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Urban and Rural Immigrant Latino Youths' and Adults' Knowledge and Beliefs about Mental Health Resources

Abstract

Background—Immigrant Latino youth experience mental health problems in the U.S. Cultural beliefs and knowledge may influence help-seeking behaviors.

Methods—Two hundred thirty-four immigrant Latino respondents between 12 and 44 years of age completed a questionnaire assessing knowledge of and cultural beliefs regarding mental health resources for adolescents, symptoms, and help-seeking.

Results—Multivariate analyses showed that rural respondents were significantly less likely to know of mental health resources than urban-based immigrant Latinos. Knowledge and belief outcomes were also affected by age, gender, and length of time living in the community.

Discussion—Immigrant Latinos appear willing to seek professional help for mental health problems but may not know how to access this type of care, or may lack available services. Future research to inform interventions that increase awareness of accessible mental health services is suggested. Findings support systems-level changes including increased availability of culturally-specific mental health services, especially in rural areas.

Keywords

Latino; mental health; adolescent; parent; knowledge; cultural beliefs

Immigrant Latino youths' mental health status and trajectory into adulthood in the United States (U.S.) is concerning. Latino mental health problems have serious health and economic societal implications as Latinos currently comprise over half of the immigrants in the U.S. (55%)¹. The Latino population in the U.S. is rapidly increasing with census data predicting Latinos will comprise 25% of the population in the country by 2050. Further, compared to other ethnic groups, Latinos are a young population, with over 30% under the age of 18 and nearly half under the age of 25². The confluence of these issues---the predicted U.S. Latino demographic growth and the increasing prevalence of mental health problems in Latino youth---is serious. Without a significant alteration in this trajectory, the U.S. will reap the consequences of overlooked or untreated mental health problems among those who will soon make up a large proportion of the workforce and of parents. In this paper we provide contextual information on the mental health problems experienced by immigrant Latino youth to inform interpretation of our data that elucidated the mental health knowledge levels and cultural beliefs of rural and urban Latino youth and adults.

BACKGROUND

Latino adolescent mental health

The U.S. Census estimates that as of July 2007 there were over 15.4 million Latino youth under the age of 18 and 7.7 million are estimated to be 10–19 year olds³. Latino youth in the U.S. report higher rates of mental health problems and associated negative outcomes including anxiety, depression, suicidal ideation and suicide attempts than non-Latino white and black youth, and females report higher frequencies than males^{4–6}. A Midwestern survey similarly found that, among high school age respondents, 9th grade Latinas were

significantly more likely to report experiencing depressive symptoms than their non-Latino peers^{7,8}.

Suicide attempts, a strong indicator of existing mental health problems or symptoms, are higher among Latina females with nearly 15% of 9th grade Latina females reporting they have attempted suicide (vs. 9% white females)^{4,9,10}. Further, Latino boys and girls experience more problem behaviors such as delinquency, multiple risk taking, and substance use compared to non-Latino White youth¹¹. Numerous, complex factors contribute to existing mental health problem rates and disparities. For immigrant Latino youth there are unique potential contributors to mental health problems and harmful behaviors/outcomes including acculturation^{12–14}, documentation status for those who lack legal immigration documentation¹⁵ and familial separation and reunification immigration patterns.

Individual and Cultural Influences on Perceptions of Mental Health

Mental health problems are viewed negatively and with a certain amount of stigma in most cultures. Latino cultures are broadly categorized by values that emphasize community and togetherness over individuality and a strong commitment to family (i.e. familism)¹⁶. For many immigrant Latino adolescents and their families, acculturative stress and processes have substantial impact on mental well-being^{17,18}. Fear resulting from immigration-related separation and reunification patterns, or from immigration without legal documentation can contribute to anxiety symptoms, hopelessness, or depression.

Leading research recognizes the complexity of acculturative processes which vary by individual and can present intra-familial challenges when rates of acculturation are different between the youth and their parents¹⁹. When adolescents maneuver between cultures more quickly than their parents this can result in disrupted roles (e.g., adolescent interprets for parent) at a time when normative adolescent developmental processes should include growing independence and autonomy. Furthermore, despite awareness of biochemical explanations for some mental health conditions among many Latinos, there are beliefs rooted in traditions that perceive mental health problems as conditions resulting from spiritual or magical causes. A mental health problem can also be viewed as a weakness, something that the 'machismo' cultural value makes difficult to accept, notably for Latino males. In focus groups with Latino fathers and adolescent males, Garcia and Lindgren²⁰ observed a trend toward ignoring or minimizing mental health problems.

