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Research Article

The Buffering Effect of Social Support on the Mental Health of the Armenian Immigrant Population in the United States

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Abstract

Immigration is a major stress-producing event. There are over 40 million immigrants residing in the USA, of which 1.5 million are Armenian. The incidences of mental health problems such as depression are associated with high acculturation-related stressors. This study investigated the buffering effect of social support (SS) on depression and on the incidences of acute and chronic illnesses. A survey design was used to collect data from 432 Armenian immigrants (228 females and 204 males) to the USA between the ages of 19 and 92, with a mean age of 56. This study was a subset of a larger study. Participants were from Armenia and the Middle East. Questionnaires were used to collect data on depression, social support (SS), self-reported incidences of acute and chronic illnesses, and demographic data. Results showed an inverse relationship between SS and incidences of depression. This was explained in terms of the buffering effect of SS. The inverse relationship between SS and incidences of acute and chronic illnesses existed, but was not significant. Depression was positively related to the incidences of acute and chronic illnesses. Implications were discussed for health care professionals to assess the SS system of immigrants, especially if they are experiencing depression.

Keywords: Mental health; Depression; Buffering effect of social support; Acute and chronic illnesses; Immigrant health; Armenians.

Introduction

Immigration is a steady forces throughout history and the immigrant population continues to grow significantly. There are over 40 million immigrants in the USA. There are approximately 1.5 million Armenian immigrants in the USA, with 200,000 living in Los Angeles County [1]. According to the US Census Bureau, [2] many people immigrate to the USA in search of a better life, more opportunities, and for civil liberties. These are referred to as "pull factors." Others flee their home countries due to poverty, famine, war, natural disasters, or persecution. These are called the "push factors" [3]. Regardless of their reason for immigrating, immigrants are vulnerable to economic, cultural, and social obstacles, as well as other stressors that exacerbate their vulnerability to the risks involved [3]. Immigrants bring benefits as well as challenges to their host country.

An immigrant's reception and their process of integration into a new community constitutes important factors affecting the person's health and well-being [4-6] This process of adjustment is complex and stressful due to the multitude of changes and losses experienced [7].

The study of stressors and adaptation to new environments is important to identify the most salient factors affecting the physical and mental health of diverse cohorts of immigrants.

More specifically, migration to distant and culturally different environments often introduces stressors that:

(1) Fragment and destabilize the nuclear family [8,9].

(2) Increase their exposure to stressful and dangerous situations and environments; and

(3) subject them to adverse health conditions such as psychopathological disorders, primarily involving anxiety, depression and somatization [7,10]. Difficult social conditions including financial costs associated with immigration often adversely affect mental health and overall well-being of the immigrant [11]. The literature underpins that social networks provide resources that meet the immigrant's needs and well-being and facilitate social and community integration [7,12]. Therefore, in order for the health professional to understand the relationship between economic and social insufficiencies on the immigrants' mental and physical health, it is important to examine the buffering or the mediating effect of SS on the mental health and the incidence of acute and chronic illnesses in the immigrant population.

There are very few studies addressing the impact of the buffering effect of SS on the mental health of the Armenian immigrant population (AIP) [13,14] This study contributes to an understanding of how SS within the context of the person-environment relationship serves as a buffering mechanism in reducing the incidence of depression as well as acute and chronic physical illnesses. Depression is one of the most frequently encountered adverse mental health conditions in immigrant populations. The purpose of this study is to determine the buffering effect of SS in terms of its relationship to the incidence of depression and chronic and acute illnesses in the AIP.

Background Information

The selected literature is presented in the order of immigration and stress, their relationship to the incidences of depression, acute and chronic illnesses; the relationship between certain demographic data and SS and coping with acculturative stress; and theories of buffering effect of SS as it relates to depression and physical illnesses.

Immigration and Stress

When stress is caused by immigration-related circumstances, it is referred to as acculturative stress. It is the immigrant's response to the cumulative effect of economic, cultural, and social challenges encountered in the host country. Stress is caused by the conflicting requirements of participation in two cultures. According to Hong and Wyer [3] and Mendoza et al. [15] there are several factors that determine or moderate the degree of acculturative stress. They are: (1) intrapersonal factors such as the motivation to migrate (the pull factor- e.g. for better future versus the push factor e.g. to avoid war or persecution). The latter is more stressful. (2) Culturally conflicting factors--when an immigrant perceives the intersection of the two cultural worlds are dissociated rather that overlapping and as inherently conflictual rather than harmonious experience more stress. (3) A marked differences in culture factors such as when the home country of origin is culturally very different from that of the host country, the higher the stress of the immigrant. (4) Societal factors-- societies that accept multiculturalism and, cultural diversity are conducive to lower level of acculturative stress than societies that seek to reduce immigration through assimilation policies or to marginalize or segregate diverse populations. (5) Personality and demographic characteristics of the immigrants, such as attitude towards "can do", financial status, language proficiency, educational background and age at immigration, are also factors that determine the degree of stress experienced by the immigrant.

