Hindawi Publishing Corporation
International Journal of Population Research
Volume 2012, Article ID 250276, 8 pages
doi:10.1155/2012/250276

Research Article

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

John C. Rausch,[1] Mary McCord,[1,2] Milagros Batista,[3] and Elizabeth Anisfeld[1,3]

[1] *Division of General Pediatrics, Department of Pediatrics, Columbia University College of Physicians and Surgeons, New York, NY 10032, USA*
[2] *Department of Population and Family Health, Mailman School of Public Health, New York, NY 10032, USA*
[3] *Best Beginnings, Alianza Dominicana, New York, NY 10033, USA*

Correspondence should be addressed to John C. Rausch, jr2163@columbia.edu

Received 16 June 2011; Accepted 13 September 2011

Academic Editor: Cherylynn Bassani

Copyright © 2012 John C. Rausch et al. This is an open access article distributed under the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

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 interpretation 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 ($n = 273$)	Control group ($n = 262$)	Total sample ($n = 535$)
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. [1]Annual family income less than $10,000. [2]Public 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
Total number of visits[1]		
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
Visits made for urgent conditions[2]		
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

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

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
ASQ composite score at 12 months postpartum[2]		
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
Interaction: substance-affected family *by* intervention family	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
ASQ composite score at 24 months postpartum[3]		
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	$P < .0001$
Mother's age at target child's birth[4]	0.04	ns
First-time mother[4]	0.03	ns
Mother's number of years of education completed[4]	0.10	ns
Interaction: female sex *by* intervention family	−0.13	$P < .05$
Interaction: female sex *by* nursery type	−0.09	ns
Interaction: nursery type *by* intervention family	0.04	ns

[1]AFDC: Aid to Families with Dependent Children. TANF: Temporary Assistance for Needy Families. [2]Adjusted $R^2 = 181$; $F(9, 293) = 8.39$, $P < .0001$. [3]Adjusted $R^2 = .132$; $F(10, 229) = 4.64$, $P < .0001$. [4]Italicized 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. Sociodemographic 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.

Acknowledgments

Funding for the Randomized Controlled Trial Evaluation of Best Beginnings was received from New York State Office of Children and Family Services (OCFS), the US Department of Health and Human Services Children's Bureau Abandoned Infants Assistance Program, and the Smith Richardson Foundation. The service component of the program was funded by contracts from private foundations and government agencies including the New York State OCFS. The authors would like to thank all the members of the Best Beginnings research team and service provision team at Alianza Dominicana, and the participating families. They also acknowledge the contribution of James Sandy who analyzed the data. They would also like to acknowledge the support of the Healthy Families New York Contract Managers Joy Griffith and Maria Rosado. Additionally, they would like to thank Dr. Nicholas Cunningham, Dr. John Driscoll, Anne Reiniger, and Moises Perez for their support. Without the participation and hard work of all the previous individuals, the current work would not have been possible.

References

[1] D. Hernandez and E. Charney, *From Generation to Generation: The Health and Well-Being of Children in Immigrant Families*, National Academy Press, Washington, DC, USA, 1998.

[2] S. A. Camarota, "Immigrants in the United States, 2007: A Profile of America's Foreign-Born Population," 2007, http://www.cis.org/articles/2007/back1007.pdf.

[3] US Department of Commerce, "Population Projections of the United States by Age, Sex, Race, and Hispanic Origin: 1995 to 2050," 1996, http://www.census.gov/prod/1/pop/p25-1130.pdf.

[4] US Census Bureau, "B03001. Hispanic Or Latino Origin By Specific Origin-Universe: Total Population," 2007, http://factfinder.census.gov/servlet/DTTable?_bm=y&geo_id=01000US&ds_name=ACS_2006_EST_G00_&mt_name=ACS_2006_EST_G2000_B03001.

[5] L. Nguyen, L. N. Huang, G. F. Arganza, and Q. Liao, "The influence of race and ethnicity on psychiatric diagnoses and clinical characteristics of children and adolescents in children's services," *Cultural Diversity and Ethnic Minority Psychology*, vol. 13, no. 1, pp. 18–25, 2007.