Barriers to Accessing Mental Health Services

Latino youth often do not receive the mental health care they need^{10,21,22}. When professional care is sought, Latino youth often receive that care from primary care settings²³. Certainly, mental health treatment of adolescents within a primary care setting can be effective. It is the disparity experienced by Latino youth in receiving specialist care when it may be indicated that is problematic.

Reasons for limited utilization of mental health services for youth include social determinants of health such as poverty^{24–30}, lack of health insurance coverage^{31–34}, personal factors such as health-seeking behaviors^{35–37} and cultural considerations such as beliefs about the origins of mental health problems^{38–42}.

Lack of Appropriate Services

Services that are linguistically, developmentally, and culturally appropriate for immigrant Latinos simply do not exist in many parts of the U.S.^{39,43,44}. Compared to urban areas, rural areas generally have less availability and accessibility of mental health specialists⁴⁵. However, even Spanish speaking providers may lack training or experience working with

youth^{46,47}. Moreover, existing agencies may not understand adolescent needs or rights, such as confidentiality and time to establish trusting relationships^{48,49}.

Theoretical Framework—An adaptation of Bronfenbrenner's ecological model provides a theoretical foundation to this study⁵⁰. We sought further understanding of the family microsystem beliefs, specifically those of Latino adults/parents regarding mental because they serve as gatekeepers to health care systems. Andersen's model of health service utilization provides another theoretical foundation to this study⁵¹. The model identifies personal factors that can serve as barriers or facilitators to accessing health care. In our study we examined adolescent and parental beliefs and knowledge about mental health and access to health care.

STUDY PURPOSE

Existing knowledge is sparse regarding individual and familial factors that influence critical health seeking behaviors and differences between rural and urban Latinos. Thus, the purpose of this study was to describe immigrant Latino youths' and adults' knowledge of community resources for an adolescent with a mental health problem such as depression or suicidal ideation, and cultural beliefs about health seeking for mental health problems.

METHODS

Design

Using a cross-sectional study design, we assessed levels of knowledge and cultural beliefs among Latino youth and adults living in urban and rural settings of a mid-western state. A community-based participatory research methodology^{52–54} was used to develop and pilot the “Emotional Health Survey”, a 100-item bilingual paper-pencil instrument. The survey was designed to ascertain the mental health-related knowledge, attitudes, and behaviors of Latino youth and adults.

Participants

Due to the community-based participatory study methodology, the recruitment modes were different between the urban and rural locations. The rural sample was recruited by Latino community co-investigators and research staff employed within a Latino-led grassroots organization. Participants were recruited by Promotores de Salud (Health Promoters) through existing programs offered at the organization's administrative offices, in participants' homes and in other accessible community locations. Mental health services were not available from this organization.

The urban sample was recruited by the study investigator and a research assistant from public charter schools and a community clinic serving the urban Latino community. None of the urban recruitment sites provided mental health specialist care although each of them had ability to refer to at least two agencies in the metro area that provide bilingual, bicultural mental health services for Latinos.

Data Collection

IRB approval was received from the University separately for the urban and rural settings because initially the projects were independently undertaken. Subsequently, IRB approved protocols were slightly different.

All participants provided written assent or consent. For urban participants, the IRB approval included a waiver of active parental consent in lieu of parent notification. Therefore, youth

less than 18 years of age were required to bring information about the study home and to wait a few days before completing the questionnaire to ensure parents had time to contact the research team if they had questions or reservations. All urban participants received a \$10.00 gift card for survey completion. Rural participants completed the questionnaire in a variety of community locations, including school, clinic, community-based agencies, and in the home. No incentives were offered for survey completion based on the preference of the rural co-investigators. Urban participants mostly self-completed whereas most rural participants had an interviewer administer the questionnaire. All respondents chose to complete the Spanish version of the survey. All data from rural and urban settings were collected between January and July of 2006.

Measures

The questionnaire⁵⁵ was developed collaboratively by university and community investigators. All the items for the analyses presented in this article were newly developed because measures did not exist to assess knowledge of mental health resources and related beliefs.

