. As Ernesto's father explains below, families with a disability taking part in a temporary labour program are required to meet a range of demands prior to the issuing of a visa. In terms of Australian immigration, a key component is a demonstration of available personal financial resources to cover the full costs of the child's health care while in Australia.

Father: Plus I need to go through a very strict processing because of my special son. For me to process my visa for my special son it takes six months. Six months of drama.

Researcher: So what do you mean by "drama"?

Father: Well first of all they send me a waiver that I need to pay ... for my son ... just to bring him here. ... Just to bring my son over here. Just to

cover his medical expenses. I don't even earn that money within a year.

Given these strict requirements, the so-called benefits for guest workers, as espoused by global policy institutes and western governments, do not encompass temporary migrant workers who have disability within the family unit. An important theme to emerge from this case study is the dubiousness of the claim that temporary migrant workers benefit from these arrangements, despite the fact that they are exempt from receiving any assistance from national healthcare or social welfare systems. This disadvantage is further compounded when the family includes a child with a disability, where the disabled child is negatively valued by the Australian government in its determination of the potential costs of providing health care and other social services. Ernesto's family's experience of the barriers faced by the parents of disabled child migrants does not appear to be unusual when reviewing numerous cases that have received media attention or been submitted to the Australian Senate Inquiry [5]. In many instances, it has been only through strong local community support and advocacy that these families have been granted entry visas [34]. In fact, it was through the advocacy of health professionals that temporary immigrant status was granted to Ernesto, as his father explains:

So it's crazy but suddenly my boss's sister is a nurse and she is the one who speak with Immigration, and argue with this one. She knows what's going on—she's a good nurse—and she managed to speak to Immigration and asked them to explain it to her why we need to pay for that one and suddenly the Immigration is just like making it hard for me.

Even with this support and advocacy, there appears to be a degree of coercion in the administration of immigration policy to ensure that guest workers who have a family member with disability comply with the restrictions. As Ernesto's mother explained, the Australian government issued her own visa along with Ernesto's younger brother's visa; however, it did not offer a temporary visa for Ernesto to travel with the family.

The first time we lodged our application me and my younger son had our visas straight away. With Ernesto there were a lot of issues. So we filled a petition and on his birthday we received a letter saying that he got his visa. We had a neurologist do a check-up saying that he had to continue with his therapies and that it wasn't like tuberculosis.

As Ernesto's mother's dialogue suggests, there is a strong tendency to conflate "disease" with "disability" in the administration of the visa application assessment. It has been very problematic for temporary migrant families despite the ongoing expansion of the Australian government's temporary labour migration program. Gothard and Fox have noted the remarkable measures that families have to endure

to have their disabled child's case considered [34]. Further, the disabled child's visa is generally granted on the perceived value and benefit of the parent, rather than the disabled child, to the Australian community [34]. The conflation of disease with disability has remained unchanged [35], despite the extensive recommendations by the Senate Inquiry of 2010 to address this very issue (recommendation 4, page 58) [5]. The Australian government is yet to respond to these very recommendations [8].

4. Counting the Costs

Throughout the interview, it became clear from the parents' narrative that the status of temporary migrant worker with a disabled child caused numerous health implications for the entire family. This was primarily associated with the extensive restrictions of entry enforced upon Ernesto and his family while residing in Australia and the extensive limitations of temporary worker insurances which are supposed to be mandatory for 457 visa category holders. The signing of a waiver as a means to ensure that the family covers the full healthcare costs for their disabled son has created a range of hardships, despite the relief that insurance is supposed to provide. Ernesto requires medical food products as he is unable to swallow hard food. Availability of these specialized products is only through the local hospital system and while other disabled children in Australia have access to these, the family, as temporary migrant workers, are required to spend an additional \$A250 per month on such items. As Ernesto's father suggests, this undermines any of the so-called benefits awarded to temporary migrant families with a disabled child:

Normally it depends. Sometimes he drinks the milk really fast and one carton is not enough. So it's \$250 and that's only for my special son. But my other son—normally we spend at least \$150 for him for a month. So pretty much all of the money that I'm earning is just going to the bills and there's nothing much left for the savings actually.

While the stress of such a process has clear implications for the health and wellbeing of all family members, one of the social determinants of health for disabled children of temporary migrant workers is the role of insurance in covering the costs encountered when negotiating Australia's health system—both public and private. One of the conditions of entry for temporary migrant workers under the Australian system is health insurance. These insurance schemes, while promising to relieve the high costs of Australian medical care for temporary migrant workers, are in fact confusing.

These specialized food products, according to the family, are not covered under the temporary migrant worker health insurance scheme. In fact, the family has had a range of issues pertaining to the insurance that they were originally awarded under their employment. While in Australia, Ernesto has had several health issues emerge due to the change in the environment for which he has had to be hospitalized. Despite the reassurances from the original insurance company, many of the costs were not covered, leaving the family with a significant monthly healthcare bill which has yet to be paid.

Father: The first health insurance that I have was so crap. I paid for three months and by the time that I tried to get the claims—the claims were at least \$1000—they does not wanna give that one to me unless I pay the monthly bills. I contest that one because every time I ring them, they saying different answer to me which is not really consistent. There's some operators saying that "yes we can just reimburse the money that you're claiming and pay that one off". We ring on the second time, they say "No you need to pay it first before we reimburse it". Then we asked them why suddenly someone say that one to us and suddenly they send us a letter saying they cannot settle our health insurance and stuff, which is not good.

Given the ongoing issues with the original company, the family decided to move to a new insurance firm. The insurance coverage was slightly more extensive, including the costs of an occupational therapist; however, it was much more expensive. The family decided that this was a necessary financial burden to ensure that Ernesto received at least some of the occupational therapy required for his development.

Father: No I just get the second to the top one which cost me \$400 a month. It's a bit expensive though but I picked that one because at least that one covers lots of everything that we always need, like hospitalization and stuff like that and check-up. So they cover all of those.

At the time of the interview, however, this new insurance coverage had yet to pay out the costs of Ernesto's more recent hospital care. This proved to be particularly stressful, as Ernesto had recently had a fall and as a result required a splint for his right arm. This splint, while supplied by the hospital, again had yet to be paid. Ernesto's father explained that: *We are working on the splint that we have two months ago. We need to pay for that one.*

While the family cited several instances of Ernesto requiring hospitalization and the financial burden, this created another major concern for the family which was the lack of access to additional therapies that were necessary for Ernesto's development. The insurance that they now received, while improved, only appeared to cover the costs of accessing an occupational therapist. However, Ernesto, given his stage of development, required both the support of a physiotherapist and a speech pathologist. As Ernesto's father notes: *He only got the occupational therapist on my health insurance. But he's supposed to be having physio and speech and occupational therapy.* As both physiotherapy and speech therapy are not available via the insurance coverage, Ernesto remains without these essential services as the family is not in a position to afford these also. At this stage, it remains unclear what the long-term effects will be on Ernesto.

There is no doubt that the signing of a required immigration waiver for Ernesto has had the greatest impact on the family. The family's medical debts were averaging around \$1000 per month over the three months prior to

the interview due to Ernesto requiring visits to specialists and hospitalization. As the promise of insurance coverage had not eventuated in practice, Ernesto's mother had begun some part-time work to help pay for the additional costs of health care that the family were facing. However, the work was intermittent and extremely precarious. Additionally, as the family had no family members or friends to rely on for their children's care, the parents worked at either ends of the day. Ernesto's mother worked early mornings, from 7am through to 2 pm, and Ernesto's father worked from 3 pm to late in the evening. At times, due to the demands of his work, Ernesto's father reported working an average of six or seven days per week with each shift generally encompassing more than eight hours. At the time of the interview, both parents were extremely tired due to the long hours of work and the juggling of care responsibilities for both children. Given the significant stress that such demands create, it was not surprising to learn during the interview that Ernesto's mother had been recently hospitalized overnight due to infection, leaving the full care of both children to Ernesto's father.

Another theme to emerge under the broad banner of insurance was that this coverage also did not take into account necessary disability supports for educational inclusion. In Australia, early intervention therapies for children are also administered through the education system. In many instances, students receive many of their required therapies while at school. The prescribed therapist will attend to the child while at school as part of an integrated educational framework to promote the educational inclusion of disabled students. However, due to Ernesto's parents' temporary migrant status, Ernesto did not qualify for such services (see [36]). Even though the parents had met with the principal of the local public school, no one, including a local disability advocate, had been able to ascertain whether Ernesto would be able to enrol. Nor had anyone been able to verify if Ernesto would qualify for early intervention services, available at the local school, should he enrol. This level of confusion surrounds the status of their temporary visa and the availability of public health and social programs and whether the temporary worker insurance would cover such therapies. Outside the school system, it is clear that Ernesto is ineligible for disability services. But it remains unclear if this is also the case if it effectively results in the denial of a right to education. As a result of this confusion, since arriving in Australia, Ernesto has been effectively excluded from the education system.

The immediate effects of such insurance limitations under temporary migration law pertain both to Ernesto's educational development and his potential to reach developmental milestones in terms of his access to early intervention therapies. In addition, there is extensive empirical data that acknowledges the substantial health benefits for disabled children of socially engaging with peers [37], which would be negated by Ernesto's not being able to attend school. Thus, there is no accurate way to calculate the probable implications for Ernesto's health and wellbeing, given the ongoing denial of essential therapy services for his long-term development (see [38]).

In all, these additional incurred costs, created through the enforced signing of a health cost waiver and the limited coverage of mandatory temporary worker health insurance, have also had implications for the family in terms of finding affordable and adequate housing. During the first two years of his stay, Ernesto's father lived with other workers in a house owned by his employer. With the arrival of his family, they moved into a large converted shed at the back of the house. We visited the family to conduct the interview. We found a converted shed which contained a small kitchen with a small extended area used as a family sitting area. There was a bathroom and a single bedroom which the family shared. The ongoing cost of hospitalization, the medically prescribed food which Ernesto consumed, and additional therapies meant that the family were unable to rent more suitable family housing. Despite the promise of insurance schemes to cover the healthcare costs of temporary migrant workers and their families, these were, in effect, extremely limited. In turn, the family's health and housing situation were directly affected.

5. Goodwill of Disability and Health Professionals and Practitioners

Maintaining Ernesto's health in the six months leading up to the interview had been dependent on the goodwill of local disability professionals and medical staff. It had been only because of the goodwill of health and disability professionals throughout their stay that the family had been able to remain in Australia. In fact, the goodwill shown by these professionals was the only positive theme to emerge from the interview. These local professionals were central to the family's decision to temporarily migrate to Australia. While necessary information was initially obtained through some of Ernesto's father's colleagues, these networks had been extended to incorporate a range of other health professionals who had been instrumental in maintaining Ernesto's access to the health and disability systems despite the substantial barriers the family had confronted. One of Ernesto's father's colleagues was able to put the family in contact with the disability district officer in the region, and his employer's sister-in-law, as mentioned earlier, was a locally employed nurse. These professionals were instrumental on two fronts in shaping the family's decision to migrate to Australia. First, they provided the necessary information on the availability (if any) of disability services in the local area and second, as outlined previously, the nurse actively supported Ernesto's application through the immigration process. It is because of these relationships that Ernesto's family decided to all apply for temporary migration status under the temporary skilled migration program.

Unfortunately, the regional disability district officer was unable to support the family as they did not qualify for government disability assistance due to their visa status as temporary migrant workers. However, as the family explained, this officer made numerous referrals to ensure that the family was at least supported by the local disability advocate, who worked for a local disability nongovernment

provider. As the family identified, the goodwill of local professionals was being maintained; however, it had to be presented behind a façade to ensure that it appeared they were working within the rules of the system:

Father: He [the disability district officer] can't do anything yet because we don't have our residency but he source it out. Like we need to speak to [local disability advocate] now not to him and then she speaks to him. So he is finding ways to give us a hand.

The goodwill of a range of health and disability professionals had been critical to ensuring Ernesto's ongoing access to essential services and supports. The family was fortunate to make contact with health staff, including public health specialists within the hospital system, who overrode the strict immigration requirements and developed alternative routes for Ernesto's health care, as the father explained:

We met so many people already in the hospital which is giving us a hand and sometimes we get the consultations for free which is good. They know that we are on 457 [visas] and they know that every time we see them, we gonna pay \$200. So they understand the situation so sometimes they just say, "Don't go there just go over here in my clinic straight away, and we'll do the stuff and don't bother anything to pay". So that's good. Even the staff on the Allied Health, they also do that one, like "We'll sneak him in". But if we been noticed by anyone, of course \$200 again. So they know the situation which is good. They still willing to give the benefits and stuff. They know that it was so unfair for us.

The local disability advocate had also assisted the family in arranging a specialist visit in order to get an appropriate wheelchair for Ernesto.

Father: And [disability advocate] said if we can also include in the application a wheelchair. We got a wheelchair from the Philippines but it's broken already. It was made by disabled people in the Philippines but it's pretty heavy—it's 25 kilos.

Researcher: So what you're looking for is a lighter ...

Father: It's not really lighter. As long as it fit on my son and he can sit properly.

Researcher: And do you know how much the chair will cost?

Mother: They don't have any idea yet. There'll be somebody who's coming down from Disability this weekend. From there they will know what kind of wheelchair will he need and they can have the right quote for that one.

With the advocate's encouragement and assistance, the family had applied for funding from a local charity to help cover the costs of the new wheelchair. At the time of the interview, they had been using a pram to transport Ernesto which was uncomfortable, too small for him, and in which he had to be pushed by a family member. Having a suitable wheelchair would not only improve Ernesto's comfort and ability to get around, but would also mean that he could go to school, enabling him to fulfil his right to education and potentially giving him access to the therapies he requires.

As the above examples show, the family has relied heavily on the goodwill of their colleagues and community in order to access the health and disability support services that Ernesto needs. Nongovernment service providers, community members and advocates, and even government workers acting "unofficially" have stepped in to fill the gaps in support that have not been covered by the government or even the family's private health insurance. Though in moving to Australia the family had lost the personal networks and solid ties with their local community in the Philippines that had helped them to care for Ernesto, the community in their host country came together to help them overcome the barriers to accessing support and advice. This can be seen as yet another example of community support to have the Australian government's discriminatory migration policy overturned.

6. Conclusion

Though the Australian government has ratified the United Nations Convention on the Rights of Persons with Disabilities, its most recent commitment in the area of human rights conventions and treaties, it has applied a number of legal interpretations to separate and segregate disability from immigration policy, sidestepping its international obligations [2]. The imposition of such an interpretive clause, as our case study reveals, may have significant implications for the health and wellbeing of all immigrant populations as both disability and health services have had little historical exposure to this group's needs, particularly when first resettling in Australia [39]. This becomes further evident when we consider that recent data analysis of disability within Australian immigrant populations clearly suggests that it is these communities that are the most likely to experience the early onset of disability, which is partly attributed to the resettlement process itself [40].

Over the years there has been much lobbying by ethnic communities and disability organizations to address the injustice faced by both refugee and immigrant families in attempting to challenge government policy on disability. It is tempting to be pessimistic about the situation of immigrant families with disabled children. Yet we have seen advances in both government and civil society thinking about disability in other areas in recent years. Disabled people are no longer seen as simply a burden on the taxpayer and families. They are seen as agents in their own right who have the capacity to undertake education and employment, and to experience satisfying and fulfilling lives. Increasingly,

disabled people are recognized for their contribution to the broader society.

Unfortunately, this thinking has not been transferred into immigration and refugee policy. We need to see substantial and major shifts in thinking at this level, where it cannot be left solely to ethnic and disability groups to push for change. Civil society groups and community groups have an important role to play, as well as critical work by academic researchers and teachers. Stories such as that of Ernesto and his family will hopefully have a role to play in informing changes in immigration policy.

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Research Article

Influence of Perceived Racial Discrimination on Health and Behaviour of Immigrant Children in British Columbia

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This study examines the influence of perceived discrimination on the health and behaviour of ethnic minority immigrant children in British Columbia, Canada. Using data from the New Canadian Children and Youth Study, we examine perceived discrimination experienced by the parent, family, and cultural group in Canada to test the influence of micro-, meso-, and macrolevels of discrimination on children. Families from 6 ethnic backgrounds participated in the study. Parents' perceptions of the child's health and six behavioral scales (hyperactivity, prosocial behaviour, emotional problems, aggression, indirect aggression, and a general combined behaviour scale) were examined as outcome variables. After controlling for ethnicity and background variables, our findings suggest that perceived micro- and macrodiscrimination has the greatest influence on the health and behaviour of our immigrant child sample. Variation among ethnic groups provided the largest explanation of health and behavioural discrepancies in our study.

1. Introduction

Ethnic-based prejudice is an unfavorable opinion or perception of the way one's ethnocultural group is regarded by others and often leads to racial or ethnic discrimination which denotes actual practice or experience. Racial discrimination is the behaviour that excludes individuals or groups based on one's racial or ethnic group identity from engaging in opportunities, or receiving services, that would otherwise be awarded to others [1]. According to Kessler and colleagues [2], a high prevalence of racial discrimination, combined with its negative strong influence on adult's mental health makes it one of the most important factors to assess when examining wellbeing of marginalized individuals.

Ethnic based prejudice and discrimination are associated with racism: the idea that negative racial opinions and behaviours are justifiable because of group differences. Often, the concepts of racial discrimination and racism are used interchangeably. Studies that examine the influence of racism on health and general wellbeing in adult populations

have progressively increased since the 1980s [3, 4]. The literature suggests that perceived racial discrimination is negatively associated with behavioural, mental, and physical health statuses [2, 5, 6].

Both Paradies' [3] and Williams et al's. [4] meta-analyses of 138 and 52 studies, respectively, examined the influence of racism on adult health (from 1980 to 2007). Both studies concluded that ample evidence exists to support the link between racism and poor health outcomes. Paradies' examination of 138 studies covered a variety of health outcomes, including mental health, health-related behaviours, and physical health, and Williams examined both physical and mental health outcomes. Behavioural and wellbeing-focused studies also support the detrimental influence of perceived racism. Kessler et al. [2] found that discrimination negatively influences the emotional wellbeing of adults belonging to marginalized ethnic groups. In addition, racial discrimination has been linked to heightened levels of depression [2, 7] and increased rates of morbidity and mortality [5].

Research is limited with respect to children and perceived discrimination. A few studies report that younger children do perceive discrimination [8–10]. Coker et al. [10] found an association between perceived ethnic or racial discrimination and increased likelihood to have symptoms of four mental health conditions (depression, attention deficit hyperactivity disorder, oppositional defiant disorder, and conduct disorder) amongst children in the fifth grade in the USA. Gee and Walsemann [6] observed that among young adults, employment discrimination is not only associated with health limitations, but also temporally ordered so that the discrimination precedes the health limitations.

Most studies examine the direct influence of racial discrimination on adult health; however, few studies illustrate that the effects of such discrimination are mediated through variables such as social status or through minor health issues that can lead to more significant health problems. This line of research has found racial discrimination to be associated with increased stress which can potentially lead to low self-esteem [2, 11] and increased blood pressure [12], which in turn leads to a decline in one's general mental and physical health status [13].

The majority of the literature finds a link between discrimination and poor health; however, the extant research is nevertheless limited in a number of ways. To begin, we could not find studies on the effects of discrimination on the health of immigrants and in particular children of immigrant families or of children in general, except in the area of mental health issues such as depression as noted above [8–10]. Secondly, most of this adult-based literature, and all of the child-based literature, focuses on American samples and relatively few studies from other nations can be found. In addition, the bulk of this American literature focuses on the experiences of large minority groups, such as women, those living in poverty, and racial discrimination among African American and American Indian populations.

Our research addresses the limitations currently found in the literature as we examine the influence of racial discrimination on the health and behaviour of children whose families immigrated to Canada. That is to say, not only do we focus on immigrant children, but also our research uses Canadian data, an understudied population.