The Relationship of Acculturative Stress on Depression, on the Incidences of Acute and Chronic Illnesses, and the Buffering Effect of Social Support

There is strong evidence demonstrating the detrimental effects of immigration -related stressors such as including economic hardships, sociocultural factors interact with neurobiological systems in instigating acute and chronic illnesses, mental health problems such as depression and suicidal ideations. These detrimental conditions will occur if there are no interventions and support while the immigrants are navigating their adaptation to the host country [16-19]. Several other studies have found that immigrants who are experiencing chronic and elevated levels of stress are at a higher risk for developing psychiatric problems such as post-traumatic stress disorders [7-22]. as well as headaches, symptoms of exhaustion, and other physical disorders [11,23].

According to Gunnar and Quevedo [24] neurobiological systems regulating stress are affected by a variety of environmental stressors. The hormone cortisol, which is secreted by the hypothalamic pituitary adrenal axis, is used as a marker of stress exposure. For example, immigrant children living at the poverty level have higher daily levels of cortisol secretions and higher basic metabolic index than their non-immigrant counterparts [25-27]. High cortisol levels can lead to serious conditions such as cardiovascular diseases and diabetes [28].

Studies have also shown that SS has links to physical health outcomes, including mortality. Individuals with low SS have a higher risk of death from cancer and cardiovascular diseases (Uchino, 2004, 2009) [29]. They also have higher incidences of inflammation, a less effective immune system, experience more complications during pregnancy, and have more functional disabilities and pain associated with rheumatoid arthritis [30-32]. On the other hand, people with a strong SS system have numerous positive outcomes, including faster recovery from open heart surgery, less susceptibility to herpes zoster, lower likelihood

of age-related mental decline, better diabetes control, fewer incidences of common colds, and when they have a cold, they recover faster [33-37]. Additionally, those with higher SS systems have better cardiovascular, neuroendocrine, and immune-system functions, less atherosclerosis, slower progression of already existing cardiovascular diseases, and breast cancer [38,39].

Cultural differences occur in the SS-seeking behaviors of individuals, even though SS is usually considered to be a universal resource [40]. In Asian cultures, for example, the person is seen as more of a collective unit of society and they are less likely to enlist help from others. They perceive SS to be less helpful in times of stress. On the other hand, in Western and European cultures, a person is seen more as an individual and they conceptualize SS as a transaction between two people, one seeking help from another and they seek SS from one another during times of stress. Asians are less likely to seek help for fear of disrupting the harmony of their relationship with one another and they are more inclined to settle their problems independently to avoid criticism. However, these differences are not found in Asian Americans relative to their European American counterparts [41].

Different cultures have different ways of giving and receiving SS. In African American households, support is limited. Many Black mothers raise their children without the presence of a male figure. Black women are more likely to struggle with employment opportunities, job biases, racial discrimination, and poverty. When there is poverty, children often take on adult roles at a young age, and women try to balance the roles of mother and father. This reduces the opportunity to provide moral support certain kids need [42].

The Relationship Between Certain Demographic Characteristics, Social Support, and Coping with Acculturative Stress

Age at the time of immigration, English language proficiency, and gender influence the effect of SS on coping with immigration stress. Age and English proficiency at immigration are two factors associated with depression and suicide. Older age at the time of immigration was found to be more stressful compared to younger age due to the older immigrants having a stronger cultural identity with their country of origin, and they are more likely to experience cultural conflict with the host country. Immigrants from China who immigrated after the age 20 were more likely to experience major depression than those who had immigrated before the age of [20, 43-45]

Gender differences influence the effect of SS on coping with acculturative stress in SS studies [40,46,47]. Women were found to provide more SS to others and were more engaged in their social networks than men [46]. Women were also more likely to seek out SS to deal with stress, especially from their spouses. One study [47] found there were no differences in the extent to which men and women seek appraisal, informational and instrumental types of support, but there was a difference in seeking emotional support. Taylor and her colleagues [41] suggest these gender differences in SS stem from biological differences between men and women in how they respond to stress (i.e. flight or fight versus tend and befriend). Married men were found to have lower rates of depression than single men since married men delegate their emotional burdens to their partners, on the other hand, women tend to be influenced and react more to social context compared to men [48].