Seven items used to assess knowledge of community resources for mental health concerns. There were three items that ascertained respondents' knowledge of a place in the community that could help youth with problems like depression or suicidal ideation. For each of the two mental health problems presented (i.e. depression and suicidal ideation) respondents who stated they knew of a community resource were probed for details about that resource including: 1) whether or not the resource/agency required parental permission for youth to access services and 2) if staff told parents when an adolescent had visited. Four questions assessed the respondents' cultural acceptability of: 1) talking about feelings, 2) asking for help for problems, 3) visiting a mental health professional, and 4) identifying someone to talk to about sad feelings.

Four questions assessed respondents' knowledge of and attitudes about mental health and depression. Examples of these items include: 1) Depression is inherited in some families, 2) A person with depression always feels sad and 3) I know the difference between sadness and depression. Two questions explored whether or not the respondents' could identify someone they knew: 1) between 12–19 years of age who had sought help for a mental health problem and 2) who had attempted suicide. For all of the above items, respondent options included, 'yes' and 'no'. Most items also included an 'I don't know' response option.

Analysis

For the purpose of the analysis, 'I don't know' responses were coded with the 'no' response for the particular outcome variable. Descriptive statistics were generated to describe the sample characteristics according to place of residence (i.e. rural or urban). Rates of knowledge, cultural beliefs and knowledge of symptoms, health seeking and attempts were analyzed separately for the urban and rural groups. Effect of sample characteristics on outcome variables were analyzed using a multivariate marginal modeling through the generalized estimating equation (GEE) with a logit link function to obtain adjusted odds ratios (OR) estimates and 95% confidence intervals (CI). The GEE method allows for accounting of multiple outcomes within a participant. To test for difference in the effect of participant characteristics and place of residence (urban vs. rural), we included an interaction effect in the model. A p-value of 0.05 was considered significant with a two-tailed test. Analysis was conducted using SAS 9.2 (SAS Institute Inc., Cary, North Carolina).

RESULTS

Characteristics of Participants

The total sample consisted of 234 immigrant Latino adults and youth (See Table 1 for select demographics). Rural and urban respondents were primarily from Mexico (>85%) with the remaining sample representing Honduras, El Salvador, Ecuador, and Guatemala. No differences were observed between rural and urban groups for associations of age, gender, length of time living in the community, English speaking and the outcome variables (data not shown).

Rates of knowledge and cultural beliefs for urban and rural respondents were estimated at the mean distribution of age, gender, number of years lived in the community and Spanish speaking preference (see Table 2). Significantly fewer rural respondents knew of a place in the community that could help an adolescent with a mental health problem (3% compared to 18%, $p<0.001$). In both settings, fewer than 1 in 4 respondents knew of a place or resource for an adolescent contemplating suicide. Less than 1 in 5 respondents knew of a place in the community that could help with depression. Some of the cultural belief measures were significantly different between the urban and rural respondents. Notably, more urban respondents endorsed the statement that “in my culture seeing a mental health professions is crazy” (35% versus 9%, $p<.0001$). Fewer of the urban respondents agreed that “in my culture it is okay to seek help for depression” (61% versus 88%, $p<.0001$). No significant difference in the knowledge of symptoms and health seeking was observed between the urban and rural settings. Almost a third of participants thought that depression is inherited and 17% know someone who has tried to take his or her life.

The association of sample respondent characteristics and knowledge and belief outcomes are presented as odds ratios and 95% CI. (see Tables 3–5). Urban respondents were over five times more likely than rural respondents to indicate knowing a place in the community that can help Latino adolescents with mental health problems such as depression or suicidal ideation (OR: 5.6, CI: 2.2–14.5, $p<.001$). Similarly, females were nearly four times more likely than males to indicate knowing of a community resource (OR: 3.7, CI: 1.3–11.0, $p<.01$). Compared to those who have resided in the community over five years, those who had resided in the community less than a year were significantly less likely to know of a place in the community that can help an adolescent (OR: 0.1, CI: 0.0–0.6, $p<.002$) or specifically, a place to bring a suicidal adolescent (OR: 0.3, CI: 0.1–0.9, $p<.01$). We found no significant association between demographic factors analyzed and participants' knowledge of a place for adolescents to go if depressed or if suicidal, except for time living in the community. However, similar patterns were observed with those reporting greater knowledge of resources residing in urban settings, being female, and speaking any English (compared to speaking only Spanish).