2. Theory

Theory explaining the relationship between racial discrimination and wellbeing falls into three main models: the poor health model, the resiliency model, and the contextualized model. The *poor health model* posited by Williams et al. [14] suggests a negative relationship between racial discrimination and health. They suggest that poor health is a product of three paths: racism creates social status that negatively influences health; racism determines exposure to risks; racism negatively influences the individual's ability to function. The social status argument has been further developed by Ren et al. [13] who found a strong negative association between health and racial and class discrimination, health implications of discrimination due to low SES,

thereby noting a complex relationship between perceived discrimination and social class.

The *resiliency model* has also been supported in the literature. Among this research, personal characteristics are seen to help reduce the influence, or increase the coping mechanisms, related to discrimination. For example, Dion et al. [11] found that in Toronto's Chinese community "hardiness" (composite of perceived personal control and self-esteem) buffered the effects of discrimination. Hardiness was increased by attributes such as higher education, an occupation with higher socioeconomic status, and proficiency in the English language, all of which led to a stronger sense of self-control which facilitated coping.

In the *contextualized model*, as Karlsen and Nazroo [15] maintain, the influence that racism has on health is highly contextualized and depends not only on the type of racism experienced (individual or institutional), but also on the severity of the racist experience(s). In addition, similar to the poor health model, Karlsen and Nazroo [15] point out the need to consider the complex relationship between SES (and its derivatives) and health. As Adler and Ostove [16] discuss, while a direct positive relationship between SES and health has been observed, there are "multiple pathways" in which SES influences health. While we live in a democratic (pseudo-) egalitarian society, race and ethnicity still play a pivotal role in creating one's SES and therefore influence their overall wellbeing.

In our research, we follow the contextualized model. Drawing on Karlsen and Nazroo's [15] theoretical premises, we examine micro- (parent experiences), meso- (family experiences), and macro- (cultural group's experience) levels of discrimination. While we affirm that severity of discrimination is necessary to be examined, we are only able to measure the frequency of various forms of discrimination and racism that is not physical. Lastly, we maintain that social status is an important issue when contextualizing racism and its influence on health and wellbeing. SES may be formed differently for Canadian immigrants, as education, occupation, and income may not be as interconnected as they are for nonimmigrant Canadians. Given this issue with SES, we are interested to see the individual effects that the SES control variables (income, education, years in Canada) have on health and wellbeing.

3. Methods

3.1. Data. The data used in this paper are drawn from the New Canadian Children and Youth Study (NCCYS), a national longitudinal study on the health and wellbeing of immigrant children in Canada. The NCCYS includes four urban centre study sites: Montreal, Toronto, the Prairies (Winnipeg, Calgary, and Edmonton), and Vancouver (see [17, 18] for a description of the sampling frame). In the full study, immigrants from 16 backgrounds participated across the 4 sites. In this paper we use a subset of the full study, including those who live in and around the city of Vancouver, and includes families from The Philippines, Hong Kong, Mainland China, Afghanistan, Iran, and the Punjab region

of India. Using the data for the Vancouver site reduces the geographical effects of where a family settles in Canada, since variables such as influences of provincial social and health services may contribute to outcome measures. Families were eligible to participate in the NCCYS if they had children in one of two age cohorts (4–6 years and 11–13 years). Children could be born either in Canada or in their country of origin; however, the family had to have immigrated to Canada within the previous 10-year period.

Data were collected through bilingual interviewers in the home of the family. Structured interview instruments were completed by the primary caregiver (usually the mother) and by the children in the older cohort. Data collection took approximately 1–2 hours, depending on the number of eligible children in the household. Data were collected on household demographics, child health and behaviour, schooling, and pre- and postimmigrant experiences. Many questions were drawn from the National Longitudinal Survey of Children and Youth (NLSCY) [19].

NCCYS data are based on quota snowball sampling since reliable lists of immigrant children are not available. Quota sampling was also used to ensure an equal sample size from each ethnic community and for each age group of children. One hundred and eighty children were recruited from each ethnic community: 90 in the younger group (4–6 years old) and 90 in the older age cohort (11–13 years old). Families with more than one child in the target age group were included in the study.

3.2. Sample. The NCCYS sample used for these analyses is restricted to those children residing in the Vancouver area. As indicated in Table 1, the sample size for the Vancouver data is 1081; with approximately 180 children (90 from each cohort) from each of the six ethnic groups. Data were not weighted, since the use of the weight variable substantially decreased the number of respondents in the Afghani, Iranian, and Punjabi groups, and overestimated the sample in the remaining ethnic groups. Since we maintain that immigrants are not a homogenous group, and need to be viewed as heterogeneous, our analyses seek to test ethnic-based health and behavioural differences.

3.3. Measures. Descriptive results for all dependent and independent variables are listed in Table 1.

3.3.1. Dependent Variables. Seven dependent variables are assessed. The child's health was measured by a single question, with the primary caregiver rating health on a 5-point Likert-type scale. Responses were dummy coded, as either "excellent" or "not excellent," that is, any other response other than "excellent." Self-rated (or the proxy rating by parents) health scores are widely used as global measures of health and have been found to be highly predictable of mortality and the need for health care across communities and age groups, social asses, and educational backgrounds [20–24]. 31.4% of the children in the sample was reported to have excellent health.

Children's behaviours were assessed via six behaviour scales: one composite behavioural scale and five subscales—hyperactivity, prosocial behaviour, emotional problems, physical aggression and indirect aggression. Scales were created and tested by NLSCY researchers and are routinely used by child researchers.

The hyperactivity/inattention scale (this scale is referred to as the hyperactivity/inattention scale by the NCCYS; herein, we refer to it as the hyperactivity/inattention scale) combines eight items. As shown in Table 1, this scale ranges from 0 (no hyperactive behaviour) to 16 (constant hyperactive behaviour) and has a mean of 2.77 and an alpha of 0.77. The second scale, measuring prosocial behaviour, combines ten items and ranges from 0 (no prosocial behaviour) to 20 (constant prosocial behaviour) with a mean of 13.15 and an alpha of 0.84. The prosocial scale is reverse coded from the other behavioural scales: a high score indicates more prosocial behaviour. The emotional problems scale ranges from 0 to 16 and was compiled of eight items. A higher score indicates higher level of emotional problems. This scale has a mean of 1.84 and an alpha of 0.74. Two aggression scales were created: physical aggression/conduct disorder and indirect aggression. The physical aggression/conduct disorder scale (this scale is referred to as the physical aggression/conduct disorder scale by the NCCYS; herein we refer to this scale as the physical aggression scale) is a compilation of six items, such as "gets into many fights," is cruel or bullies" and "physically attacks people." The mean is 0.87, range from 0 to 12 and the alpha is 0.63. The second aggression scale, indirect aggression, combines five items related to the reactions when the child is mad at someone, such as "tries to get others to dislike that person" and "says bad things behind the other's back." The mean for the indirect aggression scale is 1.21, range 0 to 10 and the alpha is 0.74. In both scales a higher score indicates an increase in aggressive behaviour. For each of the five subscales, missing values (prosocial scale missing $n = 50$; hyperactivity/inattention scale missing $n = 25$; emotional problem scale missing $n = 26$; physical aggression scale missing $n = 21$; indirect aggression scale missing $n = 34$) were imputed to the individual scale's mean.

A *general behaviour scale* was created by combining the five behaviour scales discussed above. Responses from each individual scale were recoded to a standard scoring system across all five scales, with a range from 0 (no behaviour problems) to 3 (behaviour problems). The prosocial scale was reverse recoded. The sub scales were then merged to create a scale that ranged from 0 to 15, mean of 1.63 and an alpha of 0.52. A higher score denotes more behaviour problems. A higher score denotes more behavior problems. The six scales were created and tested by NLSCY Statistics Canada analysts; however, we conducted factor analysis for each scale to determine dimensionality. Two factors were found in each of the hyperactivity, emotional problems, physical aggression, and general behaviour scales, while only one factor was found in each of the remaining scales (prosocial and indirect aggression). We maintained the original NLSCY scales, though note that they were created for and tested on general child/youth populations.

TABLE 1: Descriptive statistics, NCCYS Vancouver site data, $n = 1083$.

Dependent variables					
Continuous	Mean	SD	Items	Range	Alpha
Behaviour scales ¹					
Hyperactive (Model 2)	2.77	2.66	8	0–16	0.77
Prosocial (Model 3)	13.15	4.07	10	0–20	0.84
Emotional problems (Model 4)	1.84	2.14	8	0–16	0.74
Physical aggression (Model 5)	0.87	1.26	6	0–12	0.63
Indirect aggression (Model 6)	1.21	1.57	5	0–10	0.74
Combined behaviour (Model 7)	1.63	1.57	5	0–15	0.52
Categorical		Percent	N		
Health (Model 1)					
Excellent		31.4			340
Other		68.3			740
Missing		0.3			3
Total		100.0			1083
Independent variables					
Continuous	Mean	SD	Items	Range	Alpha
Discrimination scales ¹					
Parental discrimination	1.17	1.47	3	0–9	0.76
Family discrimination	0.45	0.83	6	0–6	0.52
Cultural discrimination	6.08	1.56	6	0–18	0.80
	Mean	SD	Range	N	Missing
Income ¹	5.55	2.99	0–12	1083	—
Education	2.54		0–6	1040	43
Categorical		Percent	N		
Ethnicity					
Afghani		16.7			181
Hong Kong Chinese		16.6			180
Iranian		16.7			181
Filipino		16.6			180
Punjabi		16.6			180
Mainland Chinese*		16.7			181
Total		100.0			1083
Years in Canada					
2 years or less		35.0			379
Over 2 years		65.0			704
Total		100.0			1083
Gender					
Female		47.8			517
Male		52.2			565
Missing		0.3			1
Total		100.0			1083
Age					
Younger (4–6)		50.1			543
Older (11–13)		49.9			540
Total		100.0			1083

¹Denotes missing cases imputed to mean.

3.3.2. Independent Variables. The independent variables used in this study include three discrimination scales, ethnicity, and five background variables.

Discrimination. Following Karlsen's and Nazroo's [15] contextualized ideology of racism, we assessed the influence of three different levels of ethnic discrimination that were perceived by the parent, the family, and the ethnic group in Canada. Alphas were computed for each of the three scales, as was factor analysis. The first discrimination scale, which combined three variables measured perceived discrimination toward the parent over the last year. Parents were asked: "how often they felt stress because of the following experiences or feelings? Others discriminate against me, I am treated as an alien by other Canadians, and I am constantly reminded by others of my minority status." Response categories included: "never, sometimes, often, very often, or not applicable." The not applicable category was coded as a system missing response and the three variables were merged to create the parent discrimination scale which ranged from 0 (no discrimination) to 9 (frequent discrimination). This scale has a mean of 1.17 and an alpha of 0.76. One factor was found among these three variables. The family discrimination scale is comprised of six variables, which asked: "in the past 12 months, has anyone in your family experienced any of the following: being unfairly or denied promotion from a job? not hired for a job for unfair reasons? being treated unfairly by the police? being unfairly discouraged from continuing education by a teacher or advisor? being treated unfairly in selling/buying a house or renting an apartment? and being treated unfairly by neighbours?" The parent responded either positively or negatively to each question. The family discrimination scale ranges from 0 (no discrimination) to 6 (highly discriminated) and has a mean of 0.45 and an alpha of 0.52. Three factors were found among these six variables, suggesting that three latent concepts underlie these questions; however, theoretically all six of the questions are bound by experiences of being treated unfairly, or being discriminated against. As a result, we maintain that this scale has high face validity. The cultural prejudice scale measured the amount of perceived prejudice that the family's culture faces in Canada. Although cultural discrimination may be perceived, and therefore more likely to be prejudice than actual exclusion, we are using the term cultural discrimination. Six variables were used to form this scale. Parents were asked how strongly they agreed with the following statements: "Canadians tend to look down on us; People from home country portrayed in media less fairly than other groups; Landlords would rather rent an apartment to another group; People from home country treated less fairly at government offices; People from home country treated less fairly at stores; People from home country treated less fairly when applying for jobs." Respondents had the option of choosing: strongly disagree, disagree, not sure, agree, or strongly agree. Response category "not sure" was recoded to the missing response since it suggests that the respondent does not know the answer to the question. This scale ranges from 0 (no perceived discrimination) to 18 (perceived

discrimination) and has a mean of 6.08, and an alpha of 0.80. One factor was found among these six items.

Ethnicity. Ethnicity of the parent was also examined. Five dummy-coded variables measured ethnicity. Ethnicity of the respondent was measured by the country of origin that they emigrated from. Respondents and/or their children came from six countries, representing the six ethnic groups analyzed in this study: Afghanistan (16.7%), Hong Kong Chinese (16.6%), Punjabi (16.6%), Iranian (16.7%), Filipino, (16.6%), and Mainland Chinese (16.7%). Mainland Chinese respondents were used as the reference group since historically Mainland Chinese immigrants are British Columbia's and Canada's largest ethnic minority immigrant culture. As a result, we tend to know more about individuals in this group since more research has been conducted on this immigrant group compared to other ethnic minority groups in British Columbia or Canada.

Background Variables. Five background variables were considered. The two core components of SES, income and education, were included as continuous variables in the study. Income was measured through a closed-ended 12-item response variable that ranged from \$0.00 to over \$80,000 per year in household income. This variable is ordinal, though as income category increased the interval between income categories became larger. The average income was 5.55, representing a household income in between \$20,000 and \$29,999 per year. The modal income was 5, representing an income in between \$20,000 and \$24,999 per year. Missing cases ($n = 28$) were coded to the mean.

The education measure was based on the primary caregiver's (typically the mother) level of education upon entry into Canada (a high school diploma or less, a college diploma or certificate, a bachelor's degree, a master's degree, a professional degree, or a doctorate degree). The mean education was 2.5 (somewhere between a college diploma and a bachelor's degree), with 17.3% of having a college diploma/certificate, and 35.7% having a bachelor's degree. The modal education was a bachelor's degree; however, nearly 29% of primary caregiver parents had a high school diploma or lower education.

Years in Canada were also included as a background variable, since the literature supports the notion of the healthy immigrant effect [25, 26]. That is to say, immigrants are healthiest when they first arrive to Canada and then gravitate downwards towards the national health mean over time. A cut-off period is used because it is generally understood that new-comers require a certain time period to become accustomed to their new country including finding resources such as health care, friends, and so on. Children who had been in Canada for two years or less were dummy coded and compared to children who had been in Canada for over two years. Approximately, two-fifths of children had been in Canada for 2 years or less.

Gender and age were also included as background variables. Females (1) were dummy coded in reference to boys (0), while older children (11–13 years old) were used as

TABLE 2: Effect of ethnic discrimination on health and behaviour: Models 1 through 8, NCCYS 1 Vancouver site data, $n = 1083$.

	Health (Model 1)		Hyperactive scale (Model 2)		Prosocial scale (Model 3)		Emotional problems scale (Model 4)		Physical aggression scale (Model 5)		Indirect aggression scale (Model 6)		General behaviour scale (Model 7)	
	Exp (B)	Wald	<i>b</i>	<i>t</i>	<i>b</i>	<i>t</i>	<i>b</i>	<i>t</i>	<i>b</i>	<i>t</i>	<i>b</i>	<i>t</i>	<i>b</i>	<i>t</i>
Constant	-1.34	3.07	1.81	2.58	8.98	8.75	1.87	3.25	0.00	0.01	0.69	1.61	1.80	4.49
Parent	0.98	0.08	0.09	1.45	0.18	2.16	0.08	1.57	0.05	1.70	0.10	2.72	0.10	2.85
Family	0.87	1.47	0.04	.34	-0.15	-1.01	0.29	3.42	0.03	0.67	0.03	0.54	0.40	0.66
Culture	0.90	3.52	0.16	3.04	0.25	0.33	0.13	0.31	0.05	2.03	0.02	0.89	0.60	1.91
Afghani	1.04	0.01	-1.02	-3.42	-1.28	-2.96	-0.73	-3.02	0.75	5.11	0.81	4.47	-0.30	-1.77
Hong Kong	1.08	0.05	0.90	3.15	0.65	1.59	0.49	2.17	0.39	2.81	0.43	2.54	0.65	4.10
Iranian	36.35	122.87	-1.67	-6.02	4.04	10.01	-1.71	-7.57	0.06	0.46	-0.57	-3.40	-0.02	-0.12
Filipino	4.39	26.92	0.48	1.80	0.87	2.22	-0.92	-4.20	0.46	3.47	-0.33	-2.00	0.19	1.21
Punjabi	3.45	17.66	0.62	2.23	2.17	5.32	-0.49	-2.15	0.60	4.30	0.27	1.57	0.55	3.45
Less 2 Years	0.96	0.05	0.36	1.99	0.27	1.04	0.03	0.19	-0.00	-0.03	0.11	1.02	0.17	1.67
Educ- ation	1.01	0.05	-0.12	-1.55	0.54	4.99	0.00	0.05	-0.02	-0.63	-0.11	-2.45	0.05	1.08
Income	1.08	6.15	-0.06	-2.10	0.10	0.24	-0.20	-0.84	0.01	0.32	-0.01	-0.20	-0.02	-1.05
Female	1.29	2.41	-0.61	-3.91	0.81	3.52	-0.06	-0.47	-0.29	-3.75	0.08	0.80	0.02	0.24
Older	1.26	1.79	-0.82	-4.78	0.49	1.95	0.06	0.43	-0.40	-4.64	-0.24	-2.25	-0.15	0.23
R^2		0.26			0.15				0.11		0.08		0.10	0.14

Model 1 reports Cox and Snell R^2 and significance of chi squared to test the significance of the model. Models 2 through 7 report adjusted R^2 .¹Mainland China ethnic origin is the reference group. $P \leq 0.05$ ($t \leq 1.96$). Bold coefficients denotes a statistical significance of 0.05 or greater. Model 1: dependent variable = health (1: excellent health). Model 2: dependent variable = hyperactivity scale (0–16). Model 3: dependent variable = prosocial behaviour scale (0–20). Model 4: dependent variable = emotional problems scale (0–16). Model 5: dependent variable = physical aggression scale (0–12). Model 6: dependent variable = indirect aggression scale (0–10). Model 7: dependent variable = general behaviour scale (0–15).

the reference group (1) in their comparison to younger children (4–6 years old) (0).

3.4. Statistical Analyses. Seven models were tested in this paper. Both logistic and regular ordinary least squares (OLS) regression analyses were conducted. Model 1, the analysis that examined excellent health, used logistic regression to test the likelihood of a child having excellent health. Models 2 through 7 used OLS regression to assess the influence of discrimination, controlling for ethnicity, and other background variables across all of the behaviour scales. Unstandardized beta coefficients and the corresponding t -values are reported in Table 2. For the sake of readability, bolded betas represent coefficients with t -values that were statistically significant.

Analyses were completed using SPSS 18. Alpha was set at 0.05 (t , 1.96).

This study was approved by research ethics review committees at the Universities of Alberta, British Columbia, Calgary, Manitoba, Toronto, and Winnipeg and at McGill University.

4. Results

Results of the seven regression analyses are illustrated in Table 2.

4.1. Model Fit. As indicated in Table 2, Models 1 and 3 have a moderately sized, statistically significant explained variance. Twenty-six percent (26%) of the variance surrounding excellent health and 23% of the variance surrounding prosocial behaviour was explained by the variables included in the models. In the remaining models, a smaller amount of variance was explained, though all R^2 coefficients are statistically significant. Fifteen percent (15%) of the variation surrounding hyperactivity and 14% of the variation surrounding the general behaviour scale was explained. In Models 4 (measuring emotional problems), 5 (physical aggression) and 6 (indirect aggression), 11%, 8%, and 10%, respectively, of variance was explained.

4.2. Ethnic Discrimination. Three measures of ethnic discrimination were assessed, that is, discrimination against the parent, the family and the culture that the parent belonged to. As illustrated in Table 2, discrimination does not have a consistent statistically significant influence on the various health measures. It appears that the individual and cultural level measures of discrimination have the most influence on children's health and behaviour.