Per Roussi and Vassilaki [49] men's behaviors are more asocial with respect to coping with stress and their influence upon others, whereas women are more prosocial and care about how their coping affects people around them. This may explain why more women tend to experience negative psychological problems such as depression and anxiety based on how they receive and process stressors [48]. In general, women tend to find situations more stressful than men. It is important to note that when the perceived stress level is the same, there are fewer differences in how they seek and use SS [47].

Theoretical Frameworks on the Buffering Effect of Social Support

There are several different theoretical frameworks that attempt to explain how SS helps deal with the adverse effects of stress on health outcomes. However, the two most predominant frameworks are the buffering and the direct effect hypotheses. The specific health outcomes this study is evaluating are the incidence of depression and acute and chronic illnesses in AIP.

The primary differences between the buffering and the direct effect hypotheses is the direct effect postulates that SS is beneficial at all times, whereas the buffering hypothesis views SS to be beneficial primarily during stressful times. SS protects (buffers) the person from the adverse effects of stressful life events, e.g. death in the family, or hardship experienced by the immigrant in the host country [42]. Research supporting the buffering effect of SS is found when there is a positive correlation between stress and favorable outcome for people who have high SS than those with low SS. This means that SS has protected the person from stress.

According to Barrera [50] and Cohen and Wills [51], buffering is experienced more for perceived support than for social integration or received support. The relationship between the buffering aspect of SS and health is described as the mechanism by which SS protects people from negative health effects of stressful events by influencing how people think about and cope with the events. Events are perceived as stressful if people have negative thought and appraise the event as negative and cope ineffectively. Coping consists of the process of taking a deliberate and conscious

action of dealing with the event such as problem solving or relaxation. According to stress and coping theory, SS promotes adaptive appraisal and coping [52,53].

Another theoretical framework is the relational regulatory theory (RRT) that attempts to explain the main effects (the direct effects hypothesis) between perceived SS and mental health. Perceived support has been found to have both buffering and direct effect on mental health. The RRT postulates that the relationship between perceived support and mental health comes from people regulating their emotions through ordinary conversations and shared activities rather than on instructional conversations on how to cope with stress. This regulation is relational. The conversation the support provider has with the person experiencing stress is regulatory in nature in the sense that it regulates recipient's emotions and this perceived support is relational in nature [42,54].

Life-span theory [39] is another theory explaining the link between SS and health. It emphasizes the differences between perceived and received support. From the life-span perspective, SS is developed throughout the life-span, especially through childhood attachment with parents along with the personality traits such as low hostility, low neuroticism, high optimism, as well as social and coping skills. Support, together with other aspects of personality influence health by promoting health practices and by preventing health-related stressors. Research has shown that portions of perceived support is trait-like and is linked to adaptive personality characteristics and attachment experiences [42,54].

Psychobiological mediators of SS is another framework for explaining the psychobiological mechanism of how social support influences our hormonal and immune systems in responding to stressful events. There is an emerging literature on the relationship between SS and the neurobiological pathways through which it acts to foster resilience and reduces the risk for developing mental illnesses [55] SS was found to positively impact the immune neuroendocrine and cardiovascular systems [42,56]. In preclinical studies, social isolation and low SS are associated with increased heart rate, blood pressure, hypercortisolemia, and atherosclerosis.

In terms of immune systems, SS is positively associated with better immune response [22,42,57] For example, scoring high on social integration was positively correlated with lower levels of inflammation as measured by C-reactive protein, a marker of inflammation, and individuals with higher SS have lower susceptibility to common colds [33]. Regarding the relationship between SS and the neuroendocrine system, high SS was associated with lower levels of cortisol secretions (stress hormone), when individual experience stress [57] Research studies dealing with neuroimaging has shown that SS decreases the activation of the part of the brain that deals with social distress, and it also diminishes cortisol levels [58,59].