Significant differences were observed for some cultural beliefs. Notably, urban respondents were over four times more likely to endorse the statement that “in my culture seeing a mental health professional is crazy” (OR: 4.2, CI: 1.9–9.5, $p<.001$) and much less likely to indicate that “in my culture it is okay to seek help for depression” (OR: 0.2, CI: 0.1–0.4, $p<.0001$). Compared to males, females were half as likely as males to report that “in my culture it is easy to find someone to talk to” (OR: 0.4, CI: 0.2–0.7, $p<.003$). Compared to older respondents (25–44 year olds), younger respondents (12–17) were also less likely to endorse the ease in finding someone to talk with (OR: 0.2, CI: 0.1–0.5, $p<.002$).

Few significant differences were noted among respondents on the knowledge of symptoms, health seeking, and attempts items. Compared to those who have resided in the community over five years, respondents living in the community less than a year were less likely to

report knowing an adolescent who had sought help for a mental health problem (OR: 0.3, CI: 0.1–1.1, $p < .003$). Specific to knowledge of symptoms, participants aged 12–17 years were significantly less likely to endorse the statement that “stress always develops into depression” (OR: 0.2, CI: 0.1–0.5, $p < 0.002$).

DISCUSSION

Fewer than 25% of *all* respondents indicated knowledge of specific mental health resources for Latino youth. This low proportion of persons able to identify a resource is concerning given the enormity of the mental health needs among Latino youth. This finding demonstrates critical need for education to increase awareness within immigrant Latino communities about mental health resources. Female respondents and those residing in the urban setting were three to five times more likely to indicate they were able to identify a community resource that could help a Latino adolescent with a mental health problem. It is plausible the lack of bilingual or bicultural mental health specialists in rural settings contributes to Latino residents being less likely to identify a mental health resource in their rural communities. Our study findings support extensive existing literature regarding the limitations in current mental health services, specifically limitations of language, cultural relevance, and for adolescents, developmental appropriateness^{7, 8, 10, 13}. The majority of our respondents reported speaking Spanish in their homes and all the adults completed the survey instrument in Spanish. For those immigrant Latinos who will seek mental health services in the U.S., many will prefer and seek out services that are available to them in Spanish and ideally are provided by someone with respect for and understanding of their cultural values and beliefs.

An important finding, despite no significant differences across groups, was that many respondents appeared willing to seek care from a professional for a mental health problem. Although not predictive, our findings suggest that youth would receive mental health services if culturally appropriate services were available. This is noteworthy because it suggests that Latino youth may not be greatly inhibited by cultural traditions that discourage health seeking for mental health problems outside of the family or spiritual sources of care. This finding also supports the growing body of research demonstrating different rates of acculturation between younger and older Latinos. As adolescent Latinos embrace some American values this may contribute to their increased willingness to seek ‘western-based’ traditional care for a mental health problem or concern. Consistent with Andersen’s model of health care access and utilization, some of our youth respondents demonstrate personal factors (e.g., willingness to seek care) that facilitate health-care seeking.

Those in the health and social service professions (e.g., social workers, nurses, physicians, youth workers, educators) should aggressively pursue strategies that ensure immigrant Latino communities are aware of available mental health services for adolescents. They should advocate for policies that require additional services to be provided. Schools preparing professionals, especially mental health providers, might consider focused recruitment efforts that contribute to a culturally capable workforce able to provide family-focused mental health services to immigrant Latino youth.

Our study supports prior research that demonstrates the involvement and primary role of mothers, or females, in seeking health care for their children and their increased awareness of local community resources⁵⁶. Indeed, the cultural emphasis on family care for one another is demonstrated and consistent with our theoretical model, which highlights the importance of Microsystems (e.g., family) in the health and health care seeking of adolescents. Thus, interventions are needed that provide mothers and fathers with an accurate understanding of adolescent mental health problems, including symptoms and signs

of risk that warrant seeking health care. An increase in parental and youth knowledge of what is developmentally normative and what is problematic may facilitate early identification and intervention, including receiving care from a mental health specialist when it is indicated.