[6] L. J. Crockett, Y. L. Shen, B. A. Randall, S. T. Russell, and A. K. Driscoll, "Measurement equivalence of the center for epidemiological studies depression scale for latino and anglo adolescents: a national study," *Journal of Consulting and Clinical Psychology*, vol. 73, no. 1, pp. 47–58, 2005.

[7] CDC, "From the Center of Disease Control and Prevention. State-specific trends in US live births to women born outside the 50 states and the District of Columbia—United States, 1990 and 2000," *Journal of the American Medical Association*, vol. 289, pp. 1503–1505, 2003.

[8] A. Cervantes, L. Keith, and G. Wyshak, "Adverse birth outcomes among native-born and immigrant women: replicating national evidence regarding Mexicans at the local level," *Maternal and Child Health Journal*, vol. 3, no. 2, pp. 99–109, 1999.

[9] B. M. Popkin and J. R. Udry, "Adolescent obesity increases significantly in second and third generation U.S. immigrants: the National Longitudinal Study of Adolescent Health," *Journal of Nutrition*, vol. 128, no. 4, pp. 701–706, 1998.

[10] M. L. Allen, M. N. Elliott, L. S. Morales, A. L. Diamant, K. Hambarsoomian, and M. A. Schuster, "Adolescent participation in preventive health behaviors, physical activity, and nutrition: differences across immigrant generations for Asians and Latinos compared with whites," *American Journal of Public Health*, vol. 97, no. 2, pp. 337–343, 2007.

[11] M. L. Allen, M. N. Elliott, A. J. Fuligni, L. S. Morales, K. Hambarsoomian, and M. A. Schuster, "The relationship between Spanish language use and substance use behaviors among Latino youth: a social network approach," *Journal of Adolescent Health*, vol. 43, no. 4, pp. 372–379, 2008.

[12] J. B. Unger, A. Ritt-Olson, D. W. Soto, and L. Baezconde-Garbanati, "Parent-child acculturation discrepancies as a risk factor for substance use among Hispanic adolescents in Southern California," *Journal of Immigrant and Minority Health*, vol. 11, no. 3, pp. 149–157, 2009.

[13] M. Alegria, G. Canino, F. S. Stinson, and B. F. Grant, "Nativity and DSM-IV psychiatric disorders among Puerto Ricans, Cuban Americans, and Non-Latino Whites in the United States: results from the National Epidemiologic Survey on Alcohol and Related Conditions," *Journal of Clinical Psychiatry*, vol. 67, no. 1, pp. 56–65, 2006.

[14] R. T. Mikolajczyk, M. Bredehorst, N. Khelaifat, C. Maier, and A. E. Maxwell, "Correlates of depressive symptoms among Latino and Non-Latino White adolescents: findings from the 2003 California Health Interview Survey," *BMC Public Health*, vol. 7, article 21, 2007.

[15] M. Tseng and C. Y. Fang, "Stress is associated with unfavorable patterns of dietary intake among female Chinese immigrants," *Annals of Behavioral Medicine*, vol. 41, no. 3, pp. 324–332, 2011.

[16] H. W. Revollo, A. Qureshi, F. Collazos, S. Valero, and M. Casas, "Acculturative stress as a risk factor of depression and anxiety in the Latin American immigrant population," *International Review of Psychiatry*, vol. 23, no. 1, pp. 84–92, 2011.

[17] Y. Vered, V. Soskolne, A. Zini, A. Livny, and H. D. Sgan-Cohen, "Psychological distress and social support are determinants of changing oral health status among an immigrant population from Ethiopia," *Community Dentistry and Oral Epidemiology*, vol. 39, no. 2, pp. 145–153, 2011.

[18] E. Anisfeld, J. Sandy, and N. Gutterman, Best Beginnings: A Randomized Controlled Trial of a Paraprofessional Home visiting Program. Technical report prepared for the New York State Office of Children and Family Services, 2004.

[19] J. M. Sandy, E. Anisfeld, and E. Ramirez, "Effects of a prenatal intervention on breastfeeding initiation rates in a latina immigrant sample," *Journal of Human Lactation*, vol. 25, no. 4, pp. 404–411, 2009.

[20] E. Olson, G. V. Wye, B. Kerker et al., "Take care Inwood and Washington Heights," in *NYC Community Health Profiles*, vol. 19, pp. 1–16, 2nd edition, 2006.