Discrimination experienced by the parent had an effect in three of the seven models. This form of discrimination was associated with an increase on the indirect aggression ($b = 0.10$) and general behaviour scales ($b = 0.10$), meaning

that racial discrimination at the individual level worked to increase the child's indirect aggression and his/her general behaviour score (recall a higher score on the behaviour scale equates with more behavioural issues). Interestingly, the effect of parent's perceived discrimination on the child's prosocial behaviour score worked to increase the child's score. This unexpected finding accounted for only a small amount of variance.

Ethnic discrimination that family members experienced was significant in one of the seven models, as it worked to increase the level of the child's emotional problems level. For every 1-point increase on the family discrimination scale, the child's emotional problems score increased by 0.29 points.

In four of the models perceived discrimination against the respondent's culture worked to negatively influence health and behaviour. For every 1-point increase on the cultural discrimination scale, children experienced a 0.16 point increase on the hyperactivity scale, a 0.05 point increase on the direct aggression scale, and a 0.60 point increase on the general behaviour scale. Children that were exposed to cultural discrimination were also less likely to report having excellent health. For every 1-point increase on the cultural discrimination scale, these children were 0.90 times as likely to report having excellent health.

4.3. Ethnicity. Ethnicity had sizable, statistically significant effects on children's health and behaviour, meaning that children's health and behaviour vary based on the ethnic group that they belong to. Five trends can be noted in Table 2 when assessing the ethnicity of the child.

First, children in families who emigrated from Hong Kong tended to have higher behaviour scores than children from families from Mainland China. Children from Hong Kong had higher scores on the hyperactivity (0.90 points), emotional problems (0.49 points), and physical (0.39 points) and indirect (0.43 points) aggression scales, in addition to higher general behavioural scores (0.65 points) when contrasted to children with a Mainland Chinese background. No difference was found between these two groups when prosocial behaviour or health was examined. While these statistically significant differences exist, it is important to note that average behavioural scores are quite small for the entire sample, which suggests that parents in our sample perceived their children as having few behavioural issues.

The second trend is the reported higher health scores among the Iranian children. Iranian children displayed significantly higher levels of health in five of the seven models. The Iranian children were 36.35 times more likely than children from Mainland China to report excellent health. In addition, they were more likely to have lower hyperactivity (-1.67), emotional problems (-1.71), and indirect aggression scores (-0.57). In addition, Iranian children had a higher level of prosocial behaviour. On average, they scored 4.04 points higher on the prosocial scale when contrasted to youth with a Mainland Chinese background, holding all other variables in the equation constant. When assessing physical aggression and general behaviour, Iranian youths did not score differently than the Mainland Chinese youth.

The third trend found in our results is that children with Iranian, Filipino, and Punjabi backgrounds reported to have better health than the Mainland Chinese comparison group. As stated, Iranian children were 36 times more likely to report having excellent health, while Filipino and Punjabi children were four and three times more likely, respectively, to report having excellent health when compared to the Mainland Chinese group. Children with Afghani and Hong Kong Chinese backgrounds were no more likely than the comparison group to report having excellent health.

Next, Table 2 also illustrates that all children, with the exception of those from Hong Kong, had less emotional problems than the Mainland Chinese group.

The fifth trend focuses on physical aggression. With the exception of children with Iranian backgrounds (who were no different from children from Mainland China), all children displayed higher physical aggression scores than children with Mainland Chinese backgrounds. Physical aggression scores were 0.75, 0.39, 0.46, and 0.60 points higher among children with Afghani, Hong Kong Chinese, Filipino, and Punjabi backgrounds, when contrasted to the comparison group.

4.4. Background Variables. Five background variables were considered in this study: length of time living in Canada (two years or less versus living in Canada for more than two years up to ten years), household income, primary caregiver's education upon arriving in Canada, gender of the child, and age group of the child.

Children who lived in Canada for two or fewer years were not found to differ in their health or behaviour when compared to children who had lived in Canada for two to ten years. The education of the primary caregiver parent was found to positively influence behaviour scores in Models 2, 3, and 6. As education level increased by 1-point, hyperactivity and indirect aggression scores declined by 0.12 and 0.11 points, respectively. In addition, prosocial behaviour scores increased by 0.54 points as education increased by 1 point. Household income also worked to reduce hyperactivity scores: as income increased by one level, hyperactivity declined by 0.06 points. Additionally, as income increased children were 8% more likely to report having excellent health. Sex and age of the child had widespread statistically significant effects on health and behaviour compared to the other background variables. Females had lower hyperactivity ($b = -0.61$) and physical aggression ($b = -0.29$) scores than boys did, and higher prosocial behaviour scores ($b = 0.81$). They also were 29% more likely to be in excellent health compared to boys. Lastly, older children were found to have lower hyperactivity ($b = -0.82$), physical aggression ($b = -0.40$), and indirect aggression scores ($b = -0.24$) than were younger children. They were also found to have higher prosocial (0.49) scores.

5. Discussion

In examining the direct influences of micro-, meso- and macrolevels of discrimination, findings were inconsistent

although it appears that individual or cultural discrimination is more influential on children's health than is family discrimination. Our measures of discrimination relied on parent perceived discrimination. We suggest that future research examines the child's perspective.

Interestingly, we found that parents' perceived discrimination slightly increased the child's prosocial behavior scores. Similar to what Dion et al. [11] argue in their resiliency model of discrimination, this relationship might be explained if the parent was intentionally buffering, or over compensating, their child from discrimination that they had themselves experienced. Future research will need to explore this finding.

Our findings are concordant with those reported elsewhere [17] in illustrating considerable differences between the various ethnic communities with respect to health outcomes. Future research may provide a better understanding of whether such findings represent real differences between cultural groups or are an artifact of parents' reporting on their child's health and behaviours. For example, Afghani children (who are all refugees) had lower scores on the emotional problems scale than the Mainland Chinese comparison group. This finding may be attributed to the resiliency that many refugee children exhibit in their host country; alternatively, Afghani parents might portray their children as enduring fewer emotional problems in Canada, compared to parents from other ethnic groups. Another example of this in the results was that parents from Hong Kong reported more child-behaviour issues than parents from other immigrant populations. This may be an artifact of parents' reporting, with parents from Hong Kong possibly having higher expectations of their children. This is a limitation of the current study, that is, we lack an understanding of whether differences in parent's reporting is based on cultural differences or subjectivity. Given that the questions were standard, asked in the parent's original language, and objective gives us some confidence that real cultural differences may exist. Future work is needed in this area.

Another limitation of the study is that the severity of discrimination is not recorded. Future research will need to focus on this aspect of discrimination.

The strength of this study is that it contributes to an understudied area, that is, the influence of perceived discrimination amongst immigrant children's health in British Columbia. The NCCYS is the first study to focus entirely on the health and wellbeing of immigrant and refugee children in Canada. Much of the literature on discrimination comes from researchers in the USA, who focus on perceived racism amongst African Americans, a population which is large, well-established, and has a different history from immigrants and refugees, who by definition are newly settled in their new country. In addition, research on perceived discrimination in the area of child health is limited.

Canada, along with other western nations, is a receiving country with respect to immigrant populations. Understanding the wellbeing of all its children, including those of immigrant families, is important to not only the wellbeing of these families but also the wellbeing of the nation.

Furthermore, as with the research that examines adults, discrimination experienced by young adults and children is also associated with poor mental health. While we have examined the influence of ethnic discrimination experienced by the particular ethnic group, the family, and the primary care giver parent, future research should focus on discrimination faced by the youth. While culture, family, and parents all have an important influence on youth health and behavior, it is important to understand the influence that discrimination experienced by the child has on their health and behaviour.

This paper has noted that significant child health and behavioural differences exist between the various immigrant ethnic groups that we have examined. These results demonstrate the importance in understanding differences *between* immigrant children, rather than considering them as a homogeneous entity. This is particularly noteworthy given that the current literature tends to group immigrants together and not examine ingroup differences. Such differences are vital not only in the development of theoretical and analytic models, but also more importantly in preparing for and treating ingroup differences.

As shown by Gee and Walsemann [6], discrimination precedes negative health outcomes, and as such it is essential that we understand the effects of discrimination amongst children so that we may ultimately attempt to prevent discrimination, but also the consequences of such discrimination.

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Research Article

Resettlement Experiences of Afghan Hazara Female Adolescents: A Case Study from Melbourne, Australia

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Young people from refugee backgrounds face a number of challenges in adjusting to life in a new country. Recently, there have been more studies documenting some of these challenges and experiences, and offering recommendations for the health and education sector to appropriately respond to their needs. This study sought to investigate some of the experiences and challenges faced by female Afghan Hazara refugee adolescents as a precursor to program development occurring within a community health service in the outer southeastern suburbs of Melbourne, Australia. This paper reports on a cross-sectional participatory qualitative research study undertaken with young Afghan female adolescents aged 14–17 years of Hazara ethnicity. The results document some of the key contested gender and cultural challenges facing these young women, their aspirations for their lives in Australia, and how this research has informed community health practice.

1. Introduction

Individuals from Culturally and Linguistically Diverse (CALD) backgrounds confront a variety of unique problems when adjusting and resettling to life in a new country. For individuals from refugee backgrounds, difficulties associated with language and cultural differences are frequently compounded by prior experiences of discrimination, stigma, human right violation, and trauma which potentially exacerbate mental health problems. Research conducted with refugee women in South Australia indicated that transitional experiences upon arrival in Australia often did not meet their expectations. Whilst coming to Australia presented the chance of survival, a variety of unexpected challenges contributed towards a sense of hopelessness, often resulting in low self-esteem and depression [1]. Young people from refugee backgrounds in particular face a number of resettlement challenges, and while burgeoning research into how this process unfolds for refugee health is emerging globally [2] there is little information about this transition for Afghan female youth. This study addresses this gap

focusing on refugee female adolescents from the Hazara ethnic background.

2. Literature Review

A qualitative study of the social and emotional wellbeing of 123 young people from CALD backgrounds living in Queensland, South Australia and Western Australia included 76 people from refugee backgrounds [3]. The interview data of the participants from refugee backgrounds was analysed separately to the other participants, allowing specific exploration of the unique emotional and social issues arising due to the compounding experience of arriving as a refugee. The findings indicated that the traumatic past of young people was something that continued to influence their lives within Australia. Experiences of racism within Australia were correlated with depression and social withdrawal, as they triggered memories of violence from their past. Social connection with members of their own cultural community has been identified as an effective form of comfort for people from CALD and refugee backgrounds.

Whilst young people from CALD and refugee backgrounds have indicated enjoying and appreciating the freedoms within Australia, these have also been identified as a source of conflict, contrasting with family responsibilities and roles from their cultural backgrounds. Conflicting values, traditions, customs, and expectations between young people and their families have been identified as a common cause of family disruption [4]. Relationship conflict between generations is a source of stress for many young people [3]. This has been further demonstrated through a study conducted by Kids Helpline which indicated that young people from Non-English Speaking Backgrounds (NESB) called the help line to discuss family and relationship problems at rates exceeding those of the broader English speaking population. The majority of calls from NESB young people were in regards to family relationship problems arising from intergenerational conflict and peer relationship difficulties related to frequent and severe bullying, and language and cultural difficulties [4].

Young people from CALD and refugee backgrounds also face a variety of educational challenges [5, 6]. The demanding supportive roles which these young people take within their homes and the disrupted or lack of formal education within their respective countries make schooling challenging and very difficult [3]. This was reiterated in findings with high school students from Southern Sudanese backgrounds who encountered schooling difficulties due to the loaded responsibility of looking after their families compounded by low levels of education within their respective country [7]. The difficulties highlighted were found to decrease the likelihood of successful transition to tertiary study, despite aspirations for further education. Young people from NESBs also experience increased discomfort within the school environment, as a result of being subjected to direct and indirect discrimination and stigmatisation due to colour, accent, dress, and an initial lack of understanding of the Australian education system [4].

A quantitative study of the predictors of education success among 91 refugee youth in Canada found that just over half (53%) were doing well in high school [8]. Success in this study was defined as having successfully completed high school or being at high school in the correct grade in relation to their age and self reporting no current difficulties. Grade placement on arrival, increased length of time in Canada, ethnicity, urban residence, and parents' health were the significant factors in a regression model. Recent research tracking the health and wellbeing of refugee youth over a three-year period concluded that their perceived social status of their community, discrimination and bullying were key factors influencing wellbeing and that policies and programs need to address the broader social environment to ensure successful outcomes for these young people [2].

Whilst youth from refugee backgrounds share some similar experiences, it is imperative that they are not considered a homogenous group. Each refugee community has distinct and unique characteristics. And the levels of wellbeing have been found to differ among ethnicities for refugee young people [2]. Melbourne's outer southeastern suburbs have recently experienced an increase of population groups from

CALD backgrounds, many arriving on humanitarian visas. The largest refugee group within the City of Casey where this study took place is the Afghan population with 1703 people according to 2006 census, although this figure would have increased by the 2011 census the results of which are not yet released [9]. The participants of this study were primarily comprised of people from Hazara ethnicity.

Afghanistan has an intricate history of turmoil over four decades which has included war and discrimination on the bases of race, religion, and gender resulting in the largest population movement in modern times. Many of the current Afghan youth living in Australia have been born during the Taliban years which were characterised by extreme Islamic practices which had devastating health and education consequences especially for Afghan women [10]. Under the Taliban rule women were forbidden to work, attend school, or leave the house unaccompanied by a male family member. Women were required to wear a burqa which covered them from head to toe with only a net over their eyes. Women who did not comply with these regulations were severely punished, often in the form of public beatings [10].

These violations of women's rights were justified in the name of culture and religion. It is then of particular interest to consider the experiences of Afghan youth resettled in Australia, as they were born in a volatile and violent country at a time coinciding with the early stages of the Taliban regime. The impact of this harsh and complex environment has direct effects on the developing child and indirect effects through impacts on their mothers and other significant carers. Thus it is important to consider the challenges posed by the traumatic experiences faced by Afghan youth especially young women combined with contrasting cultural and gender values when resettling into Australia.

Community support has been identified as benefiting the health and wellbeing of youth from CALD and refugee backgrounds [3]. Furthermore, Brough et al. concluded that conceptualising the experiences, health, and wellbeing of this population group does not fit well within the boundaries of the biomedical model of health and illness [3]. Rather, the way which the participants articulated their lived experiences exemplified "the importance of promoting supportive social environments within public health approaches to refugee health. Community development strategies which connect young people to communities and communities to young people are of critical importance" (page 206).

There are a range of barriers which hinder the development and implementation of health promotion programs for people from CALD communities. Research consistently reiterates the importance of culturally appropriate programs and strategies which acknowledge the diversity within CALD communities also. Services and messages must extend beyond translation into the language of the communities which they attempt to engage, to align with the values inherent within the cultures of these population groups [11]. It is also important to consider some of the structural and societal barriers that may be hindering the wellbeing of these young people and how interventions can address these factors [2]. While there are general recommendations for working with these communities, at this stage, there is a lack

of coordination, sustained support, and evidence base for programs aimed at promoting the health of refugee young people [12].

There have been recent calls for the research and development of more coordinated and comprehensive programs for refugee youth [12, 13]. There is an unequivocal need for research that ascertains the psychosocial needs of refugee youth. This reaffirms the need to engage in consultation with various population groups and explore the unique experiences and situations of these newly arrived peoples in order to respond with appropriate, accessible, and well-resourced services [4]. While there has been some innovative and informative research with Afghan male youth as part of the Good Starts Arts project [14], there seems to be less information available about Afghan female youth.

3. Project Aims

There is limited research exploring the health and social issues and needs of Afghan adolescents from refugee backgrounds and little information about the experiences of female Hazara adolescents. Consequently, educators and social health workers have limited knowledge about the unique experiences of this group, making it difficult to respond to the health and social wellbeing needs of this growing population. Therefore, this cross-sectional research explored the settlement issues of female Hazara adolescents, examined the challenges they face and their aspirations for the future. Recommendations drawn from the analysis will contribute towards the knowledge base of youth from refugee backgrounds.

4. Methods

4.1. Research Design and Methods. This study was conducted to inform the development of community health and social programs to better support refugee youth, in particular Afghan females from Hazara ethnicity within mainstream secondary school. Recruitment and data collection was undertaken by the first named author as part of her employment with Cardinia Casey Community Health Service, Melbourne, Australia. It was considered pivotal to the project that someone familiar to these young people undertake the interviews and that through this rapport ongoing involvement in programs could be achieved. This fostering of participatory relationships was one of the key principles underpinning the methodology [15]. The study utilised qualitative gendered research methods drawing on life history approaches that involved a sharing of stories and drawing interpretations [16].

Using some of the recommended strategies from Baur et al. [17] in conducting research with marginalised groups, informal conversations were conducted with the prospective participants before the interviews took place. Participants were visited at least one week before the in-depth interviews and informed of the semistructured questions that were part of the interview schedule. They provided feedback about the types of questions they felt comfortable to answer

and provided some information about their current experiences in Australia. Through this informal consultation the participants asked the first author about her background and aspirations in Australia, as the first author has a refugee background and is of Hazara descent, came to Australia in her late teenage years over a decade ago, and is now a community support worker. This building of rapport and trust was considered pivotal in securing the confidence of the participants for this study and involvement in future programs which have evolved in the form of a peer support group.

This paper draws on the voices and the overall experiences of Hazara females from refugee backgrounds based on their histories, resettlement experiences, family situation, social and cultural factors, and study experiences within their countries of origin and within Australia from the audio recorded interviews.

4.2. Participants. Eight in-depth, semistructured interviews were conducted with Afghan Hazara female participants between the ages of 14 and 17 years. The participants were studying at three different government secondary schools in Melbourne's southeastern suburbs. Following the in-depth interviews, a focus group discussion was held with eight female participants, two of whom had previously taken part in an interview. Participants were pooled from personal contacts initially, with snowballing and purposive sampling occurring thereafter. The inclusion criteria was arriving in Australia within the last five years and although it was not the original intent to only interview those of Hazara ethnicity this eventuated due to the other Afghan ethnic groups in the area having been settled for a longer period of time.

4.3. In-Depth and Focus Group Questions. The semistructured in-depth interviews and focus group discussions were guided around specific categories such as:

- (i) demographics (including ethnic background and socioeconomic factors),
- (ii) experiences in Afghanistan and migration to Australia,
- (iii) school environment (learning, teaching, and social) and experiences at school and at home,
- (iv) negotiating identities between Australian and Afghan culture,
- (v) peer relationships,
- (vi) family relationships,
- (vii) future aspirations in Australia.

These categories were identified in order to assess aspects of the students' resettlement into Australia, in particular the unique issues arising from being a female teenager and adolescent from a Hazara refugee background living within Australian society. The dialogue was planned to cover issues broadly and not just focus on the past experiences of trauma and its effects on the present, rather this was considered just one of many aspects to the lives of these young people [14].

The interviews and focus groups were conducted in Dari and as the first named author is an accredited interpreter, they were transcribed in English. Even though many of the participants were fluent in English the use of Dari rather than English was considered an important rapport building strategy. All the interviews and focus group took place between July and September 2009.

4.4. Ethical Approval. Ethics approval for the project was obtained from the Human Research Ethics Office at Curtin University and the Standing Committee on Ethics in Research Involving Humans through Monash University.

4.5. Thematic Content Analysis. After the interviews were completed and transcribed a thematic content analysis was undertaken to collate and condense the information gathered into distinct, and succinct themes [18, 19]. The aim of the analysis was to produce a thematic content analysis that was succinct and reliable and could display the key themes in an easily communicated manner to a nonresearch literate audience [20]. This was considered an important tool in communicating the results to participants, as the summarised themes and recommendations were provided to participants for their feedback, and then provided to staff and managers of the health service from which appropriate strategies have been planned and delivered. Based on this feedback the themes were further refined by the research team.