SS directly affects the cardiovascular system by lowering the cardiovascular reactivity to stress [22]. Research has found SS to lower the blood pressure and the heart rate of the individual, which benefits the cardiovascular system [42].Thus, the buffering effect of SS can also be explained by its relationship to an improved immune system, controlling the cortisol secretion with the neuroendocrine system by lowering the cardiovascular reactivity to stress in terms of lowering the blood pressure and the pulse rate.

Methodology

Design and Subjects

A survey design was used to collect data from 432 Armenian immigrants (228 females and 204 males) to the USA between the ages of 19 and 92, with a mean age of 56. This study is a subset of a larger study. The participants were from Armenia and the Middle East. Subjects were selected from health fairs, private doctor's offices, churches, and clinics. The subject selection criteria were that the participant had to be an Armenian immigrant who could speak Armenian or English. Variables being studied were SS, depression, and incidences of acute and chronic illnesses.

Instruments

The data collection materials consisted of five questionnaires-Beck Depression Scale, social support, incidences of acute and chronic illnesses, and selected demographic data. The latter four were subsets of the more comprehensive 109 item health status questionnaire, and the Beck Depression Scale.

The Beck Depression Scale consists of 30 questions that provide information on how the person felt during the past week prior to answering the questionnaire Each question could be answered by a yes or a no. For example, "Do you feel like your situation is helpless?" "Do you frequently feel like crying?" Scores between 0-10 were considered normal; 11-20 moderate depression, and 21-30 severe depression. The Beck Depression Inventory or Scale has been used in numerous studies and the validity and reliability have been established [60].

The Social Support Questionnaire consists of seven questions which elicit information about the number of close friends and relatives they have and how frequently they talk to them. Who they consider to be close to in terms of SS. The types of assistance they need and ask for and the types of SS groups they belong to. Six of the seven items were developed on a 5-point Likert-type rating scale, with 1 (lowest SS) and 5 (highest SS). The seventh question has four options and they were to select one answer. The total scores range from 6 to 31. The content validity was established by backing with literature and by a panel of three expert judges, amongst whom 98% agreement was obtained [61,62]. The test-retest reliability was 95%.

Incidence of Acute Illnesses and Chronic Illnesses

The Incidence of Acute Illnesses consists of 15 situations the participant had experienced within the past six months. For example, having had a cold or flu, sore throat, rashes, skin conditions, broken bones, fever, accidents, vomiting, diarrhea, chest pain, headaches, abdominal pain, backache, and dizziness. Each condition was followed by a Likert-type rating scale ranging from zero (never) to 4 (4 or more times within 6 months). Since there were 15 acute illness conditions, each ranging from 0 to 4, the total score ranged from 0 to 60.

The Incidence of Chronic Illnesses consists of a list of eight chronic illnesses. The participants were asked, "has a medical doctor or a health professional told you that you have any of the following conditions: arthritis, cancer, diabetes, heart problem, hypertension, lung disease, mental disorder, or other (Specify)." The number of chronic illnesses that were indicated determined the scoring of this measure. Since both the incidence of acute and chronic illnesses were subsets of the larger health status questionnaire, the content validity was established by backing with literature and by a panel of three expert judges [61,62]. The percent agreement between the judges was 98%. Test retest reliability was 95%.

Data Gathering and Analysis

Data was gathered after permission was obtained from the university's Institutional Review Board and a written consent form was obtained from each participant. Questionnaires were completed either in English or in Armenian. If assistance was needed, the experimenter read the questions to the subject and recorded the answers. Data were analyzed using Chi Square tests, Pearson r Correlations, t-tests, and Analysis of Variance as appropriate, at $p<.05$ level.

Results, Discussion, and Implications

Results are presented and discussed in the following order the buffering effect of SS on promoting mental health as measured by lower incidences of depression, the relationship of SS to the incidences of acute and chronic illnesses and to selected demographic data. Gender differences on these factors are presented as appropriate.

The Buffering Effect of Social Support and its Relationship to Depression

One of the major findings of this study was the AIP who has a SS system experienced significantly less depression. Results of Pearson Product Moment r correlation presented in (Table 1) showed a significant inverse correlation ($r= -.31$, $p < .01$). Although this study's design was not acausative relationship type of a study, it showed a strong inverse relationship where the higher the SS an immigrant had, the lower their depression level. This finding provides a degree of confidence in the favorable role of SS on the mental health of the AIP in terms of low depression scores. This favorable role can be explained from the buffering effect of SS in ameliorating or cushioning the immigration-related stressors causing feelings of depression.