School-based outreach and intervention may be an effective mechanism in reaching immigrant Latino youth who are in school, as well as their parents. Indeed, prior research has demonstrated that immigrant Latino parents desire educational opportunities that are based in school, as these encourage stronger connectedness to school for these families²⁰. Strategies to increase knowledge of warning signs, including those requiring immediate intervention, are warranted. However, additional community-based interventions and outreach strategies are needed to reach youth who are not attending school. Up to 40% of Latino youth drop out and do not graduate from high school in the U.S.⁵⁷. These youth may also be a higher risk for mental health problems.

Study Limitations

The research team was aware of the consequences of varied recruitment and data collection modalities. We realized that offering incentives in the urban but not rural locale would create a potential confounder. We understood that participants may offer different responses depending on whether they self-complete a questionnaire or complete it in an interview format. The community-based methods undertaken in these parallel urban and rural projects inherently meant that methodological differences would exist. Further, our results should be interpreted within the context of four limitations.

First, the sample size is relatively small, resulting in sub-group sizes that were not optimal. This possibly explains why we were unable to detect any interaction effects. Second, there are inherent challenges associated with self-report data, notably reporting biases that may not accurately reflect levels of knowledge, cultural beliefs, or futuristic thinking. A likely source of reporting bias is that respondents may over endorse awareness of resources. In this case, our data may suggest an overly optimistic picture of knowledge of mental health resources. Third, our study used items that had not been previously tested or established as reliable or valid with immigrant Latino respondents of various ages. Serving as a pilot study of these instruments, our data are informative and useful but should be interpreted cautiously. Finally, our sample mirrors the national immigrant Latino community in that it consisted primarily of respondents of Mexican origin. Findings should be considered within this context, appreciating and recognizing the heterogeneity of the broader U.S. Latino population. Our findings should not be generalized to non-immigrant Latinos and should be carefully applied to immigrant Latinos residing outside the Midwest region of the U.S. It is possible that immigrant Latinos choosing to live and work in urban or rural settings within the Midwest have unique characteristics (e.g., acculturation levels, migrant patterns, length of time in the U.S.) that preclude comparisons with immigrant Latinos outside this region.

NEW CONTRIBUTIONS TO THE LITERATURE

To our knowledge, this study is the first to present urban and rural immigrant Latino youth and adult knowledge and beliefs specific to mental health resources within their respective communities. We accomplished this employing a community-based participatory methodology through all stages of the study^{54,55,58}, thereby contributing to a growing body of literature. Our study also adds to growing evidence of the value and need for research that examines phenomena of interest separately for immigrant Latinos based on whether they reside in urban or rural parts of the U.S.

IMPLICATIONS

Future research building on these findings might employ study designs that allow for matched pairing of family members to further understand the within-family beliefs regarding mental health problems and health seeking behavior. Insights from such inquiry could support development of assessment tools informing targeted interventions within families based on their knowledge needs or identified barriers to professional help-seeking. Because increased knowledge about mental health problems may not alone result in changes in health-seeking behaviors it is necessary that personal, familial, community, and systems level barriers to help-seeking are also recognized and addressed.

Our study findings suggest that immigrant Latino parents and youth generally are not opposed to help-seeking, which implies that barriers to care may result from factors external to the family. Notable examples of possible external barriers include limited numbers of culturally capable providers, training gaps among primary care providers in identifying mental health needs of youth, and societal values and perceptions about mental health generally.

In summary, our study findings support the following strategies to address the mental health needs of immigrant Latino youth and their families. Family-engaged preventive intervention efforts are needed to alter the mental health trajectory of these youth. These will require collaborative efforts that address system-level policies, community-level services, and family/individual-level beliefs. As immigrant Latino communities continue to grow in rural and urban settings throughout the U.S., attention and action toward their mental health needs will contribute to eliminating health disparities and improving immigrant Latino youth mental well-being.