5. Results

5.1. Perception of School. The participants identified several educational and social difficulties such as language and bullying within school which will be later discussed. Despite these difficulties, participants consistently stated that they valued education and wanted to go to school. They felt that the school environment was safe, they enjoyed school and believed that the teachers acted in the best interests of the students, offering academic and social support. Students expressed gratitude for the peaceful school environment,

Students are not fearful of teachers. In Afghanistan, teachers are seen as the highest form of authority and everyone is scared of them. In Australia they are friendly and not scary at all. [Participant 3, 14 years].

In Australia, schools think about children and that they should be at peace and have a good time...[I] look forward to going to school every day. [Participant 1, 14 years].

5.2. Educational Difficulties. Despite their appreciation for the school environment, participants stated that school was one of the hardest things about settling in Australia. Limited English and lack of prior formal education within their respective countries were identified as barriers to education within Australia. The participants expressed frustration in not understanding and not being understood. However,

some frustration decreased upon familiarity with the English language, reinforcing previous assertions that six to 12 months of ESL services for newly arrived migrants are inadequate for young people with disrupted schooling backgrounds, resulting in immediate frustrations for teachers and students [21],

It was hard until I learnt English because I had not received any education when we were in Iran...It was the first time I went to school when we came to Australia. [Participant 5, 15 years].

These experiences of the participants are likely to be similar to those of many recent humanitarian arrivals into Australia from non-English speaking backgrounds; however, there are peculiarities specific to this population group, reflecting the political culture of Afghanistan and the denial of educational opportunities to women.

5.3. Social Difficulties. The participants consistently expressed social difficulties at school. This included explicit forms of bullying such as name calling and teasing, in which people referred to them as “unsocial” or “terrorists.” The issue of clothing emerged within each interview, in which the females felt separated from their peers as their attire immediately identified them as Afghan, and therefore, as different. Bullying often related to the wearing of the traditional headscarf. Several comments indicated that other students had pulled off their head scarfs, and that they had been interrogated as to why they bother wearing the scarf when some hair could be seen at the front.

More subtle forms of social difficulty included having trouble mixing with peers, feelings of dislike by other members of their class, and having no one to partner with for paired or group class activities. The young women further expressed feeling inferior to the broader, predominately Western population, believing that others look down on them and avoid contact with them. The traditional Afghan names were also identified as a topic for school bullying,

We have difficulty in mixing with people because of the way we're dressed...I always feel that people look down at me. [Participant 6, 16 years].

Because of the way we dress...we have been called a terrorist or unsocial people. People refuse to talk to us or have a relationship with us. [Participant 8, 15 years].

When I started school with my older sister, we didn't know enough English. Two boys used to take our scarfs off. So she left school. After a few years she started going to TAFE. [Participant 4, 16 years].

5.4. Culture and School. The participants identified several cultural differences which contributed towards uncomfortable school experiences. These included learning about the body and sex education in front of male peers. Whilst participants indicated an understanding of the importance

of this education, and a general appreciation for this, they found having these discussions around boys embarrassing. Other differences included playing sport and going on school camps and school excursions. According to the participants these are considered taboo within Afghanistan and inconsistent with the culture of this population group, despite being considered normal within Australian society,

Learning about my body in front of boys was very embarrassing. I didn't like going to school on those days. [Participant 2, 17 years].

5.5. Family Support and School. Participants identified several difficulties associated with school experiences within Australia and the culture of their family life. There was a variety of responses relating to how much parents supported adolescent female education. Whilst some females expressed that their parents were very supportive of their education, wanting them to continue onto successful careers, others stated that education was not considered a priority for Afghan females, but rather that their duties were within the household. While the participants were all of Hazara ethnicity, in dialogue they made a number of general comments in relation to Afghan culture broadly when discussing family and gender roles.

This was a frustration for some participants, as they consistently indicated aspirations to continue studying and pursue careers. Although the participants were all enrolled within school, they stated that many girls within their cultural community were not allowed to have an education, having the cultural practices of their respective country imposed upon them. Within Australia, education is considered to be a predictor for future employment and economic status. Some participants reflected that they felt the cultural perspectives of Afghanistan were impeding their social, economic, and educational opportunities, potentially disposing them to a variety of health and social problems,

The main problem for Afghan girls is that they want to have education and go places but in Afghan culture, they have to stay home. [Participant 7, 14 years].

Fifty percent of families don't allow their daughters to go to university and have a career. [Participant 8, 15 years].

Some girls want to receive education, but parents think that you should have limited education and then learn household skills and go and marry a boy and have kids. Some parents don't care about their daughter's lives, but the girl might want to have an education and a career. [Focus group comment].

The issue of whether males were allowed more freedom within school and given increased educational opportunities was a reoccurring theme within each of the interviews and one of main topics of conversation in the focus group. The participants expressed frustration with living in Australia

under what they perceived as Afghanistan's cultural structure of gender roles. The overarching gender issue was the higher status and value of males within their families and cultural communities. The participants identified males as having more freedom and enjoyment while females were required to stay home performing domestic duties. Participants stated that families listen to boys more, support their education more, and allow them more freedom than girls,

Parents and families cannot stop boys from doing all these things because they are boys and they have more value and status in a family than a girl. [Focus group comment].

Boys can have lots of fun, but girls have to stay at home and do housework...it should be the same for boys and girls. [Focus group comment].

Some families want their girls to have a little bit of freedom but they cannot do it because of other people. They will have to listen to other people. [Focus group comment].

Young women within Afghanistan have experienced significant inequalities and repression for many years and according to these participants this cultural norm has, to a certain extent, been transferred into their lives within Australia. Several participants stated that their parents were not supportive of some school activities, in particular physical education, sex education, and school camps. Participants stated that parents were not supportive of their daughters participating in sporting activities, as such is considered incongruent with Afghan culture, especially when this may involve close proximity or contact with males. Attendance to school camps was forbidden for similar reasons,

...[I] cannot tell my parents that I love PE because...mum thinks that PE is not for girls...she says that I shouldn't do sports because boys and girls play together...I have never been allowed to go on camps. [Participant 1, 14 years].

I never spoke about this [sex education] at home. If I did, my mum would cry and my dad would go to school and fight with teachers and tell me to stay home. [Participant 2, 17 years].

Finally, participants stated that it was difficult to discuss school issues within their homes. Problems such as bullying, social, and academic difficulty were kept to themselves as these participants felt that their parents would not be familiar with these issues and unable to be of assistance. One participant expressed that Afghan culture does not discuss any problems within the home, often leaving individuals to carry such burdens alone,

If something happens outside the home, because of our culture and being shameful, we cannot tell anyone at home. [Participant 5, 15 years].

5.6. *Family Responsibility.* Several family responsibilities were identified as affecting the participants. Issues of family violence, both physical and verbal, arose in several discussions and were identified as adversely impacting the behaviour of the children within the home. The participants also indicated high levels of responsibility relating to household duties, managing family finances, assisting parents and siblings, and interpreting for non-English speaking parents. The pressure of this was identified as adversely impacting their education and social wellbeing. This is consistent with previous research on refugee youth within Australia. Furthermore, existing within the community, in particular, was the notion of shame and honour within Afghan culture. Shame and honour were identified as placing responsibility and pressure on young adolescent females in relation to gender roles,

Lots of family responsibility on me, I have to look after all the bills for home and also do interpreting for them at times. . . I know that sometimes it is not appropriate for me to act as an interpreter. Some organisations don't like it as well. It is not professional and ethical and I might not know the appropriate language and I'm a young adult. [Participant 2, 17 years].

It is hard for both girls and boys, but because of cultural restrictions and belonging to a honour and shame based culture, girls are scared of following the path of becoming an Australian, but boys do it more freely and they don't have a fear. [Focus group comment].

5.7. *Marriage.* Participants expressed some coercion to marry at a young age, with suggestions of pressure to marry within their cultural community or to agree to an arranged marriage. This appeared to be closely related to cultural gendered roles, in which girls were expected to marry the same way as their parents did in Afghanistan. This was identified to be a cause of conflict between young females and their parents, and a contributor to poor mental health among many female Afghan youth.

One participant stated that girls within the Afghan community may “attempt suicide if they are forced into an arranged marriage.” Whilst the term suicide is stated with caution, this is indicative of how seriously these girls perceive the issues of forced marriage, consistently indicating the desire to choose their partner and not conform to the Afghan tradition of arranged marriage,

Some parents don't even want to ask their daughters if they want to marry a man. The parents will choose a man for their daughters. We believe that parents should ask their daughters if they want to marry a man. [Focus group comment].

5.8. *Past Trauma.* Several participants indicated that the traumatic experiences of their pasts including premigration experience and their refugee journey still pervaded their

thoughts and affected their emotions. This is consistent with previous research which indicates that the history of being a refugee continues to affect people's lives within their new country. These findings reiterate the need to consistently respond to the unique mental health needs of refugees within Australia. Despite being affected by the trauma of their past, the female youth expressed a general appreciation for the cohesion, the peace, the security, and freedom of choice that exist in Australian society,

There are times that I can't stop thinking about what we all went through, losing our family members and losing my brother. [Participant 3, 14 years].

At times when everything is quiet, I sit and think about the peace we have here and hopefully [the torture and the fear] will never happen again. [Focus group comment].

5.9. *Social Wellbeing.* The participants indicated social difficulty in which they felt excluded and found it hard to make friends outside of the Afghan community. This was attributed to cultural differences in which the broader Australian population was considered to be uninformed about Afghan culture, creating a barrier to friendship. Participants consistently stated that much of the social exclusion came from looking different due to the clothing (such as wearing the head scarf or hijab) that they are culturally required to wear,

It is harder in the society to become friends with people outside our community because they don't have enough knowledge about our culture and they don't know about some of our customs. [Focus group comment].

Sometimes. . . the bus drivers treat us differently or if we are in a park then other people try to avoid us or distance them from us so that they are not close to us. [Participant 5, 15 years].

5.10. *Negotiating between Cultures.* The participants consistently indicated emotional struggle in negotiating between Afghan and Australian culture, discussing the difficulty in being caught between the two worlds and feeling partial connectedness and responsibility to both. Whilst this was explicitly stated within the majority of interviews, it was also underscoring many of the aforementioned findings,

I want to keep bits and parts of my culture in Australia and live parts of both worlds. [Participant 1, 14 years].

It has been hard in Australia. . . I have family pressure and sometimes it gets very difficult for me to live in two worlds. [Participant 2, 17 years].

5.11. *Future Aspirations in Australia.* Although as stated the participants were pessimistic about some of the opportunities available to other Afghan female adolescents, many of the

participants expressed a strong desire to achieve education and career success and overcome any obstacles present. Some of the participants appreciated their own parents' support towards their education and career aspirations and thus the participants' tendencies to generalise about the imposition of Afghan culture on gender roles was not necessarily reflected in their own families,

Some families don't know what freedom is. They think freedom is clubbing or having a boyfriend. But to us freedom is to receive education and go and work. [Focus group comment].

For me, there will be many challenges and hurdles and hopefully I will be able to face them and have strength. [Participant 3, 14 years].

My parents want me to have a good future and have a good career in my life. They don't want me to marry young, have kids and live my life like other Afghan women...My parents provide me lots of help with my education and future. [Participant 2, 17 years].

I'm lucky that they [parents] want me to have education and my freedom is important to me and they want me to have a good career. [Participant 1, 14 years].

6. Discussion: Program and Policy Implications

This study is limited in its selection of participants from a specific ethnic group within a defined local government area within Melbourne, Australia. While considered a vital strategy to accessing a population group that has not been well researched, having an interviewer with a shared experience as the participants could also be contented as producing a strong element of bias into the conduct of the interviews and analysis. The participants also expressed a number of broad comments in relation to cultural practices. While it is important to capture how the Hazara female youth understood their social environment, the degree to which this is reflective broadly of the experiences of Afghan female youth from other ethnic backgrounds (Pashtun, Uzbek, Balochi, and Turkmen) and refugee female youth from other countries cannot be assumed. However, many of the findings were consistent with the experiences of refugee youth as identified within previous research. Similarities included educational difficulty due to increased responsibility within the home, lack of prior education in respective country, and language barriers [3]. Similar to other research these young people had experienced discomfort with the school environment as a result of being subjected to direct and indirect discrimination [4].

In comparison to young Afghan males there were some similarities in findings such as language challenges, negotiating between two cultures, trying to fit within their new society, and appreciation coupled with suggestions of apprehension of the freedoms found in Australia [14]. There were

also a number of differences between the genders. Whereas males have an ability to dress in a "safe way" that would not gain unwanted attention [14] this was not something that many of the female participants could achieve. Many of the participants commented on the different roles expected of them at home and school relative to the experiences of their brothers and other young males.

The findings of this research led to the development of a peer support group in 2010 so that these adolescents could discuss and support each other with some of the cultural and gender related challenges outlined in this research. Previous research has found that East Timorese people felt that social workers empowered their children which often conflicts with traditional Timorese societal and cultural mores [22] and this has also been an experience of refugees from some African communities [23].

Given these findings, it was considered important that a female Hazara community member facilitate the group so that cultural appropriateness, safety, and interpretation were embedded within the group program. An adolescent psychologist from a Caucasian background cofacilitated the group and the group was drawn from within a secondary school so that appropriate partnerships, collaboration, and coordination were implemented, so that foundations for ensuring appropriate and successful programs and services are established [12, 24]. Given that some of the participants commented that they were unable to attend sex education classes, issues related to relationships, sex, and STIs were covered in the group among other topics. This study found that similar to previous research there is a lack of knowledge and information access around sexual health for people from refugee backgrounds, and the importance of providing this information in a flexible, sensitive, and culturally appropriate manner is vital [25, 26].

While issues of gender roles and family responsibility restricting educational opportunities are common findings across a number of studies [3, 5, 6], there seemed to be more pessimism about opportunities for educational and career attainment among these Hazara participants compared to research conducted with South Sudanese young people [7]. Thus as mentioned, in this study, a Hazara female tertiary educated community member cofacilitated the group, and Hazara women currently enrolled in tertiary education or working were invited to attend the group.

This research has also outlined strategies that the schools and community centres could implement to promote a more inclusive environment for these Hazara students and potentially CALD students from other backgrounds. Intercultural education is perceived as being important for all children and is frequently endorsed as a facet of good education [27]. Schools have been identified as an effective forum to promote and facilitate interculturalism, assisting children to develop positive intergroup relations, incorporating principles of respect, understanding, and acceptance [27–29]. Evaluations and meta-analyses of interventions consistently indicate positive outcomes among students [30, 31].

Furthermore, benefits of intercultural, interfaith, values-based education extend beyond reductions in racial bias, to include a range of improvements including increased

responsible behaviours, academic diligence, and enhanced student-and-teacher relationship and wellbeing [32]. Direct, explicit intercultural education has previously been the dominant form of interventions, however, the implicit interactional approach has been gaining credibility [27]. The interactional approach involves intentionally bringing diverse groups together to encourage positive interactions within the safe, protective school environment [33]. This can involve sporting activities, social activities, and other inter-campus events [30]. Research has indicated that intercultural interaction is positively related to the promotion of racial understanding and reduction of racial bias, with additional benefits including improvement in school satisfaction, social self-confidence, and critical thinking skills [30]. However, it must be noted that positive intergroup contact relies significantly on the provision of appropriate conditions. When supportive conditions are not in place, the interaction has the potential to have an adverse effect in which racial bias may be heightened [30].

Based on the results of this study in the peer support program students were assisted in developing their self-confidence to talk at a school assembly about features of their culture such as wearing of scarfs and the challenges in mixing with boys during certain school activities. The students were provided with lots of practice about the type of messages that would assist in discouraging discrimination and after providing a presentation in assembly according to their feedback this increased the respect they were shown by the school community and greatly reduced the level of bullying and harassment they received. This approach is consistent with recommendations for strategies that ensure inclusive environments for refugee young people [2], and further research is planned to evaluate systematically whether similar types of interventions can reduce the frequency of bullying behaviour.

7. Conclusion

The findings of this study highlight the importance of maintaining and building connections with members of their own community and with the broader community. Many of the cultural impacts identified in this study are related to being female, as this potentially influences the clothing that many of them wear, the activities they can participate in, and the amount of educational support they receive from their family. This can compound the more common experiences of young people from refugee backgrounds in negotiating between two cultures, causing intergenerational disputes and creating a feeling that they do not completely belong to either community. Varying forms of extreme trauma and mental health issues as a result of human rights violations are a commonality, identified within previous research and reiterated within these findings [3]. Further research is required to investigate participants' claims that adolescent girls are not being allowed to attend higher secondary school or to be tertiary educated and are kept at home by their parents.

This study has highlighted some of the issues faced by young Hazara women during resettlement and how this can inform program development. It was clear from this research that Hazara young women needed more positive and empowered female role models not only from their community but also from the wider migrant community. The participants of this study were highly motivated to successfully complete secondary education and undertake future study in pursuit of rewarding careers. Further research is required on the efficacy of programs and policies for refugee young people to ensure successful access to educational and social opportunities so that their ambitions can be realised.

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Research Article

Vietnamese Immigrants in Brisbane, Australia: Perception of Parenting Roles, Child Development, Child Health, Illness, and Disability, and Health Service Utilisation

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The limited research into Vietnamese immigrants suggests that this group may have different perceptions relating to parenting roles, child development, child health, illness, and disability, and differing patterns of health service utilisation. The author conducted a pilot study exploring how Vietnamese immigrants differ from Anglo-Australian in relation to these issues. The pilot, utilising a mixed quantitative and qualitative method, was conducted in Brisbane, Australia, with subjects being existing clients of a health centre. Two focus group discussions were conducted and a structured questionnaire developed from the discussions. Vietnamese immigrants in contrast to Australian-born Caucasians regard the general practitioner as the main health care provider and were less satisfied with English-speaking health services. This study highlights potentially important health-related issues for children of Vietnamese immigrants living in Brisbane, the importance of further research in this area, and the methodological challenges faced when conducting research into Vietnamese immigrants.

1. Introduction

The literature indicates reduced access to health services and disparate health outcomes in people from culturally and linguistically diverse backgrounds (CLDBs) living in Western countries [1, 2]. Low socioeconomic status, which is more prevalent in people from CLDB, accounts for some but not all of the disparate outcomes [3–5].

With Australia's increasingly cultural and linguistically diverse society, in particular a growing Asian population, health outcomes and health service utilisation of this population is an issue of great relevance to Australian practitioners and policy-makers. Even though commonalities may exist between CLDB populations, further exploration regarding poor health outcomes and access to health services demonstrate the importance of specific factors that are unique to individual communities.

During this study, staff at Inala Community Health's Department of Child, Youth and Family Health indicated possible deficits in the delivery of health services to families

from CLDB, especially those from a Vietnamese background. Staff believed that these deficits may be related to different cultural perceptions held by parents about children's health, development, and the role of parenting. A greater understanding of cultural values and beliefs of people from CLDB, which underlie health behaviour, is essential if appropriate health services are to be provided.

A significant amount of the immigrant health research emanates from the United States of America, where health insurance status is often a major influencing factor in health access and service utilisation [6–9]. However given the differences between the American and Australian health care systems, American research is often not generalizable to an Australian context.

There have been few Australian studies which have explored health concerns and barriers to accessing health services amongst Vietnamese immigrants [10–12]. This literature indicates that families and women rate their children's health as a high priority and have concerns in relation to their children's general health, growth, and development and

nutrition [11]. The Vietnamese family doctor is usually the first professional contact for any health-related problem [10]. The reasons cited for not utilising other mainstream health services include language barriers, inappropriate manner, and lack of cultural sensitivity of health professionals, transportation barriers, and waiting times [10, 11].

Traditional cultural health beliefs and practices are often incongruent with those of Western society and may pose a barrier to accessing health services [13]. Cultural differences in practices relating to pregnancy, birth, breast-feeding, and child birth [14–20] and children's oral health [13] have been identified in previous studies.

Thus this study and paper aims to contribute to the limited knowledge about Vietnamese immigrants living in Australia, their perceptions regarding their parenting roles, and the health and development of their children and their utilisation of health services for their children.