Variable	Diab	HBP	Soc	LOC	Dep	Acute	Chr	Wt	Syst	Diast	Yrs	Yrs Educ	Chol	# Meds	Gluc
	Compl	Compl	Sup			Ill	Ill				USA				
Diab Compl	1	**** 0.537	* -0.28	0.18	* 0.24	-0.2	* -0.32	0.07	* -0.32	0.13	-0.01	0.03	0.005	-0.18	-0.2
HBP Complb		1	-0.12	0.19	0.12	0.16	0.007	0.06	-0.05	** 0.26	-0.04	-0.13	0.01	-0.18	-0.07
Soc Supc			1	** -0.16	** -0.31	-0.09	-0.08	0.06	-0.03	-0.09	** 0.18	* 0.12	-0.07	-0.07	-0.07
LOC d				1	**** 0.34	0.05	0.03	0.04	* 0.13	0.07	* -0.13	* -0.11	-0.09	0.1	0.05
Depe					1	** 0.24	** 0.22	0.01	* 0.12	* 0.12	** 0.25	** 0.17	-0.05	* 0.16	0.006
Acute Ill f						1	*** 0.35	0.02	* 0.11	0.02	*-11	-0.001	** 0.17	**** 0.33	** 0.2
Chr Ill g							1	* 0.17	*** 0.28	0.12	* -0.17	-0.07	* 0.19	**** 0.38	** 0.27
Wth	n							1	0.07	0.1	0.004	0.07	.-.07	0.07	0.11
Syst i									1	**** 0.51	* -12	* -12	* 0.14	0.13	** 0.18
Diastj										1	-0.09	-0.07	0.11	-0.01	0.1
YrsUSAk											1	0.07	0.01	0.02	-0.11
Yrs Educl												1	-0.03	-0.03	-0.09
Cholm													1	0.1	** 0.21
# Medsn														1	*** 0.26
Gluco															1

Table 1: Pearson product moment correlation matrix for the whole group; *p< .05; **p< .01 ; ***p< .001; [a] Diab Compl = Diabetic Compliance; [b] HBP Compl = Hypertension Compliance; [c]Soc Sup = Social support ; [d] LOC = Locus of Control; [e] Dep = Depression; [f] Acute Ill = Acute Illness; [g] Chr Ill = Chronic Illness; [h] Wt = Weight ; [I] Syst = Systolic; [J] Yrs USA = Years in USA; [k] Yrs Educ = Years of Education; [l] Chol = Cholesterol; [m] # Meds = Number of Medications; [n] Gluc = Glucose.

Additionally, SS was positively correlated to the number of years in the US (r= .18, r < .01) and years of education (r=.12, p < .05). These findings are consistent with the research studies[16-19,24,43] and their interpretation that SS acts as a stress buffering agent and helps people cope with acculturative stress associated with moving to a new country, and learning a new language, values, and customs.

There are other immigration related stressors such as poverty, language barriers, need for transportation, unemployment, and isolation that adversely affect immigrants which has been found by the above researchers to be associated with depression.

On the other hand, individuals with higher levels of education, English language competency, and years in the USA correlated positively with SS. Education and language competency provide marketability and more opportunities for employment and better job satisfaction [17,43]. With respect to the types of SS received, results presented in (Table 2)

Type of Social Support	Whole Group N (%)	Males N (%)	Females N (%)
Belong to Group	84 (19.4)	39 (19.1)	45 (19.7)
Relatives	173(40.0)	78 (38.7)	95(58.3)
Interest Group	33 (7.6)	12 (5.9)	21(9.2)
Neighbor	20 (4.6)	5 (2.5)	15 (6.6)
None	168 (38.8)	89 (73.6)	78(34.2)

Table 2: Frequency and percent distribution of social support received.

the primary source of SS the immigrants sought and received were as follows: 84 (19.4%) belonged to a support group, 40% (N=173) sought help from a relative, followed by seeking help from one of their interest groups (N=33, 7.7%). Seeking help from a neighbor ranked fourth with 4.6% (N=20). What is interesting is that 38.8% (N=168) did not ask for any SS. The question is raised with the last group whether or not they did not actually need the SS and that they were self-sufficient, or was it that they did not have a SS system to ask for help? Future studies should address the reasons they did not seek support.