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Table 1

Urban and Rural Participant Characteristics

Characteristic	Urban (n=98)	Rural (n=136)
Age in years		
12–17	21 (21%)	19 (14%)
18–24	33 (34%)	25 (18%)
25–44	44 (45%)	92 (68%)
Mean age + SD	25 + 8 (SD)	28 + 8 (SD)
Gender		
Female	58 (59%)	58 (43%)
Male	40 (41%)	78 (57%)
Mean years in community + SD	6 + 4 (SD)	7 + 5 (SD)
Spanish speaking at home	67 (68%)	105 (77%)
Time living in the community		
<= 1 year	24 (24%)	12 (9%)
2–4 years	19 (19%)	32 (24%)
5+ years	50 (51%)	80 (59%)
Not indicated	5 (5%)	12 (9%)

Table 2

Rates of Knowledge of Mental Health Resources, Cultural Beliefs, and Knowledge of Symptoms and Health Seeking according to Urban and Rural Settings

Expected rates	Urban	Rural	p-value
Knowledge of mental health resources			
Place in the community for adolescents	18% (10% – 30%)	3% (1% – 6%)	0.0004
Place for adolescent to go if depressed	19% (11% – 31%)	14% (9% – 23%)	0.488
Place for adolescent to go if suicidal	24% (12% – 43%)	20% (12% – 29%)	0.5825
Cultural beliefs In my culture...			
If someone visits a mental health professional, s/he is crazy.	35% (24% – 48%)	9% (5% – 15%)	<.0001
It is difficult to talk about feelings.	43% (33% – 53%)	40% (32% – 49%)	0.7386
It is easy to find someone to talk to about sad feelings.	68% (55% – 79%)	66% (58% – 74%)	0.8024
It is okay to ask for help for depression.	61% (51% – 70%)	88% (81% – 93%)	<.0001
Knowledge symptoms, health seeking, attempts			
I know an adolescent who has tried to get help	13% (7% – 22%)	7% (3% – 12%)	0.1125
A person with depression always feels sad.	64% (50% – 76%)	52% (42% – 61%)	0.1538
I know the difference between sadness and depression.	56% (44% – 66%)	46% (37% – 55%)	0.2017
Depression is inherited.	27% (18% – 38%)	29% (22% – 38%)	0.6848
I know an adolescent who has tried to take his or her own life.	16% (10% – 26%)	17% (11% – 25%)	0.8677
Major stress always develops into depression.	41% (28% – 56%)	41% (32% – 51%)	0.9829

Expected rates at the mean distribution of age, gender, years lived in the community and Spanish speaking

Table 3

Factors Associated with Knowledge of Mental Health Services

Knowledge of mental health services	Place in the community for adolescents		Place for adolescent to go if depressed		Place for adolescent to go if suicidal	
	OR (95%CI)	p-value	OR (95%CI)	p-value	OR (95%CI)	p-value
Urban vs Rural	5.6 (2.2 – 14.5)	0.0003	1.4 (0.7 – 2.8)	0.3614	1.4 (0.5 – 3.9)	0.4261
Live in the community						
<1 yr	0.1 (0.0 – 0.6)	0.0022	0.4 (0.1 – 1.1)	0.0898	0.3 (0.1 – 0.9)	0.0198
1–4 yrs	1.1 (0.3 – 3.6)		0.9 (0.4 – 2.3)		0.4 (0.1 – 1.2)	
5+ yrs	ref		ref		ref	
Age						
12–17	1.8 (0.6 – 5.7)	0.3349	1.3 (0.5 – 3.2)	0.0981	1.2 (0.5 – 3.1)	0.1178
18–24	0.6 (0.2 – 2.1)		0.4 (0.1 – 1.1)		0.4 (0.1 – 1.1)	
25–44	ref		ref		ref	
Female vs male	3.7 (1.3 – 11.0)	0.0198	1.8 (0.9 – 3.7)	0.0963	1.5 (0.7 – 3.1)	0.2434
Any English-Spanish vs only Spanish	2.0 (0.9 – 4.6)	0.1207	1.3 (0.6 – 2.9)	0.4818	2.0 (0.9 – 4.6)	0.6263