2. Research Method

2.1. Hypothesis. Prior to commencement of the study the following hypotheses were proposed.

- (1) Vietnamese immigrant parents living in Brisbane have different perceptions about parenting roles and child health, illness, disability, discipline, behaviour, and child health services, compared with Australian-born Caucasian parents.
- (2) Vietnamese immigrant parents living in Brisbane underutilise child health services, have less knowledge of them, are less able to access them, and are less satisfied with those they have used compared with Australian-born Caucasian parents.

2.2. Study Design. This is an exploratory study that utilised mixed methods of data collection, both quantitative (structured questionnaire) and qualitative (focus group) methodology. The focus groups were conducted first and responses were then used to inform issues to explore further in the questionnaire. For the purpose of this paper, the study group or participants will be referred to as the Vietnamese group or participants and the comparison group referred to as the Australian group or participants.

2.2.1. Setting. The study was conducted in Inala, Queensland in 2002. Inala is a suburb in the south-western outskirts of Brisbane. It is a low socioeconomic area with a culturally and linguistically diverse population and houses many recent immigrants [21]. The majority of Brisbane's Vietnamese community lives in Inala and its surrounding suburbs [21]. In 2001, persons of Vietnamese ancestry comprised the third commonest ancestry group in Inala (16.7%).

2.2.2. Subjects. All subjects were existing clients of the Inala Community Health Centre. Inclusion criteria were adults over the age of 18 years, who lived in the Inala and surrounding area, gave informed consent, and had at least one child under the age of 5 years. The Vietnamese

participants were first generation Vietnamese immigrants and the Australian group were Australian-born Caucasian. People from other cultural backgrounds were excluded to maintain cultural homogeneity. Exclusion criteria were known mental illness or intellectual disability in the adult subjects. The focus group and questionnaire participants were all existing clients of the Inala Community Health Centre. As this was a pilot and the intention is to follow-up with a full study, convenience sampling was used.

2.2.3. Focus Group. There were two focus groups, one with five Vietnamese immigrant parents and the other with nine Australian-born Caucasian parents. The chief investigator, who is bilingual in English and Vietnamese, and a child health nurse, facilitated both focus groups. A Vietnamese Liaison Officer was also present during the Vietnamese focus group.

2.2.4. Questionnaire. The questionnaire was developed by the Principal investigator using a well-accepted process described in the literature [22] and was based on issues which were uncovered from the focus group analysis. It comprised of standard question types including open-ended, dichotomous, forced-choice, rating questions using Likert scales [22] and vignettes [23]. The vignettes were created by the Principal investigator, who is a paediatrician. They were common scenarios in which the investigator has experienced cultural differences, between Vietnamese and Anglo-Australian parents, in clinical practice.

A pilot questionnaire was critically reviewed by a panel of paediatricians and professionals who work with the Vietnamese community to assess the questions for relevance. Professionals working with the Vietnamese community consisted of staff at the Inala Community health Centre as well as a Vietnamese general practitioner and a Vietnamese counsellor. The two native Vietnamese speakers, who are fluent in English, were asked to examine the questions for their ease of translation. Once the reliability of the questions had been confirmed, a qualified translator was asked to translate the questions into Vietnamese. They were then back translated into English for confirmation of meaning and equivalence [24].

The questionnaire was pretested by a small number of Vietnamese-born and Caucasian Australian-born parents to examine for content validity, ease of use, and relevance. The same panel of parents repeated the questionnaires two weeks later to examine retest reliability. The results were compared using correlation coefficients. The results from both the Australian and Vietnamese groups possessed high test-retest reliability, with a combined correlation coefficient of 84% (Pearson's) and 97.5% (Spearman's). Second attempt score did not vary more than 8% different from first scores for each individual. The individual questions were also examined and were deemed to be answered consistently the second time compared with the first time.

The final questionnaire was administered to the Vietnamese and Australian study groups. The Vietnamese group were given the choice of the Vietnamese or English version,

with all but one person choosing the Vietnamese version. There was one designated data collector for each group: a child health nurse for the Australian group and a Vietnamese Liaison Officer for the Vietnamese group. Although the questionnaires were self-administered, the designated data collectors were on hand to clarify any questions. The Vietnamese Liaison Officer, who is a qualified interpreter, assisted in interpreting the open-ended questions and vignettes in a culturally appropriate way and translating the data into English.

All information, consent forms, and the questionnaire were translated into Vietnamese by a qualified Vietnamese language translator and then back translated for accuracy. This is a methodologically sound and well-accepted approach in cross-cultural research [24].

2.2.5. Recruitment

Focus Groups. The Vietnamese focus group participants were selected from parents attending the Community Centre's Bacillus-Calmette-Guerin (BCG) Immunisation Clinic. They were approached by the Vietnamese liaison officer and gave verbal consent to participate in the focus group discussions. The Australian focus group participants were primarily parents who attended the Centre's parenting groups and baby clinics, who verbally agreed to participate in the focus group discussions.

Questionnaire. In recruiting participants for the questionnaire (See Supplementary Material available online at doi:10.1155/2012/932364), existing clients of Inala Community Health Centre's immunisation clinics, child health clinics, and parenting groups, with children between 0 and 5 years of age, were directly approached by the Centre's child health nurses and/or the Vietnamese Liaison Officer. The majority of the Vietnamese-born participants were clients attending the BCG immunisation clinics and the rest were clients of the Home Visiting Program. The participants were given an information sheet, either in English or Vietnamese, outlining the details and purpose of the study.

While there is some power gradient involved, as the parents are clients of the child health nurses and the interpreter, the nonthreatening nature of the study was explained. Using a Vietnamese recruiter helped to reduce the power gradient [25]. The participants were assured of confidentiality and anonymity and were informed of their right to refuse or participate. All parents signed a consent form.

2.3. Method of Analysis of Data. The focus group discussions were not taped because the literature indicates that this is not well accepted by Vietnamese women [10]. All efforts were made to accurately transcribe the main issues; however, without taping the sessions, content analysis was not possible. When analysing the responses for roles of health professionals, a panel of experts (two Caucasian Australian-born health care workers and two Vietnamese-born health care workers) independently scored the answers as correct,

partly correct, or incorrect. The questions left unanswered were assumed to be incorrect (the participants who left the questions unanswered informed the Vietnamese interpreter that they did not know the answers). The vignette responses were also independently scored as correct, acceptable, or incorrect, by two paediatricians.

The questionnaire responses were entered into SPSS and descriptive statistics generated. The two study groups were examined in terms of demographic variables, utilisation of health services, satisfaction with health services, and understanding and perception of health professionals roles, common issues in child development and health, and causation of childhood conditions. For continuous variables one-way analysis of variance (ANOVA) and the Chi-squared tests for categorical variables were used.

Due to the small number of study participants, some of the variables were recoded with categories collapsed together. Frequency distribution curves were studied to determine which categories were to be collapsed together.

3. Results

Focus Groups. The main findings are summarised in Table 1. Discussions revolved around five main issues: health service utilisation, understanding of the roles of health professionals, child development issues, issues relating to parenting and discipline, and perception of causation of chronic disabilities and medical conditions.

Questionnaire. The questionnaire completion rate varied depending on the questions. The Vietnamese participants tended to leave questions blank if they did not know the answer or completed some of the questions about satisfaction with health services incorrectly, that is, attempted to answer question about a service they had not used.

3.1. Demographics. Table 2 compares the demographic characteristics of the two questionnaire study groups. The majority of participants were mothers and were in married or common-law relationships. The Australian group were slightly older, although this was not statistically significant. They had more children ($P = .024$) who tended to be older ($P = .05$), and these differences were statistically significant. In both groups most participants had not proceeded to tertiary education (only two Vietnamese participants had done some university studies and one Australian participant had completed university). The majority of participants were not in paid employment, with only one participant (Vietnamese) working outside the home.

More than half of the Vietnamese participants did not respond to the income question, but of those who responded, 60% had incomes below \$20,000 a year compared to only 11.1% of the Australian group, although this difference was not statistically significant.

41.7% of the Vietnamese participants had lived in Australia for at least nine years, with the mean years in Australian 6.5 (SD 3.14), but most participants only rated

TABLE 1: Focus group findings.

Issue	Vietnamese	Australian
Health Services	Primarily GP ¹	Use community health services and GP
	Satisfied with GP	Less satisfied with GP
	Difficulty accessing community health services because of transportation problems; want home visits	Want community centres to run fathers' groups
Roles of health professionals	Understood roles of GP, and paediatrician	Understood roles of GP, paediatrician, CHN ² , PT ³
	Confused roles of psychologist and psychiatrist	Confused roles of psychologist and psychiatrist
	Did not know roles of PT, OT ⁴ , SLP ⁵ , CHN, and SW ⁶	Did not know roles of OT, SLP, and SW
Child Development	Offered child(ren) variety of toys	Emphasis on educational toys
	Solid food introduced same time as Caucasian group	
	Allowed child to feed independently later for fear of mess	
Parenting	Preferred explanation for discipline rather than spanking	Mostly infants so discipline not as relevant
Causation of chronic medical conditions, and disabilities		
Asthma	Cold, wind, allergies	Genetics, environment, grass, sand
Mental Illness	Trauma, use of OCP ⁷ , previous abortion, Karma	Genetics, stress
Epilepsy	Don't know	Genetics, trauma, drugs
ADHD ⁸	Don't know	Social factors, parenting, foods, preservatives
CP ⁹	Don't know	Genetics, inutero problems, vitamin deficiencies

¹General Practitioner, ²Community Health Nurse, ³Physiotherapist, ⁴Occupational therapist, ⁵Speech and Language Pathologist, ⁶Social Worker, ⁷Oral contraceptive pill, ⁸Attention deficit hyperactivity syndrome, ⁹Cerebral Palsy.

their spoken English ability and understanding and ability to read English as “all right” or “very little or not at all”.

Tables 3 and 4 compare the general health and community health services (out of all the child health services available at Inala Community Health Centre) utilised by the two groups, showing that the Vietnamese group used therapy services and information seminars significantly less than the Australian group. Of the community services, immunisation clinics, home visiting services, and antenatal services were the most utilised by Vietnamese participants.

Table 5 displays the results from the semantic differential questions, used to explore parental perception of various health services and professionals. Participants were asked to place an X on a visual analogue scale, corresponding to how their perceptions regard a particular service (see Supplementary Material). As the scale contained 5 boxes, the response was translated to a numerical value between “1” being most negative and “5” being most positive. A mean overall satisfaction score was calculated for each professional/service. Both groups held positive perceptions of general practitioners, hospitals, and community health centres.

The Vietnamese group were less positive about medical specialists, although this was not statistically significant. The Vietnamese group rated other health professionals (dentists, optometrists) less positively than the Australian group with the difference almost reaching statistical significance ($P = .065$). The two Vietnamese respondents rated therapists significantly less positively than the Australian group ($P = .029$). Both groups rated alternative practitioners quite

positively on all qualities, but the number of respondents was small in both groups.

Table 6 displays the degree of satisfaction participants had with community child health services used, with “1” being the least satisfied and “5” being the most satisfied. However the number of respondents was very low for all services apart from home visiting, immunisation clinic, and antenatal clinic. The degree of satisfaction with all these services was high for both groups, with no statistical difference between the groups.

Table 7 tabulates participants' understanding of health professionals' roles, with the Vietnamese group having less knowledge than the Australian group of roles. In particular many in the Vietnamese group were unfamiliar with the roles of therapists. Also of note was the high rate confusion in both groups of psychiatrists and psychologists roles. There was a significant difference between the two groups in understanding the role of physiotherapist and speech pathologist, $P = .036$ and $P = .008$, respectively.

Table 8 outlines participant responses to the following vignettes: one, management of an acute diarrhoeal illness; two, approach to a child who is a picky eater; three, approach to an 18-month-old child who drinks only milk; four, approach to 2.5-year-old child who wants to feed independently; five, management of a 20-month-old child who is not walking; six, management of a 2-year-old child who is not talking; seven, perception regarding importance of tummy time when playtime; eight, perception regarding importance of books; and nine, perception regarding child playing in the mud.

TABLE 2: Demographics of questionnaire participants.

Variable	Vietnamese <i>n</i> = 12 (%)	Australian <i>n</i> = 10 (%) ¹	<i>P</i>
Role			
Mother	12 (100)	10 (100)	
Father	0 (0)	0 (0)	—
<i>N</i> Respondents (%)	12 (100)	10 (100)	
Age of parent (years)			
Responders (%)	12 (100)	10 (100)	
<30	6 (50)	2 (20)	.16
≥30	6 (50)	8 (80)	
<i>N</i> Respondents (%)	12 (100)	10 (100)	
Years in Australia (mean, SD)			
<i>N</i> Respondents (%)	12 (100)	Born here	
Marital status			
Married/Common-Law	8 (80)	9 (90)	.53
Other	2 (20)	1 (10)	
<i>N</i> Respondents (%)	10 (83.3)	10 (100)	
Number of children (mean, SD)			
<i>N</i> Respondents (%)	12 (100)	2.70 (0.95)	.024
Age children (mean, SD)			
<i>N</i> Respondents (%)	12 (100)	3.75 (1.33)	.05
Income ²			
Low (<\$20,000)	3 (60)	1 (11.1)	.09
Middle (\$20,000–\$29,000)	0 (0)	4 (44.4)	
High (>\$30,000)	2 (40)	4 (44.4)	
<i>N</i> Respondents (%)	5 (41.6)	9 (90)	
Level of education			
Some secondary	3 (27.3)	4 (40)	.66
Completed secondary	8 (72.7)	6 (60)	
<i>N</i> Respondents (%)	11 (91.6)	10 (100)	
Occupation			
Home duties	10 (90.9)	10(100)	.52
Fulltime work	1 (9.1)	0 (0)	
<i>N</i> respondents (%)	11 (91.6)	10 (100)	

¹ One participant recruited was excluded from study analysis as it did not meet eligibility criteria.² Based on Australian Bureau of Statistics Data *Household Income and Income Distribution 2002-2003*.

Both groups had a high rate of partially or fully correct responses for the vignettes, but the vignettes about delayed walking and delayed speech and language produced the greatest rate of incorrect responses from both groups. The Vietnamese group were statistically difference from the Australian group, with more incorrect responses for the vignettes about picky eater, feeding, and reading/books. The majority of participants in the Vietnamese group answered that they would “buy more books for their child but let her decide what she wanted to play with”, for the vignette about reading and books. The majority of participants from both study group responded that they would “explain to their child that it was dinner time and it would be nice if she came”, for the tantrum vignette, with only one participant (Australian) responding that they would take the child to “quite time” (time out).

Table 9 tabulates the responses of the two groups with regard to the causation of medical and neurodevelopmental conditions. Forced choice options were generated from the prior focus group discussions. Results have been presented descriptively, rather than as “correct” or “incorrect” answers, as some causes are debatable, and descriptive data give more insight into cultural beliefs around disease and illness. The Vietnamese group were more likely to answer that “upbringing” was a cause of Attention Deficit Hyperactivity Syndrome (ADHD) and were less likely to believe that “genetics” was a cause, with these differences being statistically significant. Additionally the Vietnamese group were less likely to respond that “genetics” was a cause of asthma, cerebral palsy (CP) or mental illness, with the former almost reaching statistical significance ($P = .056$) and the latter being a statistically significant difference ($P = .004$). Of note, one Vietnamese

TABLE 3: Utilisation of health services by questionnaire participants.

Services used—sometimes/often	Vietnamese N = 12	Australian N = 10	P
General Practitioner			
N Utilising	12 (100)	10 (100)	—
N Respondents (%)	12 (100)	10 (100)	
Hospital			
N Utilising	9 (90)	8 (80)	.50
N respondents (%)	10 (83.3)	10 (100)	
Community Health Centre			
N Utilising	10 (83.3)	10 (100)	.50
N respondents (%)	10 (100)	10 (100)	
Medical Specialist			
N Utilising	8 (66.7)	8 (80)	.42
N respondents (%)	12 (100)	10 (100)	
Health Professional			
N Utilising	8 (80)	8 (66.7)	.42
N respondents (%)	12 (100)	10 (100)	
Therapist			
N Utilising	1 (9.1)	7 (70)	.007
N respondents (%)	11 (91.7)	10 (100)	
Alternative Practitioner			
N Utilising	12 (100)	10 (100)	.41
N respondents (%)	2 (16.7)	3 (30)	

TABLE 4: Use of services at inala community health centre.

Services used	Vietnamese N (%)	Caucasian N (%)	P
	N Respondents (%) = 12 (100)	N Respondents (%) = 10 (100)	
Information seminars	0	4 (40)	.03
Parent information groups	0	2 (20)	.20
Home visits	6 (50)	5 (50)	.67
Triple P (Parenting workshops)	0	3 (30)	.08
Immunisation clinics	9 (75)	5 (50)	.22
Infant Feeding Clinic	1 (8.2)	1 (10)	.71
Therapy (PT, OT, SLP)	0	5 (50)	.01
Paediatrician clinic	1 (8.2)	4 (40)	.11
CYMHS ¹	2 (16.7)	1 (10)	.57
Antenatal clinic	4 (33.3)	7 (70)	.10
Day management	1 (8.3)	2 (20)	.43
Other	0	1 (10)	.46

¹ Child, Youth, and Mental Health Services.

participant answered that “what one did in a previous life” was a cause of CP. The same participant also stated that this was a cause of epilepsy. Another Vietnamese participant stated that “abortion” (previous abortion) was a cause for mental illness in a woman.

TABLE 5: Satisfaction with health services used.

Services used	Mean (SD) [Respondents (%)]		P
	Vietnamese	Australian	
GP	4.45 (0.69) [12 (100)]	4.47 (0.49) [10 (100)]	.94
Hospital	4.41 (0.72) [12 (100)]	4.83 (0.29) [8 (80)]	.14
Com Health Cent	4.50 (0.70) [12 (100)]	4.72 (0.44) [9 (90)]	.42
Medical Specialist	4.03 (0.80) [6 (50)]	4.68 (0.77) [9 (90)]	.14
Health Professional	4.16 (0.83) [5 (41.6)]	4.81 (0.30) [8 (80)]	.065
Therapist	4.00 (0.00) [2 (16.7)]	4.84 (0.42) [7 (70)]	.029
Alternative Practitioner	4.33 (0.58) [3 (25)]	4.67 (0.58) [3 (30)]	.52

TABLE 6: Satisfaction with community child health services used.

Services used	Mean (SD) (Respondents (%))		P
	Vietnamese	Australian	
Home Visiting	4.67 (0.52) [6 (50)]	4.33 (0.82) [6 (60)]	.27
Immunisation Clinic	4.75 (0.46) [8 (66.67)]	4.67 (0.82) [6 (60)]	.41
Feeding	5.00 (0.00) [1 (8.33)]	5.00 (0.00) [3 (30)]	—
Paediatrician	5.00 (0.00) [1 (8.33)]	5.00 (0.00) [3 (30)]	—
CYMHS	5.00 (0.00) [1 (8.33)]	4.00 (0.00) [1 (10)]	0.5
Antenatal	4.75 (0.500) [4 (30)]	4.86 (0.38) [7 (70)]	.45

4. Discussion

This study has elicited important issues relating to Vietnamese immigrant and refugee parents' perception of child health, development, and their utilisation of child health services, with the intention of further exploration of these issues with a subsequent full-scale study.

The main study findings and implications are summarised in Tables 10 and 11. The findings do partly support the initial hypotheses that Vietnamese immigrant parents living in Brisbane have different perceptions about parenting roles and child health, illness, disability, discipline, behaviour, and child health services, compared with Australian-born Caucasian parents, and that they underutilise child health services, have less knowledge of them, are less able to access them, and are less satisfied with those they have used compared with Australian-born Caucasian parents. Two important themes emerged from this

TABLE 7: Understanding of professionals' roles.