Looking at the gender difference in support seeking behaviors in AIP, results presented in Table 2 show both men and women belonged to a support group, with more women belonging to groups (N=45, 19.7%) than men (N=30, 19.1%). Women sought and received more SS from their relatives (N=95, 58.3%) than men (N=78, 38.7%). Women also sought and received more SS from interest groups (N-21, 9.2%) and neighbors (N=15, 6.6%) than men (N=12, 5.9%) and (N=5, 2.5%) respectively. With respect to the instrumental assistance and support the AIP have needed, (Table 3)

Assistance needed	Whole Group N (%)	Males N (%)	Females N (%)
Translation	102 (23.0)	45 (22.1)	57 (25.0)
Transportation	91 (21.0)	23 (11.3)	68 (29.8)
Shopping	61 (14.1)	17 (8.3)	44 (19.3)
House Keeping	55 (12.7)	17 (8.3)	38 (16.7)
Financial	87 (20.1)	49 (24.0)	38(16.7)
Other	58 (13.4)	29 (14.2)	29 (34.2)

Table 3: Frequency and percent distribution of instrumental assistance needed.

presents the results of the frequencies and percent distributions. For the group as a whole the most frequent SS needed was translation (N=102, 23.0%), followed by transportation (N=91, 21%), and financial aid (N=87, 20.1%). Assistance needed for shopping, other needs and house-keeping were ranked as 4,5,and 6. Per multiple publications [16-19,24,43]. a lack of English language proficiency by an immigrant is major cause of stress. SS in meeting the translational needs of the immigrants can buffer their stress.

Comparison between men and women on the type of assistance needed revealed differences. Men needing assistance in the financial area being ranked first (N=49, 24%), whereas for women, transportation was ranked first, (N=68, 29.8%). This can be explained from the fact that in Armenian homes the father or the male figure is responsible for the financial affairs of the home and the women are responsible for the domestic aspect of the household. The mean age of the group was 56, and since older women immigrants usually did not drive, their need for transportation is more acute and it makes sense that women ranked it as their primary need. The need for English translation was ranked in second place by both men and women. Since the majority of the immigrants in the sample were from Armenia where the primary language spoken is Armenian, followed by Russian, English is not a languages spoken by the Russian Armenian immigrants. On the other hand, those who immigrated from the Middle East are more fluent in English. Shopping and housekeeping assistance were ranked as 4 and 5.

Relationship of Social Support and the Incidence of Acute and Chronic Illnesses

The relationship of SS and the incidences of acute and chronic illnesses was tested using the Pearson r correlations. (See Table 1). There was an inverse, but not a significant, relationship between SS and acute and chronic illnesses, where the lower the SS, the higher the incidences of acute and chronic illnesses. However, there was a positive and significant relationship between depression and the incidences of acute ($r = .24$, $p < .01$) and chronic illnesses ($r = .22$, $p < .01$). Indicating that immigrants with depression experienced more acute and chronic illnesses, took more medication ($r = .16$, $p < .01$), and were more non-compliant with their diabetic regiments, ($r = .24$, $p < .05$). One explanation for these findings may be, in general, people who are depressed do not take the initiative to be proactive in preventive health care, such as being current in vaccinations, and complying with their medical regiments. These findings are consistent with Lassetter and Callister [63] and Marshall and Uruetia-Rojas [64] studies. The researchers found depression was associated with psychological distress, incidences of illnesses, and lack of SS.

Regarding gender differences in the incidences of acute and chronic illnesses, there were 15 categories of acute illnesses that the participants experienced within the past six months. Results of analysis presented in (Tables 4) showed that for the group as a whole, the number one acute illness washeadaches (N=197, 45.5%), followed by backaches/muscular pain (N=179, 41.2%), with colds/flu in third place (N=173, 40%).

Acute Illnesses	Whole Group N (%)	Males N (%)	Females N (%)
Flu/Colds	173 (40.0)	73 (35.9)	100 (43.9)
Sore throat	128 (29.6)	47 (23.0)	81 (35.5)
Rash/Skin Conditions	38 (8.8)	13 (6.4)	2 (11.0)
Bone Fractures	17 (4.0)	4 (2.0)	13 (5.7)
Fever	66 (15.2)	22 (10.8)	44 (19.2)
Accidents	20 (4.5)	8 (3.9)	12 (5.2)
Vomiting	36 (8.3)	11 (5.4)	25 (11.0)
Diarrhea	74 (17.1)	38 (18.7)	36 (15.8)
Headaches	197 (45.5)	68 (33.3)	129 (56.6)
Falls	11 (2.6)	2 (1.0)	9 (4.0)
Shortness of Breath	52 (12.0)	17 (8.4)	35 (15.4)
Chest/Heart Pain	39 (9.0)	5 (2.5)	29 (12.7)
Abdominal/Stomach Pain	81 (18.9)	24 (11.9)	57 (25.0)
Backache/Musculo-skeletal Pain	179 (41.2)	68 (33.4)	111 (48.7)
Dizziness			
	85 (19.6)	26 (12.8)	59 (25.8)

Table 4: Frequency and percent distribution of acute illnesses.