Table 4

Factors Associated with Cultural Beliefs

Cultural Beliefs	In my culture, if someone visits a mental health professional, s/he is crazy.		In my culture, it is difficult to talk about feelings.		In my culture, it is easy to find a person to talk to about sad feelings.		In my culture, it is okay to ask for help for depression.	
	OR (95%CI)	p-value	OR (95%CI)	p-value	OR (95%CI)	p-value	OR (95%CI)	p-value
Urban vs rural	4.2 (1.9 – 9.5)	0.0013	1.0 (0.6 – 1.9)	0.8860	1.5 (0.7 – 3.1)	0.2900	0.2 (0.1 – 0.4)	<0001
Live in the community								
<1 yr	0.7 (0.3 – 2.0)	0.7328	0.9 (0.4 – 1.7)	0.9284	1.0 (0.4 – 2.1)	0.9696	1.2 (0.5 – 2.9)	0.4422
1–4 yrs	1.1 (0.3 – 3.6)		1.0 (0.5 – 2.0)		1.1 (0.4 – 2.9)		1.9 (0.7 – 5.2)	
5+ yrs	ref		ref		ref		Ref	
Age								
12–17	1.5 (0.5 – 4.3)	0.5139	0.6 (0.3 – 1.3)	0.2981	0.2 (0.1 – 0.5)	0.0024	1.2 (0.5 – 2.9)	0.5524
18–24	1.9 (0.6 – 5.6)		0.7 (0.4 – 1.4)		0.5 (0.2 – 1.3)		1.9 (0.7 – 5.2)	
25–44	ref		ref		ref		Ref	
Female vs male	1.8 (0.8 – 4.1)	0.1735	1.5 (0.9 – 2.7)	0.1410	0.4 (0.2 – 0.7)	0.0035	0.8 (0.4 – 1.6)	0.4651
Any English-Spanish vs only Spanish	0.8 (0.3 – 2.0)	0.6102	1.1 (0.6 – 2.0)	0.8734	0.8 (0.4 – 1.6)	0.5435	1.0 (0.5 – 2.1)	0.9889

Table 5

Factors Associated with Knowledge of Symptoms, Health Seeking and Attempts

Knowledge of symptoms, health seeking and attempts	Know adolescent who tried to get help		A person with depression always feels sad.		Understand difference between sadness and depression		Depression is inherited in some families.		I know an adolescent who has tried to take his/her life.		Major stress always develops into depression.	
	OR (95%CI)	p-value	OR (95%CI)	p-value	OR (95%CI)	p-value	OR (95%CI)	p-value	OR (95%CI)	p-value	OR (95%CI)	p-value
Urban vs rural	2.1 (0.9–5.0)	0.11192	1.7 (0.9–3.2)	0.1082	1.5 (0.8–2.5)	0.1760	0.9 (0.5–1.6)	0.6781	0.9 (0.5–1.9)	0.8715	1.0 (0.5–2.0)	0.8896
Live in the community												
<1 yr	0.3 (0.1–1.1)	0.0003	1.5 (0.7–3.2)	0.0576	1.4 (0.7–2.8)	0.3919	1.1 (0.5–2.2)	0.4294	0.7 (0.3–1.7)	0.6458	0.8 (0.4–1.6)	0.0973
1–4 yrs	-		0.5 (0.2–1.1)		0.8 (0.4–1.6)		0.7 (0.3–1.6)		1.0 (0.3–2.8)		1.9 (0.8–4.8)	
5+ yrs	ref		ref		ref		ref		ref		ref	
Age												
12–17	2.1 (0.7–6.1)	0.4497	0.4 (0.2–0.9)	0.0898	0.8 (0.4–1.7)	0.8397	0.6 (0.2–1.3)	0.3927	1.7 (0.7–4.2)	0.4881	0.2 (0.1–0.5)	0.0012
18–24	1.1 (0.4–3.3)		1.0 (0.5–2.0)		1.0 (0.5–1.8)		0.6 (0.2–1.7)		1.3 (0.5–3.6)		0.3 (0.1–1.0)	
25–44	ref		ref		ref		ref		ref		ref	
Female vs male	0.6 (0.2–1.4)	0.1954	1.3 (0.7–2.3)	0.3563	0.8 (0.5–1.4)	0.3999	0.7 (0.4–1.2)	0.1737	0.8 (0.4–1.5)	0.4275	1.6 (0.9–2.9)	0.1308
Any English-Spanish vs only Spanish												
Spanish	2.4 (1.0–5.8)	0.0870	0.7 (0.3–1.3)	0.2093	1.5 (0.8–2.8)	0.1940	1.1 (0.5–2.1)	0.8687	1.3 (0.6–2.9)	0.4525	0.8 (0.4–1.6)	0.6176