Professional	Partially/fully correct		P
	Vietnamese N (%)	Australian N (%)	
Physiotherapist	2 (33.3)	9 (90)	.036
N Respondents (%)	6 (50)	11 (100)	
Speech Pathologist	2 (33.3)	10 (100)	.008
N Respondents (%)	6 (50)	10 (100)	
Occupational Therapist	2 (33.3)	7 (70)	.18
N Respondents (%)	6 (50)	10 (100)	
Psychologist	2 (33.3)	5 (50)	.45
N Respondents (%)	6 (50)	10 (100)	
Psychiatrist	3 (42.9)	5 (50)	.58
N Respondents (%)	7 (58.3)	10 (100)	
Community Health Nurse	5 (71.4)	7 (70)	.69
N Respondents (%)	7 (58.3)	10 (100)	
General Practitioner	7 (70)	9 (90)	.29
N Respondents (%)	10 (83.3)	10 (100)	
Paediatrician	6 (75)	9 (90)	.41
N Respondents (%)	8 (66.6)	10 (100)	

TABLE 8: Vignettes.

Vignette	Partially/fully correct		P
	Vietnamese N (%) N Respondents (%) = 11 (91.6)	Australian N (%) N Respondents (%) = 10 (100)	
Diarrhoea	10 (90.9)	10 (100)	.52
Picky eater	5 (45.5)	9 (90)	.043
Excessive milk	9 (81.8)	10 (100)	.26
Feeding	7 (63.6)	10 (100)	.06
Delayed walker	3 (27.3)	5 (50)	.27
Delayed language	4 (40)	6 (60)	.21
Tummy time	7 (58.3)	8 (80)	.27
Reading	6 (54.5)	10 (100)	.023
Cleanliness	11 (100)	10 (100)	.50
Tantrum	10 (90.9)	10 (100)	.52

study: utilisation of child health services and perceptions of parenting roles, child health, and child development.

4.1. Utilisation of Health Services. The majority of the Vietnamese study participants had Vietnamese family doctors, with whom they primarily consulted for issues relating to their children's health. Very few were familiar with the services provided by the Community Health Centre, apart from the BCG Immunisation Clinic, antenatal clinic, and the Home Visiting Program. In Queensland infants with parents from an Asian background are offered BCG vaccine to protect them from contracting tuberculosis, and information about where to obtain immunisations is given to parents at the time of discharge from the maternity hospital. The Home

Visiting Program at the time of this study was offered to all first-time mothers who requested the service or who were referred from the maternity hospital after giving birth.

The Vietnamese focus group participants expressed a wish for more home visiting services, to obtain assistance and advice about their infants' feeding and sleeping. However, Vietnamese questionnaire participants were less familiar with the role health professionals such as therapists, social workers, and community nurses. This is not surprising, considering that these professional roles do not exist in the traditional Vietnamese health system. Vietnamese participants first consulted their relatives and then their Vietnamese family doctor, for child health-related problems. Many preferred to delay and see their general practitioner rather than attend a community health centre and utilise the services of an interpreter. The vast majority of questionnaire participants in both groups gave the response "never needed their service" as a reason for never using a particular health service. The rest gave reasons of "do not know about them" and "too expensive", but nobody gave reasons of "transport problems", "language", "culture", or any other reason. Of those who had utilised other health services (therapy services, paediatricians, dentists and optometrists) the Vietnamese participants were less satisfied than Australian participants.

Several Australian studies have explored health concerns and barriers to accessing health services in Vietnamese families and arrived at similar conclusions as our study [10–12]. These studies concluded that Vietnamese participants were highly concerned about their children's general health, growth, and development and nutrition [11].

Similar to the findings from this study, some studies found that Vietnamese-born immigrants expected from community health centres such services as home visiting, advice and information, health checks, and bilingual professionals [11, 12], but only 30% of Vietnamese people were aware of, and 10% utilised community health services [10]. Reasons given by participants in these studies for not utilising health services again were language barriers, inappropriate manner, lack of cultural sensitivity, transportation barriers, and waiting time [10, 11]. Health professionals interviewed perceived that barriers to Vietnamese people accessing services included culture, language, transport, privacy, and lack of understanding of preventative health [10, 11]. Maltby's study found Vietnamese parents to be less comfortable with services where the use of interpreters was required [10]. High quality of "care" was perceived as being kept informed of what was going on [10]. Another barrier to accessing health services may be traditional health beliefs.

Vietnamese people tend to define their health problems in terms of physical symptoms, including emotional or psychological disturbances, which avoids the stigmata of mental illness [26]. Initially symptoms are self-managed by adopting Chinese medical tenets and practices: for example, dermal practices such as Cao Gioa and adjustment of diet between "hot" and "cold" foods to balance humoral forces of yin and yang [7, 26]. When self-care does not work, they seek a medical doctor to get medicine for the symptoms. If they go to a doctor and do not get medicine, they often feel

TABLE 9: Causes of conditions.

Condition	Cause	Vietnamese <i>N</i> (%)	Australian <i>N</i> (%)	<i>P</i>
ADHD	Upbringing	4 (44)	0	.029
	Preservatives	3 (27.3)	6 (60)	.24
	Previous life	0	0	—
	Genetics	3 (27.3)	8 (80)	.043
<i>N</i> respondents (%)		8 (66.7)	9 (90)	
Asthma	Genetics	7 (63.6)	10 (100)	.055
	Catch it	1 (9.1)	0	.52
	Preservatives	0	2 (20)	.21
	Cold weather	7 (64)	4 (36)	.14
<i>N</i> respondents (%)		11 (91.7)	10 (100)	
CP	Genetics	1 (9.1)	8 (80)	.004
	Diet	3 (27.3)	3 (30)	.19
	Birth trauma	5 (62.5)	3 (30)	.18
	Previous life	1 (13)	0	.44
<i>N</i> respondents (%)		8 (66.7)	10 (100)	
Epilepsy	Previous life	1 (11.1)	0	.47
	Abortion	0	0	—
	Head injury	5 (56)	6 (55)	.59
	Genetics	5 (56)	9 (82)	.26
<i>N</i> respondents (%)		9 (75)	10 (100)	
Mental illness	Previous life	0	0	.21
	Genetics	3 (25)	9 (90)	.017
	Psychological trauma	6 (66.7)	8 (80)	.44
	Abortion	2 (22.2)	0	.21
<i>N</i> respondents (%)		9 (75)	10 (100)	

TABLE 10: Summary of main study findings.

Vietnamese participants compared with Australian participants
(1) Have different perceptions of early childhood development.
(2) Stigmatise mental and physical conditions more.
(3) Regard general practitioner as the primary as first point of call for children's health issues.
(4) Have little knowledge of available community child health services and do not tend to utilise these services apart from home visiting and antenatal services.
(5) Have little knowledge of allied health professionals' roles.
(6) Are less satisfied with community health services they have had contact with previously.

TABLE 11: Implications of study findings.

(1) Structures questionnaire study methodology may not be appropriate for study type.
(2) More qualitative methodology such as focus group discussions or unstructured interviews may be preferable.
(3) Potential differences in perceptions of the Vietnamese and Australian parents regarding child development warrant further study.
(4) Reasons for Vietnamese parents not accessing community child health services warrant further study.

“cheated” [26]. Western medicines are used more often for infectious diseases, and traditional medicine is preferred for digestive problems, insomnia, and colds [27].

A study into Vietnamese-born parents' oral health practices [13] concluded that Vietnamese parents in Australia

retain traditional oral health practices and utilised oral health and dental services only when symptoms arose (e.g., toothache), rather than in a preventative manner. In addition to the lack of awareness of preventative dental health, the study parents cited language difficulties as being a major

barrier to accessing school-based oral health programs for their children [13].

Australian research into use of children's hospital services by families from culturally and linguistically diverse (CALD) backgrounds found that CALD families were very satisfied with their children's care, though they also tended to not complain or express dissatisfaction for fear of repercussion or appearing to stand out [28]. The major barrier to accessing services was not just language but communication issues, which resulted in cultural mismatches. Issues from a patient or parent perspective included ability to express oneself clearly, understanding medical jargon, and communicating effectively with health professions [28]. Staff faced barriers in seeking to understand family needs and impart health information [28]. Interpreter services in part ameliorated these communication issues but the study raised concerns about appropriate use of and access to interpreter services [28].

4.2. Perception of Parenting Roles, Child Development, Child Health, Illness, and Disability. Both Vietnamese and Australian questionnaire participants recognised when to seek medical attention for an acute illness and both groups understood principles of infant nutrition.

Whilst there was no difference between the age (around six months) at which participants in the two focus groups introduced solid foods, the Vietnamese focus group participants tended to delay independent feeding, preferring to wait until the child was old enough to "not make a mess" (around 2 years). This was also consistent with the result from the feeding vignette in the questionnaire, which only 63.6% of Vietnamese study participants answered correctly. The focus group discussions found that the Vietnamese participants tended to allow their children to play with any toys that they wanted, whereas the Australian participants bought what they perceived to be educational toys. This was also consistent with the result of the reading vignette in which there was a difference between the two groups in correct responses, with only 54.5% of the Vietnamese group responding that they would read more to their child, and the rest responding that they would buy more books but let the child play with what they wanted.

The Vietnamese questionnaire participants were less likely to encourage "tummy time" in play than the Australian participants. Tummy time refers to placing the infant in the prone position during play and is thought to be important in encouraging development of crucial weight bearing upper body and upper limb muscles and consequently gross motor skills, such as pushing up and crawling [29]. Wise and Da Silva in their report for the Australian Institute of Family Studies (AIFS) described parenting as encompassing a number of different aspects, including beliefs, values, goals, and behaviours [30]. Each of these dimensions can be influenced by child characteristics, parent characteristics, physical and social context, and child rearing customs [30]. Harkness and Super [31] coined the term "parental ethnotheories" to help explain cultural differences in parenting. Ethnotheories are collective beliefs held by a cultural group about children's development and

behaviour. Aspects of childrearing (e.g., Parenting goals, discipline practices, and beliefs about child development) are influenced by the characteristics of "individualistic" (Westernised) and "collectivist" (traditional) societies [32]. Individualistic societies value autonomy and independence and encourage children to demonstrate initiative from an early age, as well as honest expression of emotion [30]. In collectivist societies, children are taught to place community responsibility above individual interest, and emotional control is emphasised [30]. Parents of Anglo-Celtic origin often hold earlier expectations for development than parents from other cultures [30]. Acculturation as in the case of immigration can moderate the influence of culture on childrearing [30]. The findings from this study support the notion that Vietnamese parents tend to expect their children to achieve independent developmental milestones such as gross motor skills, and feeding skills, at a later age than Anglo-Australian parents, and that child rearing practices and beliefs of Vietnamese parents are influenced by collectivist philosophy.

Research has examined differences in the way various cultures parent and how this may impact on the child's development [33–36]. This literature indicates that most infants achieve major developmental milestones at similar ages [33], but developmental rate and more subtle aspects of development may differ between different cultures and ethnic groups [34, 36]. Coll [35] in a review of this literature concluded that differences in parental goals, perceptions, and interactions with infants and children result in alternative or different pathways, which are within a normal range of development.

Research undertaken by Wise and colleagues for the AIFS has studied cultural variations in parenting beliefs and behaviours between Anglo-Australian parents, Vietnamese parents, and Somali parents [30]. Main findings of relevance were that Anglo parents valued independence in the child significantly more than Vietnamese parents, and child compliance was valued significantly more by Vietnamese parents than Anglo parents [30].

Vietnamese-focus group participants tended to use "softer" methods of explaining rather than "time-out". This is consistent with literature on more permissive and tolerant parenting of younger children in the Vietnamese culture [18]. The Australian focus group participants primarily had infants; so this topic was not as relevant to them. In contrast, the majority of questionnaire participants in both groups responded that they would use a "softer method" of explanation rather than "time-out" for the vignette about the child having a tantrum.

Vietnamese focus group and questionnaire participants were more likely to attribute nonmedical rather than medical factors as being causative for medical and neurodevelopmental conditions such as ADHD, epilepsy, and CP. One Vietnamese questionnaire respondent perceived "what you did in a previous life" to be a cause of epilepsy and CP, and another person perceived that attempted abortion was a cause of mental illness in a mother. One Vietnamese focus group participant perceived that Karma, attempted abortion, and taking the oral contraceptive pill were also causes of

mental illness in children. These findings are consistent with the current literature, which indicates that Asians living in Western countries tend to stigmatise disability and mental illness more than their Western counterparts [37–43]. One such study explores the perceptions of various groups of ethnic university students and found that Asian-Americans, particularly those Asian born, saw physical and mental disabilities as being more stigmatised than did African-Americans, Latin-Americans, and European-Americans [38]. An Australian study found that Asian students, especially those who spoke a language other than English at home, were more negative toward and less knowledgeable about mental illness than European-Australian students [39].

Another Australian study, which explored parental perceptions of child psychopathology and disease causation, of Vietnamese parents living in Perth, found that the majority of parents (75.5% to 78.1%) thought that child mental illness was caused by biological/chemical imbalance in the brain, trauma or bad experiences, and a metaphysical or spiritual imbalance. 57.2% endorsed a genetic or hereditary cause, and 17.6% indicated karma as the cause of child mental illness.

One reason for Vietnamese immigrants' more negative perception of mental illness may be the Confucian tradition of sacrificing individual needs to that of the overall group needs [40]. Since a person with a disability may not contribute to the collective good in a way that a healthy person might contribute [40], they are perceived as less important. A strong emphasis on conformity and a general intolerance of differences in Asian cultures may also be a relevant factor [41, 42]. Another contributing factor may be the commonly held belief that mental illness is a manifestation of weakness of the mind [37]. A psychiatrist is referred to as either a "nerve doctor" or a "doctor for the insane", which emphasises Vietnamese people's beliefs that mental illness are "bizarre and out of this world" in nature [37]. As a result of these beliefs, Vietnamese people rarely seek out mental health services [37].

4.3. Conflicting Study Findings. There are a number of possible explanations for conflicting findings from the Vietnamese focus group discussions and questionnaire. Firstly, there may be inherent differences in these two groups, which influence perceptions regarding these issues. Participants from both groups were mostly recruited from the Centre's BCG Immunisation Clinic. However sociodemographic information about the focus group participants would have been helpful in comparing these two groups. The second explanation is measurement or information bias due to two different methodological approaches, thus eliciting different responses. Of note the questionnaire response rate in the Vietnamese group was only 7/12 compared with 11/11 for the Australian group. The literature on cross-cultural research supports this explanation by indicating that focus groups or face-to-face interviews may be a more effective data collection method than structured questionnaire, as they can foster trust and allow participants to describe their view and experiences in a context in which cultural nuances can

be recognised [25]. The Parenting-21 Study conducted by the AIFS utilised a semistructured questionnaire which was completed by the interviewer in a face-to-face interview [16]. The third possibility is that the sample size is too small for findings from the focus groups and questionnaires to be valid.

4.4. Study Limitations and Generalisability. There are limitations to this study, which may contribute to conflicting study findings. The main source of potential bias was differences in recruitment method for Vietnamese and Australian participants. The Vietnamese participants attended the BCG Immunisation clinic, whereas the Australian participants were attendants of the parents' groups and baby clinics. This problem with recruitment was unavoidable, as no immunisation clinic exists for Caucasian Australian children at the Centre, and no existing Vietnamese clients utilised other services at the Centre.

Utilisation of an inappropriate data collection method, of a structured questionnaire, may have resulted in measurement bias as it does not give the flexibility to express views and perceptions fully and can misinterpret cultural nuances [25].

The majority of questionnaire participants both Vietnamese and Anglo-Australian were from a low sociodemographic background with no tertiary education and low income. The demographic profile of study participants is representative of Inala's population [44]. For example, in the 2001 Census, the median weekly family income for Inala was from \$500 to \$599, whereas that for Australia is from \$800 to \$999.

However these findings cannot be generalizable to Anglo-Australian or Vietnamese parents from higher sociodemographic backgrounds. In addition although 50% of the Vietnamese questionnaire participants had been in Australia for eight years or more, most of them rated their spoken English ability and understanding and ability to read English as "all right" or "very little or not at all". Thus the study results are not necessarily generalizable to Vietnamese immigrants who are more acculturated into Australian society.

5. Conclusions

Findings have highlighted issues relating to Vietnamese parents' perceptions and beliefs regarding children's health, illness, and development, as well as child health service utilisation, which have not yet been extensively studied in the past. Vietnamese parents in comparison to Anglo-Australian parents have a more collectivist view of child rearing and place less expectation on infants and young children to achieve independence. Vietnamese parents tend to attribute nonbiological or metaphysical causation such as Karma to mental illness or neurodevelopmental conditions such as epilepsy, ADHD, and CP. They have less familiarity with the range of health services available for their children and are generally less satisfied with the English-speaking mainstream services that they have utilised in the past.

There is a need for further examination of these issues with future studies, using more culturally appropriate

qualitative methods and larger sample sizes. A better understanding of these issues within Vietnamese Communities in Brisbane and throughout Australia will result in the delivery of more culturally sensitive and effective health services to children and families within these communities.

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Review Article

The Patient-Centered Medical Home for Refugee Children in Rhode Island

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Purpose. To describe a “medical home” for pediatric refugees and its ability to provide culturally competent care, to partner with and train medical interpreters, and to improve health screening and follow-up adherence rates of pediatric refugees immigrating to Rhode Island. *Methods.* A retrospective chart review of refugees was performed. Background information, initial laboratory data, whether patients completed the recommended follow-ups scheduled at 1, 3, 6, and 12 months, and completion of tuberculosis treatment were recorded. *Results.* Since its initiation, 104 refugee children have attended the clinic ranging in age from 5 months to 18 years. Since the initiation of the medical home for refugee children in 2007, initial screening rates have gone up to 99-100% compared to a low of 41% in 2003–2006 prior to the establishment of the medical home. There was a 43% reduction in missed appointments in 15-month follow-up. *Conclusion.* The refugee “medical home” allows refugees to benefit from a comprehensive system for disease detection and ongoing primary health care.

1. Introduction

In 2010, 25,373 refugees under 18 years of age arrived in the United States (US), making up 35% of admitted refugees [1]. Refugees undergo medical screening overseas that focuses on medical eligibility for the US Refugee Program. After arrival to the USA, the Office of Refugee Resettlement requires refugees to receive a comprehensive physical exam within 30–60 days.

Refugee children arriving to the USA typically present with high rates of health problems that differ drastically from those seen in the general population. These include high rates of preventable conditions and infectious diseases, poor immunization status, elevated blood lead levels, poor nutrition and growth, poor dental health, and mental health issues [2, 3]. From November 2003 to November 2006, 2% of refugee children arriving to Rhode Island were human immunodeficiency virus (HIV) positive, 5% were diagnosed with malaria, 10% had a positive hepatitis B surface antigen, 21% of patients who returned stool were positive for pathogenic

parasites, 25% had elevated lead levels, and 28% had a positive PPD [4].

In spite of significant health needs, refugee children often lack access to coordinated and comprehensive screening and assessment. Linguistic barriers are apparent given the unfamiliarity of many refugees' languages. Trained medical interpreters for languages such as Kirundi, Krahn, Kunama, Arabic, Swahili, Kinyarwanda, Nepali, Karen, Tigrinya, Wolof, and Sango are often difficult to access. In addition, refugees arrive with few resources as they have left possessions, legal and medical documents, family, and basic social and cultural supports in their countries of origin. Refugee children must redefine their cultural identity, learn a new language, and deal with discrimination and social isolation [4].

The provision of culturally competent care to refugees is very important. Culturally competent care for pediatric patients improves health outcomes, patient satisfaction, and quality of care. Failure to consider language and culture can have adverse consequences for clinical care, including patient

safety and healthcare access [5]. Refugees are frequently unaccustomed with the difficulty to navigate US health-care system and may harbor a sense of mistrust towards medical practitioners. These problems are compounded by transportation issues, poor access to services, poverty, and unfamiliarity with preventive care.

Providing refugees with stable primary care is also vital for the treatment and management of their diverse medical needs. An initial screening process is not enough to address the health needs of refugees. Complete and appropriate follow-up of clinical conditions identified during the initial evaluation is crucial. Studies have shown that among different refugee clinics, screening practices can vary and follow-up is poor [6]. Although researchers have described at length the various medical issues that pediatric refugee patients can present with initially, little evidence exists as to how to effectively meet these medical needs over time in this vulnerable population. Thus, determining the best model for refugee clinics is essential to improve quality of care.