The same three illnesses were in the top three for both males and females but the order was different. For males the order was colds/flu, followed by backaches and headaches. For the females, reporting headaches was number one, followed by backaches and cold/flu. Females also experienced higher acute illnesses in all categories than males. The incidences of acute illnesses were mostly preventable, and yet 40% of the AIP had colds/flu, 43.6% never had the flu vaccine even though it was available and free of charge, and 69% never had the Pneumococcal vaccine even though 68% of the sampled population had health insurance. Public health nurses and other health professionals need to educate and encourage these people to obtain the necessary vaccines.

With respect to the incidence of chronic illnesses of arthritis, cancer, diabetes, heart disease, hypertension, lung disease, mental disorders, and others, 37.4% (N=162) of the total AIP had some form of chronic illnesses, with the incidence being substantially higher for females (N=107, 46.9%) than for males (N55, 27.0%). (Table 5) presents the frequency and percent distribution of chronic illnesses for the group and by gender.

Chronic Illnesses	Total N (%)	Males N (%)	Females N (%)
Illnesses	162 (37.4)	55 (27.0)	107 (46.9)
Arthritis	144 (33.3)	53 (26.0)	91 (39.9)
Cancer	9 (2.1)	6 (2.9)	3 (1.3)
Diabetes	36 (8.3)	19 (9.3)	17 (7.5)
Heart	53 (12.2)	25 (12.5)	28 (12.3)
Blood Pressure	93 (21.5)	40 (19.6)	53 (23.2)
Lung Disease	8 (1.8)	3 (1.5)	5 (2.2)
Mental	15 (3.5)	6 (2.9)	9 (3.9)
Other	30 (6.9)	8 (3.9)	22 (9.6)

Table 5: Frequency and percent distribution of chronic illnesses.

The top three chronic illnesses for the group, and for males and females are the same with arthritis being most frequently reported, followed by hypertension (blood pressure), and heart disease. Diabetes was ranked in the fourth place with a total of 36 (8.3%) participants having diabetes, with more males (N=19, 9.3%) than females (N=17, 7.5%) being affected. In all cases of chronic illnesses, females scored higher than males with the exception of the incidences of cancer where males had higher numbers of cases (N=6, 2.1%) than the females (N=3, 1.3%). One possible explanation for the incidences of chronic illnesses in AIP, especially regarding those with arthritis, hypertension, diabetes, and heart disease, is that both males and females were significantly overweight, with males weighing 175 lbs and females weighing 154 lbs, where the norm for males is 148 lbs and for females 131 lbs for the comparable height range.

Group	MetLife[a] Norms Means	Sample Weights Mean (S.D)	t-value	p-value
Total	139.5	164 (30.5)	19.3	.000
Males	148	175 (27)	13.98	.000
Females	131	154 (30)	14.57	.000

Table 6: Comparison of means between Armenian immigrants' weights and Metropolitan Life Insurance weight recommendations; [a]Met-Life = Metropolitan Life.

Obesity is one of the major causes of chronic illnesses [65].The need for patient education regarding weight reduction, physical activities, and behavioral changes is imperative.

Conclusion

Immigration to a new country is a stress-producing major event in one's life. The incidence of mental health problems, such as depression, has been shown to be associated with high acculturation-related stressors. The level of stress and the ability to cope are dependent upon such factors as the motivation for immigration, whether the person is looking for a better life in the future, or trying to escape persecution, the hospitality of the host country, English language proficiency, and the economic status of the immigrant. The more favorable these conditions are, the better the adaptation and the lower the acculturation-related stressors. This study supports the finding that SS acts as a buffering mechanism to deal with and prevent depression in immigrants. Health care professionals such as physicians, nurses, and social workers should assess the ability of immigrants to access SS when they are encountering acculturation-related stressors.

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