[21] S. Guendelman, V. Angulo, M. Wier, and D. Oman, "Overcoming the odds: access to care for immigrant children in working poor families in California," *Maternal and Child Health Journal*, vol. 9, no. 4, pp. 351–362, 2005.

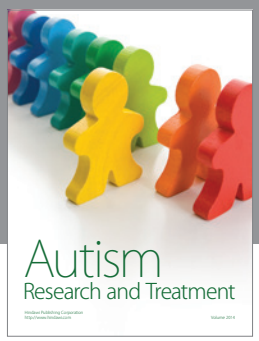
[22] H. Yoshikawa, E. B. Godfrey, and A. C. Rivera, "Access to institutional resources as a measure of social exclusion: relations with family process and cognitive development in the context of immigration," *New Directions for Child and Adolescent Development*, vol. 2008, no. 121, pp. 63–86, 2008.

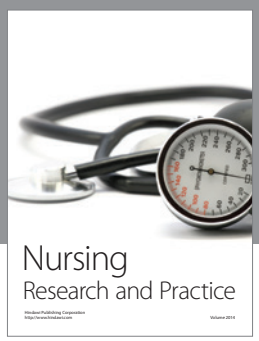
[23] J. S. Palfrey, P. Hauser-Cram, M. B. Bronson, M. E. Warfield, S. Sirin, and E. Chan, "The Brookline Early Education Project:

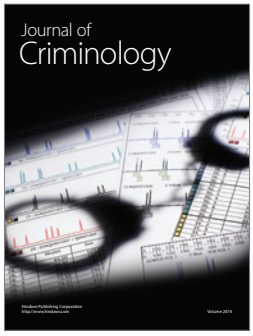
a 25-year follow-up study of a family-centered early health and development intervention," *Pediatrics*, vol. 116, no. 1, pp. 144–152, 2005.

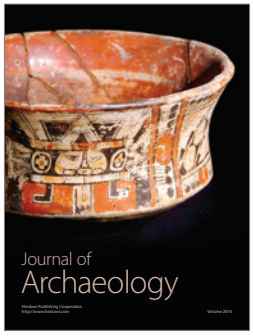
[24] M. L. Van Horn, T. Jaki, K. Masyn, S. L. Ramey, J. A. Smith, and S. Antaramian, "Assessing differential effects: applying regression mixture models to identify variations in the influence of family resources on academic achievement," *Developmental Psychology*, vol. 45, no. 5, pp. 1298–1313, 2009.

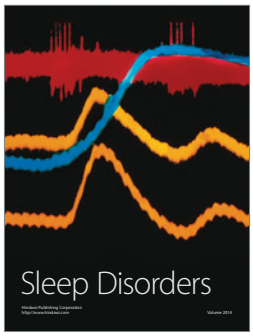
[25] W. J. Chou, "Maternal mental health and child development in Asian immigrant mothers in Taiwan," *Journal of the Formosan Medical Association*, vol. 109, no. 4, pp. 293–302, 2010.

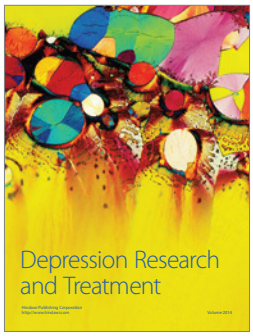


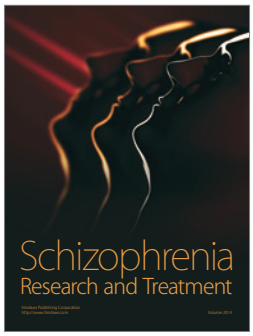


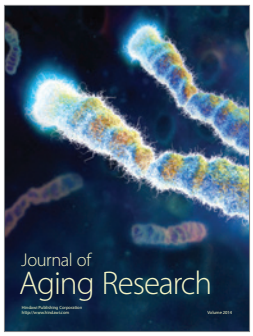


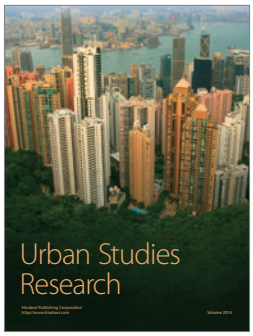












Hindawi

Submit your manuscripts at
http://www.hindawi.com