Coordination of care is a critical part of pediatric primary care, and its importance is becoming better recognized with the increase in attention to the benefits of the “medical home” model of care [7–10]. A targeted needs assessment of Rhode Island pediatric refugee population was performed through focus groups with refugee communities and interpreters. Three themes emerged: (1) interpreters who can also navigate the health care system are needed, (2) patients must trust their providers, and (3) patients are grateful to those who support their health and transition to their new community. These findings prompted the creation of Hasbro Children’s Hospital’s Refugee Health Clinic in 2007 to serve as a refugee medical home. By following the tenets of providing accessible, family-centered, continuous, comprehensive, coordinated, and culturally effective care, we hypothesize that a medical home is effective in improving screening rates, reducing missed appointments, and increasing adherence to treatment guidelines. This paper serves to describe the refugee medical home and to evaluate the extent to which it is effective in improving healthcare for refugee children.

2. Methods

Retrospective chart review was performed of pediatric patients who were screened at the Refugee Health Clinic at Hasbro Children’s Hospital between October 2007 and May 2010. This time frame was chosen to ensure that all children seen at the clinic after the initiation of the medical home for refugees were included and that each patient has been followed for at least 15 months at the time of chart review. Nearly 100% of refugee children arriving to Rhode Island are referred to the primary care clinics at Rhode Island Hospital/Hasbro Children’s Hospital. Inclusion criteria were age 0–18 years at initial intake visit at the Hasbro’s Refugee Intake Health Clinic. This study was reviewed and approved by the Rhode Island Hospital Institutional Review Board.

Information extracted from paper and electronic medical records of refugee children included age, sex, country of origin, country of exit, birthplace, language, and initial screening labs. Whether patients attended follow-up appointments

at 1, 3, 6, and 12 months and completed tuberculosis (TB) treatment was also recorded.

The effectiveness of the current model was assessed by determining whether or not patients completed the recommended follow-ups scheduled at 1, 3, 6, and 12 months. Screening rates for HIV, hepatitis B surface antigen, lead, and TB were also determined. These outcome measures were compared to previous published data [11] on similar measures before the establishment of the medical home from 2003–2006 in order to determine how much the clinic has changed patient care. Patients’ adherence to TB treatment plan was also assessed.

2.1. Setting: The Refugee Medical Home. In October 2007, the Hasbro Children’s Hospital’s Refugee Health Clinic was established to address the health care needs of refugee families. The Refugee Health Clinic, in coordination with other community providers, provides a “medical home” for refugee children and their families. Introduced in 1967 by the American Academy of Pediatrics as a means of storing medical records [12], the concept was expanded in 2002 to include these characteristics: accessible, continuous, comprehensive, family-centered, coordinated, compassionate, and culturally effective care [13]. It has proven a useful, cost-saving model for children with special health care needs [14] and can be an effective model for refugee children as well.

The Hasbro Children’s Hospital’s Refugee Health Clinic Medical Home model consists of four major components:

- (1) development of the Refugee Health Clinic, which provides timely intake exams and addresses specific medical needs of refugee children, including screening tests,
- (2) development of a coalition of providers who provide medical and community services,
- (3) training of interpreters to act as community health workers,
- (4) ongoing needs assessment of the refugee community and interpreters to improve access to health care.

The staff at the Refugee Health Clinic works closely with various departments of Hasbro Children’s Hospital as well as with providers in the community. The coalition of providers includes The International Institute of Rhode Island, Rhode Island Department of Health, St. Joseph Hospital Pediatric Dental Center, psychologists from Brown University and Rhode Island College, The Providence Public School Department, Rhode Island Housing, Rhode Island Hospital Medicine/Pediatrics Clinic, Neighborhood Health Plan of Rhode Island (the primary health insurer), Interpreter Services, Alpert Medical School of Brown University students, pediatric residents, and medicine/pediatric residents. This coalition coordinates care and gives voice to the needs of the refugee population.

2.1.1. Players in the Medical Home. The medical home at the Refugee Health Clinic is made of six components: (1) patients, (2) primary care providers, (3) trained medical interpreters, (4) mental health professionals, (5) dental

health professionals, and (6) the International Institute of Rhode Island (IIRI) (Figure 1). IIRI, a volunteer resettlement agency in Rhode Island, provides services such as access to healthcare, job placement, and basic needs assistance such as housing, food, and school enrollment. Each of the elements to the medical home plays an integral role in its ability to function successfully. Several of the players are discussed in more detail below.

2.1.2. *Interpreters.* The interpreters, most of whom are former refugees, are present at each primary care physician visit. They are trained as community health workers by physicians and dentists in 10 sessions covering common pediatric diseases, dental problems, and how to navigate the healthcare system (Table 1).

2.1.3. *The Patients: Refugee Children.* Over 1,400 refugees have resettled in Rhode Island since the year 2000; approximately half have been children [2].

2.1.4. *Primary Care Physicians.* The Refugee Health Clinic offers intake evaluations within 30 days of the child’s arrival to the USA. At the initial visit, the specific needs of the population are addressed by pediatric residents and attending physicians. After the initial screening visit, a follow-up protocol that consists of four visits at 1, 3, 6, and 12 months is followed. The first follow-up visit at 1 month occurs in the pediatric clinic where the children are “mainstreamed” into the general pediatric population. The same provider who performed their intake exam continues to see the same children. This provides continuity for the patients and allows for one provider to coordinate their care. This approach also allows the clinic to easily develop a tracking system to identify needs of the different refugee populations.

2.2. *Data Analysis.* Data was entered into a Microsoft Excel spreadsheet. A descriptive data analysis was carried out using STATA 10 (StataCorp LP, College Station, TX, USA) statistical package to determine frequencies and means.

3. Results

3.1. *Sample Characteristics.* Table 2 characterizes demographics of the study population of pediatric refugees seen at the clinic between September 2007 and May 2010. The refugee sample consisted of 104 refugee children between the ages of 5 months and 18 years with a mean age of 8.1 years (SD 0.45). Fifty-six percent (58) of the refugees were boys and 44% (46) were girls.

African refugee children represent 69% (72) of the study sample with the majority originating from Burundi (35), Democratic Republic of Congo (10), Eritrea (9), Somalia (7), and Liberia (6). Middle Eastern refugees compose 25% (26) of the study sample and were primarily from Iraq and Iran (Figure 2). In 2010, there were an increasing number of refugees from Burma and Nepal. When we looked at the country of birth, we found that many of our refugees from African countries were born and have spent all their lives

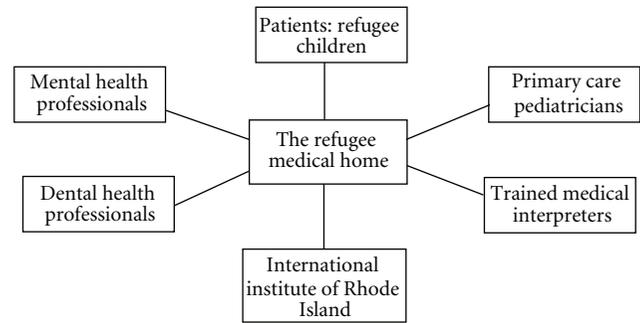


FIGURE 1: Players in the refugee medical home.

TABLE 1: Medical interpreter training topics.

(1) Health literacy (medications, pharmacies, insurance, etc.)
(2) Nutrition
(3) Lead
(4) Women’s health issues and sexually transmitted infections
(5) Oral health
(6) Mental health
(7) Infectious diseases (latent tuberculosis, hepatitis, etc.)
(8) Injury prevention
(9) Diabetes
(10) Hypertension

TABLE 2: Demographic characteristics of 104 refugee children attending the Hasbro Children’s Hospital’s Refugee Health Clinic from 2007 to 2010.

Characteristic	n (%)
Age	
0–6	48 (46%)
7–12	32 (31%)
13–18	24 (23%)
Sex	
Male	58 (56%)
Female	46 (44%)

in refugee campus. For example, of all the Burundi children seen at the clinic, 92% were born and have spent their lives in refugee campus in Tanzania.

3.2. *Screening Rates.* Compared to screening rates in 2003–2006, the medical home model increased screening rates to nearly 100% for diseases such as HIV, TB, lead, and hepatitis B (Table 3).

3.3. *TB Adherence.* Of the 22 patients who had positive PPD results, 19 completed nine months of Isoniazid (INH) treatment. The patients who did not complete treatment (3 out of 22) had relocated to a different state after their initial visit to the clinic.

3.4. *Missed Appointments.* Only 19.2% (20 out of 104) of refugee children arriving between 2007 and 2010 (after

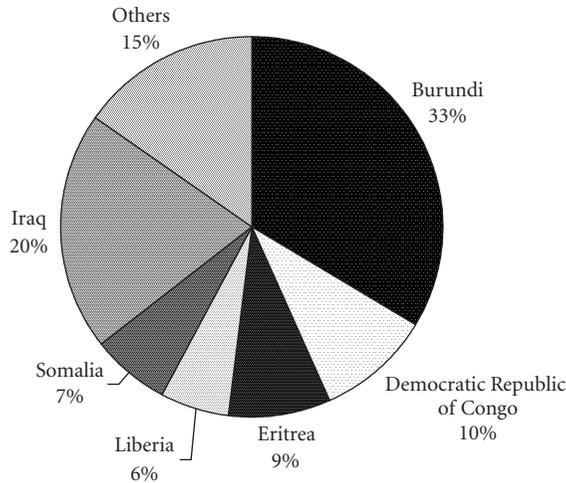


FIGURE 2: Country of origin of the 104 refugee children attending the Hasbro Children's Hospital's Refugee Health Clinic from 2007 to 2010.

establishment of the medical home) missed one or more follow-up appointments in contrast to 63% (124 of 198) of refugee children arriving between 2003 and 2006 [11]. Likewise, the mean number of missed appointments per patient from 2007 to 2010 was 0.35 (range 4) while the mean number of missed appointments per patient from 2003 to 2006 was 1.5 (range 4).

4. Discussion

The model of the Refugee Health Clinic at Hasbro Children's Hospital has been successful in providing for the health care needs of pediatric refugees. Since the initiation of the medical home for refugee children in 2007, initial screening rates have gone up to 100% compared to a low of 41% in 2003–2006 prior to the establishment of the medical home. In addition, 100% of children recommended TB treatment that remained in state completed a 9-month course of INH. Compared to prior to the establishment of the medical home, the number of children who missed one or more appointments decreased by 43%.

The success of this particular medical home model is likely multifactorial. An important aspect of care that the Refugee Health Clinic provides is healthcare that is culturally competent. One of the ways the medical home provides culturally competent care is by training its interpreters. Ready access to competent language services is imperative because inadequate health communication can lead to health disparities [15]. Professional interpreters are associated with decreased communication errors, increased patient comprehension, equalized health care utilization, improved clinical outcomes, and increased satisfaction in limited English proficiency patients [16].

The interpreters in the Refugee Health Clinic Medical Home do much more than serve as interpreters during the appointment. The interpreters, who are former refugees and from the refugee community themselves, also act as

educators, health promoters, and navigators of the health-care system for the refugee families. They are community health workers and promote health in their own refugee community in a culturally appropriate and timely way. They answer questions that patients and families may have about pharmacies, medications, illnesses, vaccinations, and health care and provide transportation to and from appointments for the patients. The series of ten training sessions they are required to attend prepare them to provide accurate and quality health information to patients.

In addition, interpreters are bidirectional educators. They educate not only the patients, but also the providers by helping them understand what a patient and his/her family's experiences may be, particularly when it comes to illness and health. This may be as practical as learning about traditional remedies and as complex as promoting the understanding of health and illness in the context of the patient's spirituality or culture. They guide providers in giving the most appropriate treatment plan that incorporates cultural needs that are unique to each family. The interpreters and providers also participate in quarterly meetings. These meetings create a foundation for better understanding of cultural differences within communities.

Another way the refugee medical home provides culturally competent care to its patients is by training its health care providers. Health professionals in developed countries may be unfamiliar with the wide range of conditions refugee children may present with and may be unprepared to provide the unique care that pediatric refugee patients often need. In addition to the interpreters' role in educating providers discussed previously, the refugee medical home trains its providers in issues relating to refugee health, so that the refugees that arrive to the clinic get the most appropriate and best care possible. The International Institute of Rhode Island gives providers resources to help them better understand the newest resettled communities that are arriving to the clinic.

Two components of the medical home, dental health and mental health, were not evaluated in this study because they were not fully incorporated into the refugee medical home during the time covered by this chart review. Dental health care is a major unmet health need of refugee children. Many refugee children have never received oral health care or have never been exposed to common preventative oral health measures such as a toothbrush, fluoridated toothpaste, or fluoridated water. Cote et al. noted that 51% of refugees who attended a refugee clinic in Massachusetts had dental caries experience and 48.7% with untreated decay. US children had caries experience similar to that of refugees (49.3%) but significantly lower risk of untreated decay (22.8%). Comparisons between refugee children and US children found significant differences for treatment urgency, untreated caries, extent of dental caries, and presence of oral pain [17].

In 2010, the Refugee Health Clinic implemented a dental screening component to the medical home. Prior to 2010, obtaining a dental appointment was often difficult. In addition to long waiting times that ranged on average between 3 and 8 weeks, patients had to go to a different

TABLE 3: Screening rates before and after establishment of the medical home for refugees.

	Tested (% of total sample) before medical home (2004–2006)	Tested (% of total sample) after medical home (2007–2010)
Human immunodeficiency virus	119 (60)	104 (100)
Hepatitis B surface antigen	176 (89)	104 (100)
Lead ≥ 10 mcg/dL	84 (41)	103 (99)
Complete blood count	186 (94)	104 (100)
Tuberculin skin test ≥ 10 mm	171 (86)	104 (100)

hospital to obtain dental care. To address these problems, the clinic now has a dental resident from St. Joseph Pediatric Dental Center present at the first appointment for dental screening. The dentist then schedules follow-up appointments for the patient to receive more thorough examinations and treatments if necessary. Subsequent visits occur in the dental clinic, but the appointments are with the same initial dentist. This promotes continuity and trust between the dental provider and the patient. The dentist follows up if the patient misses appointments and works extensively with the interpreters to address specific concerns.

Mental health issues, such as posttraumatic stress disorder, depression, and anxiety, are pervasive in the pediatric refugee population [18–20]. Systematic mental health screening, psychoeducation, and mental health referrals are necessary in the early primary care visits of newly arrived refugees in order to manage the many stresses refugee children face before, during, and after their migration [21]. The Refugee Health Clinic provides mental health screening approximately 6 months after arrival to give the children a chance to adjust to their new home. The mental health screen was developed with psychologists in partnership with the interpreters. The interpreters provide input into the screen to make sure that it is culturally appropriate. In addition, the interpreters undergo training in order to better understand mental health issues and the importance of mental health to the well-being of refugee children and their families. This provides the interpreters with the tools to better discuss mental health concerns with refugee families in a context that is more culturally acceptable.

Most importantly, a mental health professional is present at follow-up appointments to offer psychological support and screen for mental health problems, even if there is no identified mental health issue. Meeting in this context has diminished some of the stigma associated with mental health care. If mental health needs are identified, future appointments take place in the medical clinic where they receive the rest of their care.

4.1. Limitations. There are several limitations to this study. First, the study population represents a specific clinic sample, with the majority of refugees from African countries. Therefore, the results may not be generalizable to other refugee populations. Two components integral to refugee health, dental health and mental health, were not evaluated in this

study. Since dental screening is a new component of the medical home, an evaluation of whether the implementation of a dental health screening component into the medical home improves dental screening rates and attendance to follow-up appointments is necessary.

5. Conclusion

Refugee health assessments are important for better integration and healthier communities. The refugee “medical home” allows refugees to benefit from a comprehensive system for disease detection and follow-up care. The medical home at the Hasbro Children’s Hospital’s Refugee Health Clinic includes patients, dental health professionals, mental health professionals, the International Institute of Rhode Island, primary care physicians, pediatricians, and interpreters trained to serve as community health workers. The refugee medical home model has increased screening rates, increased completion of TB treatment, and decreased missed appointments of pediatric refugee patients in the Rhode Island community. Our findings suggest that the medical home is an appropriate model to improve the quality of care that pediatric refugees receive. The medical home model that is used at the Hasbro Children’s Hospital’s Refugee Health Clinic has been able to provide care that is accessible, continuous, comprehensive, family-centered, coordinated, compassionate, and culturally effective to refugee children.

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Research Article

Latino Immigrant Children's Health: Effects of Sociodemographic Variables and of a Preventive Intervention Program

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The number of Latino immigrant children is expanding rapidly, and the factors that affect their health are multiple and interlinked. We therefore propose to describe the sociodemographic characteristics of a mostly Dominican immigrant population, to examine to what extent immigrant status and other factors play a role in determining measures of their children's health and well-being, and finally to investigate whether a home visiting intervention modified any of these factors. The data were collected as part of an evaluation of a primary prevention home visitation program for high-risk mothers and their children. Bivariate and multivariate models were constructed to investigate the factors that affected the outcome variables. We found that numerous factors, especially a composite for overall stress, affected the health and well-being of participant children. We also demonstrated that the visitation program had a positive effect on many of these outcomes. Future program planners will need to understand the strengths and weaknesses of the specific population they serve.

1. Introduction

Between 1990 and 1997 the number of children in immigrant families grew by 47 percent, while the number of US-born children grew by only 7 percent. [1]. The number of immigrants is continuing to rise. Between 2000 and 2007, 10.3 million immigrants arrived in the USA, the highest seven-year period of immigration in USA history [2]. By 2050, 25% of the US population will be post-1994 immigrants [3]. Latinos represent the fastest growing immigrant population and are the largest minority group in the USA, comprising some 44 million individuals [4]. Therefore, it seems reasonable to assume that the factors that affect the health of immigrant children, and in particular of Latino immigrant children, are and will be an area of importance in the coming years. Research on immigrants and Latinos, in particular, has not kept pace with the increasing numbers [5]. Further complicating existing research is the fact that many studies pool Latinos together as one group. This makes the inter-

pretation of results from such studies difficult. Also, there is an increasing recognition that mental health and physical illness are contextually based and culturally embedded and that these factors must be accounted for when studying immigrant groups [6].

Some factors affecting the health of immigrant children have been recognized for decades. One phenomenon is the often described epidemiologic paradox in which infants born to immigrant mothers have better birth outcomes, including fewer preterm births and higher birth weights than native born children, even after taking into account socioeconomic differences [7, 8]. These children in general fare better on various health indicators than native born children [1]. The relative good health of immigrant children exists despite numerous factors, especially socioeconomic, language, and cultural, that usually negatively affect health. The reasons for this have not been fully explored. In addition, a number of health indicators, such as rates of obesity, more sedentary behavior, and level of physical activity, worsen with

successive generations, at least among Latinos [9, 10]. Acculturation and discrepancy of acculturation between parents and adolescents have both been shown to have a negative impact on substance abuse in Latinos [11, 12]. In terms of adolescent depression there have been mixed results as to whether acculturation is a risk or protective factor [13, 14].

Since the sociodemographic variables that affect the health of each distinct immigrant population are likely to be different, it is important to try to understand them. Understanding the complex interactions between beneficial and detrimental factors is important in trying to develop health interventions that will ultimately be successful in improving the health of children in immigrant families and in heading off the decline in health indicators that occurs with successive generations (i.e., the epidemiologic paradox). It is also becoming clearer that many of the detrimental factors may work by increasing psychosocial stress [15–17]. Therefore, addressing and relieving sources of this stress may be a mechanism to promote better mental and physical health.

We therefore propose to describe the sociodemographic characteristics of one mostly Dominican immigrant population in New York City. While this population was selected for mothers at risk, it is fairly representative of the overall community from which it was drawn. Further, we examine to what extent immigrant status and other factors play a role in determining certain measures known to affect childhood health and well-being: breastfeeding, use of the pediatric emergency room for urgent conditions, having a primary care provider, and performance on a developmental screening tool (Ages and Stages Questionnaire). Finally, we examine whether a home visiting intervention designed to address psychosocial stressors modified any of the factors.

2. Methods

2.1. Setting and Study Design. The data presented in this paper were collected as part of the Randomized Controlled Trial Evaluation of Best Beginnings, a primary prevention home visitation program in Washington Heights, based on the Healthy Families America Home Visiting program, that has been described previously [18, 19]. This program was a collaboration of the Columbia University College of Physicians and Surgeons, the New York Society for the Prevention of Cruelty to Children, and Alianza Dominicana, Inc., a large community-based organization. It was approved by the Columbia University Institutional Review Board. Participants were eligible to participate if they lived in 1 of 2 census tracts in Washington Heights, if they were pregnant or had an infant 3 months of age or younger, and if they scored positive on 2 screening instruments that measured psychosocial risk for difficulties with caregiving. One such screening instrument is the Kempe Family Stress Inventory (KFSI) which has total scores ranging from 0 to 100. Participants had to have a score of at least 25 on the KFSI to be eligible. Washington Heights is a largely Latino community, with many individuals eligible for public assistance. One-half of the residents are foreign born, with the majority from the Dominican Republic.

Eligible participants were randomly assigned to either an intervention or a control group. The details regarding the intervention and control groups have been described previously [18]. In brief, participants in the intervention group received on-going supportive home visits from a Family Support Worker (FSW), educational materials and guidance concerning breastfeeding, preparation for childbirth, and child development, referrals to health care providers and other needed services, and advocacy when appropriate. Participants in the control group received twice yearly home visits to assess family status, educational materials, and referrals for medical and nonmedical services, but the FSW did not discuss the educational material and made no followup on referrals. Participants from both groups received twice yearly follow-up assessments on status of the family and infant development. In total there were 535 participants, 273 in the intervention group and 262 in the control group (Table 1).

2.2. Measurements/Variables. In order to investigate whether immigrant status affected childhood health, we examined several independent variables related to immigration status of the children's mothers: whether or not the mother was born outside the USA as a dichotomous variable (born in USA, not born in the USA), years in the USA as a continuous variable, years in USA as a dichotomous variable (less than or equal to 2 years, 3 years or more), and English proficiency. English proficiency was derived from the Intake Form, in response to the item English Fluency: Adequate or Needs Interpreter. An Acculturation Composite score was calculated by summing z scores for (a) number of years mother resided in USA and (b) mother's proficiency in English. Best Beginnings takes part in a statewide data collection system as part of the Healthy Families New York (HFNY) program. Most of the standardized questionnaires and follow-up forms used by Best Beginnings (except for emergency room visits) were completed as part of the statewide evaluation of service programs. This information was collected by the service providers, usually the Family Assessment Workers or Family Support Workers during twice yearly follow-up assessments. Additional information on mothers' psychosocial status, children's developmental progress, parent-child interaction, and the quality of children's home environments was collected by a Child Developmentalist or a Research Assistant who were blind to the intervention versus control group status of children and families.

The outcome variables that were investigated were exclusive breast feeding in the first week of life as a dichotomous variable (yes, no), the number of pediatric emergency department (PED) visits from birth to 36 months for all conditions and particularly for urgent conditions for all children making at least 1 PED visit (checked by reviewing PED charts), having a primary care provider at intake and 24 months, and performance on the Ages and Stages Questionnaire (ASQ) at 12 and 24 months. The ASQ is a parent-report measure on infant developmental status that is widely used as a screening tool for detecting developmental delay. Although the ASQ is designed in such a way that the parent actually tests the child, in the present study it was administered with the guidance of the FSW. ASQ items

TABLE 1: Sociodemographic characteristics of intervention and control groups at intake.

	Intervention group (<i>n</i> = 273)	Control group (<i>n</i> = 262)	Total sample (<i>n</i> = 535)
Mother's Kempe total score	34.3 (8.7)	34.0 (8.5)	34.2 (8.6)
Mother's age (years)	26.3 (6.3)	26.4 (6.0)	26.3 (6.4)
Number of years in the USA	7.0 (5.7)	7.5 (5.8)	7.2 (5.7)
% born outside the USA	89.8%	89.9%	89.8%
% of Dominican ethnicity	86.9%	89.7%	88.3%
% fluent in spoken English	33.1%	36.1%	34.6%
% who were teenagers (age 15–19)	17.5%	16.1%	16.8%
% without a high school education	55.8%	53.6%	54.8%
% who were employed	17.7%	20.7%	19.1%
% who were low-income ¹ or receiving public assistance ²	59.3%	63.5%	61.4%
% who resided with target child's biological father	40.3%	35.8%	38.1%
% who were married	24.2%	21.5%	22.9%
% who were first-time mothers	43.5%	47.6%	45.5%
% with one or more children under age 5 living in the home	27.2%	22.6%	25.0%
% who had a prenatal intake	61.7%	64.4%	63.0%
Average birth weight (pounds)	7.09	7.25	7.17

Tabled values are means (standard deviations) for quantitative variables and percentages for categorical variables. ¹Annual family income less than \$10,000.

²Public assistance: Aid to Families with Dependent Children or Temporary Assistance for Needy Families.

yield subscale scores for 5 domains (Communication, Gross Motor, Fine Motor, Problem Solving, and Personal/Social Functioning). Each domain has 6 questions scored as follows: Yes: 10, Sometimes: 5, Not Yet: 0. Thus at each administration, the total score if all items in a given domain (e.g., Communication) were passed would be 60 for that domain. It was completed at specified intervals during a home visit with the FSW present.

We also assessed families at regular intervals using a measure of maternal/family problems. This is a scale that lists a number of problems or issues that families often face. The participant was asked whether each item was currently an issue for her, at intake, and at each follow-up visit. This was a continuous variable with the mother receiving a point for each item she answered yes to, with a maximum possible score of 15. Through a statistical analysis, the original 15 items were reduced to 10 that had sufficient response frequency across the sample. The 15 problem items include: alcohol abuse, substance abuse, physical disability/health problems, depression, other mental illness/disability, developmental disability/retardation, domestic violence, marital or relationship difficulties, financial difficulties/insufficient income, homelessness or inadequate housing, criminal activity, other legal problems which include documentation status, social isolation/inadequate social support, stress or emotional difficulties, and inadequate food, clothing, or household goods. To investigate the possible effect of the intervention, we looked at whether or not the participants were in the intervention or control group.

2.3. Analysis. Sociodemographic variables were calculated as means or percentages and were presented separately for the intervention and control groups and the total sample.

Bivariate and multivariate tests were done to investigate the association between different measures of immigration status and outcome variables, using either simple regression analysis or Spearman's *rho* where appropriate. Variables that were significant on bivariate analysis were included in a multivariate regression analysis.

3. Results

3.1. Socio-Demographic Factors. The socio-demographic characteristics of the overall population are described in Table 1. The average age of the participants was 26.3 years, almost 90% were foreign-born, with 88% reporting Dominican ethnicity. The average number of years residing in the USA was only 7.2. Only 35% considered themselves to be fluent in English, and more than 60% were receiving public assistance. Of note, the average KFSI score was 34.2, indicating a moderately high level of psychosocial risk and family stress.

3.2. Factors Affecting Children's Health

3.2.1. Breastfeeding. The first outcome variable that was examined was exclusive breastfeeding in the immediate postpartum period (up to 7 days after birth). We tested for the significance of an association between 14 socio-demographic variables (including infant gender), and breastfeeding. The only factors positively associated with exclusive breastfeeding on bivariate analysis were fewer years in the US, higher education level of mother, biological father as second primary caregiver, and birth weight not less than 5.5 pounds at birth. When a multivariate logistic regression analysis was conducted entering all of the factors significant on bivariate

TABLE 2: Predicting mother's report of exclusive breastfeeding using multivariate logistic regression analysis.

Predictor variables	Unstandardized regression coefficients (standard errors)	Significance level
Exposure to the prenatal intervention (yes: 1, no: 0)	0.93 (.22)	$P < .0001$
Mother was substance-affected (yes: 1, no: 0)	0.22 (.49)	ns
Number of years mother had lived in the USA	-0.22 (.11)	ns
Mother had at least a high school education at intake (yes: 1, no: 0)	0.48 (.22)	$P < .05$
Target child's biological father was designated as second primary caregiver at intake (yes: 1, no: 0)	0.43 (.23)	ns
Target child weighed less than 5.5 pounds at birth (yes: 1, no: 0)	0.77 (.67)	ns

analysis, only exposure to the prenatal intervention and mother having at least a high school education remained significant (Table 2). A study that analyzed a subsample of this data found that being in the intervention group and having a source of family income at intake were associated with exclusive breastfeeding. A higher Acculturation Composite score, lack of anyone contributing to household income at intake, and having had a C-section were all negatively associated with any breastfeeding [19].

3.2.2. Utilization of Pediatric Emergency Department (PED). The second set of outcome variables examined focused on utilization of the PED (Table 3). The first outcome variable, the total number of visits to the PED till age 36 months (for all participants making at least 1 PED visit), revealed a number of factors significant on bivariate analysis: participation in the intervention, younger maternal age, younger age of child at first PED visit, mother born in the USA, not having one or more children under the age of 5 at home (in addition to the target child), and the presence of a second primary caregiver. When these variables were examined using multiple regression analysis, participation in the intervention group, younger age of child at first PED visit, and mother born in the USA significantly predicted more visits to the PED.

The second outcome variable was the number of PED visits for urgent conditions. The factors that were significantly associated with a higher number of urgent PED visits on bivariate analysis were participation in the intervention, younger age of child at first PED visit, mother born in the USA, and birth weight of child less than 5.5 pounds. In the multivariate analysis, birth weight was no longer a significant contributor.

3.2.3. Primary Care Provider for Mother. At intake, the percentage of mothers in the total sample with a primary care provider (PCP) was 90%. Among postnatally enrolled mothers there was a significant interaction between parity and immigration status (results not shown). Among multiparous mothers, only 50% (10/20) of those with less than 2 years in the US had a PCP at intake as compared to 78% (65/83) of those with 3 or more years in the US. Conversely, among primiparous mothers, 93% (14/15) of those with less than 2 years living in the US had a PCP, as compared to 88% (57/65) of those with 3 or more years in the US.

At the 24-month followup, among prenatally enrolled mothers, significantly more intervention group mothers (89%) had PCPs than control group mothers (75%). Among postnatally enrolled mothers, the difference was not significant (intervention group = 77%; control group = 73%).

3.2.4. Ages and Stages Questionnaire (ASQ). The overall composite score on the ASQ at 12 months and 24 months of age was examined in a multiple regression analysis with a number of predictor variables that were significant on bivariate analysis. The results are shown in Table 4. After controlling for all other variables, the only variables that are significant at age 12 months are: ASQ composite score at 6 months and number of maternal/family problems. At age 24 months the strongest predictor of ASQ composite score is the number of maternal/family problems. Other significant variables include female gender, participation in the intervention, being in a well-baby nursery, and an interaction term of female sex by intervention.

3.2.5. Intervention. The intervention had a positive effect on a number of the previous variables. Prenatal participation in the intervention was significantly associated with more exclusive breastfeeding post-delivery. Participation in the intervention was significantly positively associated with both overall and urgent PED visits. The intervention obviously did not affect the percentage of mothers with PCPs at intake, but by 24 months among prenatally enrolled mothers significantly more intervention than control group mothers had PCPs [18]. Participation in the intervention did not have a significant impact on ASQ scores in the final model at 12 months but it did by 24 months. Male infants in the intervention group performed significantly better than male infants in the control group at 24 months.

4. Discussion

The results of this study indicate that there are many factors that may affect the health and well-being of children in this largely Dominican, immigrant population. This study population is subject to many stressors, which is reflected in several of the measures. The mean score on the Kempe Family Stress Inventory (KFSI) in this population is 34, which indicates that the families are at psychosocial risk for poor parenting and are experiencing a great deal of family stress. Though the program recruited families who were at

TABLE 3: Predicting the number of pediatric emergency department (PED) visits to 36 months postpartum (among participants with one or more PED visits to 36 months postpartum).

Predictor variables	Standardized partial regression coefficients	Significance level
<i>Total number of visits¹</i>		
Intervention family	0.12	$P < .05$
Mother's age at target child's birth	-0.05	ns
Target child's age at first PED visit	-0.45	$P < .0001$
Mother born outside the United States	-0.11	$P < .05$
One or more children under age 5 lived in the home at intake (not including the target child)	-0.08	ns
Presence of a second primary caregiver for target child at intake	0.10	ns
<i>Visits made for urgent conditions²</i>		
Target child's age at first PED visit	-0.23	$P < .0001$
Mother born outside the United States	-0.20	$P < .01$
Intervention family	0.17	$P < .05$
Target child weighed less than 5.5 pounds at birth	0.13	ns

¹Adjusted $R^2 = .260$, $F(6,264) = 16.77$, $P < .0001$. ²Adjusted $R^2 = .122$, $F(4,180) = 7.39$, $P < .0001$.

TABLE 4: Multivariate analyses predicting the Ages and Stages Questionnaire composite score at 12 and 24 months postpartum.

Predictor variables	Standardized partial regression coefficients	Significance level
<i>ASQ composite score at 12 months postpartum²</i>		
ASQ composite score at 6 months	0.39	$P < .0001$
Number of maternal/family problems at 12 months	-0.19	$P < .001$
Family received AFDC/TANF at 12 months ¹	0.13	ns
Substance-affected family	-0.12	ns
Intervention family	0.07	ns
<i>Interaction: substance-affected family by intervention family</i>	0.09	ns
Mother's age at target child's birth	-0.00	ns
Mother's English proficiency	0.01	ns
Presence of a second primary caregiver for the target child at intake	-0.02	ns
<i>ASQ composite score at 24 months postpartum³</i>		
Target child is female	0.20	$P < .01$
Intervention group membership	0.13	$P < .05$
Target child not in well-baby nursery	0.14	$P < .05$
Number of maternal/family problems at 24 months	-0.25	$P < .0001$
<i>Mother's age at target child's birth⁴</i>	0.04	ns
<i>First-time mother⁴</i>	0.03	ns
<i>Mother's number of years of education completed⁴</i>	0.10	ns
<i>Interaction: female sex by intervention family</i>	-0.13	$P < .05$
<i>Interaction: female sex by nursery type</i>	-0.09	ns
<i>Interaction: nursery type by intervention family</i>	0.04	ns

¹AFDC: Aid to Families with Dependent Children. TANF: Temporary Assistance for Needy Families. ²Adjusted $R^2 = .181$; $F(9,293) = 8.39$, $P < .0001$.

³Adjusted $R^2 = .132$; $F(10,229) = 4.64$, $P < .0001$. ⁴Italicized predictor variables were included in the model as demographic controls.

high psychosocial risk, 96% of the overall population (1,400 of 1,459) from which they were drawn initially screened positive on a Short Initial Screen for psychosocial risk. Also, on the subsequent Kempe Family Stress Inventory, 93% (674/724) of all those screened received a score of 25 or higher. These results include those enrolled in the study and

those not enrolled. This is indicative of the stress level of the overall community and indicates that the study participants are representative of the overall population. Socio-demographic variables for the participant group and for the larger community demonstrate a low level of education and English proficiency and limited financial resources. These are

all factors which we would expect from previous studies to negatively affect the health of the children in this population.

Despite the high level of stressors in this community, the health indicators for the community, in many instances, compare favorably to the rest of New York City (NYC). The 2003–2004 heart disease death rate in Washington Heights/Inwood was 222/100,000, compared to the NYC overall rate of 297/100,000 and the average annual death rate for people under 75 was 10% lower than that for NYC overall (640 versus 718/100,000) [20]. This suggests that there are a number of factors that are protective among this recent immigrant population, including some healthier habits and customs. In this paper we found that, on bivariate analysis, those individuals who were in the USA for a shorter time period were more likely to be exclusively breastfeeding postpartum. These healthier habits may contribute to the epidemiologic paradox.

Newly arrived immigrants may be expected to access healthcare less often due to financial, language, and cultural barriers. One study of children in California showed that immigrants were more likely to lack insurance and postpone emergency room visits because of this [21]. In terms of PED usage in the present study, we did see fewer visits among mothers who were born outside the USA, for both overall visits and urgent visits. This may represent a decreased access to care for these individuals or a cultural unwillingness to turn to official institutions for help. The intervention increased the frequency of PED visits. During the home visits to the intervention families, the FSWs explained to the mothers the proper use of the health care system including when to call the primary care provider and when to use the PED.

Length of time in the USA had a strong effect on likelihood of having a PCP but only for those who had more than one child at the time of enrollment in the program. Mothers who were having their first baby had high rates of having a PCP regardless of length of time in the US—93% for the group in the US less than 2 years and 88% for the group in the US 3 or more years. But for multiparous mothers those in the US for less than 2 years had a PCP at enrollment only 50% of the time, compared to 78% for those there longer. This is an area that requires further study.

Immigrant children may be at greater risk for cognitive delays because of psychosocial stress [22]. As part of the study, all families (intervention and control) received regular developmental screening. It is well established that early development predicts later school success and attainment in life [23]. A lack of family resources, prevalent in our population, can detrimentally affect development and later school achievement [24]. This was confirmed by the results in this study. The most significant predictor of the composite score on the ASQ in this study at both 12 and 24 months, besides previous ASQ score, was the variable maternal/family problems. This is a scale that includes a number of personal, economic, legal, psychological, and physical problems considered by the mother to be issues or stressors. It appears that the factor that exerted the greatest impact on childhood development at 2 years of age was the cumulative effect of these many stresses on the mother. This has been seen in other populations as well [25].

We examined whether a home visitation program that provided support and guidance to families and offered services directed to alleviating many of these stressors could have an impact on childhood health and well-being. The program does seem to have made a difference in several areas, including increasing PED usage and improving ASQ scores at 24 months for male children. Appropriate use of the medical system was explained to the intervention group who seemed to learn to use the primary care system more appropriately, going to the PED after calling the primary care office first. Another significant finding is that the intervention was positively associated with exclusive breastfeeding, even after controlling for years in the USA. These are important findings. While immigrant families arrive with many protective health behaviors, we need to prevent the worsening of various health indicators with successive generations of Latino immigrants.

The intervention was not successful in all areas and success was sometimes not apparent until 2 years into the intervention. Although it did positively affect development as measured by ASQ scores, this did not become evident until 24 months. Many of the components of the maternal/family problems scale were not affected, such as financial, housing, and domestic violence issues. The FSWs linked both the intervention and control group families to primary care providers. However, the FSWs reinforced this link for the intervention group. Only at 24 months was the percentage of intervention group families with PCPs higher than the percentage for the control group.

This study adds to the evidence describing the many factors which can and do affect the health of immigrant children. We found that a composite for overall stress, maternal/family problems, which is very high in this population and in many immigrant populations, was the strongest predictor of developmental outcomes. Psychosocial stress has been shown to be an important factor in the health of other immigrant populations as well [15–17]. We also demonstrated that an intervention aimed at reducing some of these stressors did have a number of positive outcomes, including increased exclusive breastfeeding, increased utilization of PED for urgent conditions, increased percentage of mothers having a PCP at 24 months, and improved ASQ scores at 24 months. By focusing on the strengths and stressors in an immigrant population, it is possible to mitigate the deterioration of health outcomes in such populations. Future programs that are meant to improve childhood health in immigrant populations will need to understand the strengths and weaknesses of the specific population they serve to succeed and will particularly have to focus on decreasing the cumulative effect of different life stressors on individuals.

This study had a number of limitations. One of its strengths was that it investigated a particular, mostly Dominican Latino population in northern Manhattan. This is also a weakness in that it is hard to comment on the generalizability of these results to other specific immigrant populations. Also, this study only investigated a small number of health indicators for immigrant children, and there are many other relevant factors that need to be investigated.

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