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A Syndemic Model of Substance Abuse, Intimate Partner Violence, HIV Infection, and Mental Health Among Hispanics

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Abstract

Hispanics are disproportionately affected by substance abuse, HIV infection, intimate partner violence, and mental health conditions. To address health disparities among Hispanics and other vulnerable groups, it is necessary to understand the complex interactions between health conditions clustering together (e.g., substance abuse, intimate partner violence, and HIV) and the social ecology in which these conditions exist. A syndemic orientation, a consideration of clustering epidemics and common individual, relationship, cultural, and socioenvironmental factors linking these conditions, may be helpful in developing comprehensive models that expand our ability to understand and address health disparities. The purpose of this paper is to introduce a Syndemic Model of Substance Abuse, Intimate Partner Violence, HIV Infection, and Mental Health among Hispanics, and provide evidence from the research literature to support the central relationships and risk and protective factors (i.e., potential links between conditions) depicted by the model. The development and evaluation of interventions aimed at the prevention of substance abuse, intimate partner violence, HIV/AIDS, and mental health problems as a syndemic affecting Hispanics is urgently needed. Public health nurses can initiate this endeavor with the guidance of a Syndemic Model.

Keywords

HIV/AIDS; mental health; substance abuse; syndemic; violence

Hispanics experience a number of disparities that are manifested through risk behaviors and poor mental health. Recent national studies indicate Hispanics report higher rates of binge drinking (Substance Abuse and Mental Health Services Administration [SAMHSA], Office of Applied Studies, U.S. Department of Health and Human Services, 2009) and intimate partner violence (Caetano, Field, Ramisetty-Mikler, & McGrath, 2005) compared with non-Hispanic Whites and other minority groups, and have three times the AIDS case rate than non-Hispanic Whites (Kaiser Family Foundation, 2009). Although Hispanics have similar rates of psychological distress and depression compared with other racial/ethnic groups (SAMHSA, 2008a, 2008b), Hispanic female victims of intimate partner violence are more

likely to report depression (Caetano & Cunradi, 2003) and suicidal ideation than female victims from other racial/ethnic groups (Krishnan, Hilbert, & VanLeeuwen, 2001).

Scholars have noted that substance abuse, intimate partner violence, HIV, and mental health conditions such as depression cluster together among vulnerable groups (Kurtz, 2008; Singer, 1994, 1996). A syndemic orientation, a consideration of clustering epidemics and factors linking these conditions, may help in developing comprehensive models that expand our ability to address health disparities (González-Guarda, 2009). The purpose of this paper is to introduce a Syndemic Model of Substance Abuse, Intimate Partner Violence, HIV Infection, and Mental Health among Hispanics (henceforth referred to as A Syndemic Model) and to review the Hispanic, behavioral health research literature in support of this model.

The Syndemic Orientation

Multiple, intertwined health problems occurring in a population simultaneously experiencing poor physical and social conditions comprise a *syndemic* (Singer, 2009). The examination of health problems, and the conditions that link these as a whole, is critical to understanding the increased burden of disease among specific populations (Singer, 2009). Medical anthropologist Merrill Singer recognized the first syndemic, the SAVA (Substance Abuse, Violence, and AIDS) syndemic, among inner city Hartford residents and found that a collection of tightly interwoven circumstances, such as poverty, loss of adequate housing, family instability, drug-related violence, and inequitable health care, fueled the increased risk of AIDS among this population (Singer, 1994, 1996). Singer conceptualized the conditions comprising the SAVA syndemic as issues working in conjunction to exacerbate all three components simultaneously. Consequently, Singer maintains health care providers cannot focus on one aspect of this syndemic alone (e.g., HIV), but must also equally consider intertwined conditions (e.g., substance abuse) and the social environment in which these issues exist (Singer, 2006).

The importance of approaching complex health issues through a syndemic orientation has been recognized by the Centers for Disease Control and Prevention (CDC) with the establishment of the Syndemic Prevention Network, a group of researchers, citizens, and government officials committed to this orientation (CDC, 2008b). These proponents recognize cooccurring conditions not as confounders or comorbidities, but as “affliction ties,” allowing for a more complete assessment of interrelated health conditions (Millstein, 2008, p. 44). Although researchers who have examined the relationships between the SAVA conditions and mental health among vulnerable groups argue these are better understood through syndemic theory (González-Guarda, Peragallo, Urrutia, Vasquez, & Mitrani, 2008; Kurtz, 2008; Stall et al., 2003), specific conceptual models describing the interaction of disease and social conditions among Hispanics are lacking. These models are necessary for advancing comprehensive interventions aimed at eliminating health disparities.

Need for Cultural Specificity

Models describing the SAVA and mental health syndemic should be culturally specific as evidence suggests these conditions configure in unique ways according to race, ethnicity, and culture. These differences were enumerated by a population-based study that found drinking during an intimate partner violence event is more common among Black couples than White and Hispanic couples (Caetano, Cunradi, Clark, & Schafer, 2000). Variations in cultural beliefs regarding the expectation that violence is an acceptable outcome of substance abuse or socioenvironmental conditions (e.g., poverty) may account for differences between these groups (Caetano et al., 2000). Models specifically designed for Hispanics should also account for diversity regarding country of origin, acculturation,

geographical area, socioeconomic status, and lived experiences. The epidemiology of HIV varies greatly for Hispanics across country of origin. For example, for Puerto Ricans, intravenous drug use accounts for the largest proportion of new HIV infections, whereas male-to-male sex is the most common mode of transmission among Mexican, Cuban, and Central/South Americans (CDC, 2008a). Differences in substance abuse behaviors (e.g., prevalence, drugs most commonly used) and rates in intimate partner violence have also been noted across Hispanic subgroups (Kantor, Jasinski, & Aldarondo, 1994; SAMHSA, 2008b). Although this Syndemic Model was developed for Hispanics in general, unique configurations of the risk and protective factors presented in the model can be used to describe variations across Hispanic subgroups.

A Syndemic Model for Hispanics

This Syndemic Model conceptualizes SAVA and mental health as tightly interwoven and interacting conditions contributing to health disparities among Hispanics. The relationships between these conditions and their interactions are represented by intersecting lines forming a cross at the core of the model (see Fig. 1). At each corner of the model are risk or protective factors associated with the syndemic conditions. Adapted from ecological models (e.g., Bronfenbrenner, 1977, 1979), these factors are categorized into individual, relationship, cultural, and socioenvironmental levels of influence. Unlike traditional ecological models, culture is identified as a separate level of influence to underscore its importance. The factors present at each corner are conceptualized as potential links between SAVA and mental health and provide insight into how and why these are intertwined.

Substance Abuse, Violence, and AIDS and Mental Health as Interwoven Conditions

Evidence that SAVA and mental health conditions occur in clusters brought about the emergence of syndemic theory (Romero-Daza, Weeks, & Singer, 2003; Singer, 1996), and qualitative research with Hispanic women and men demonstrate these conditions are viewed as closely related problems (González-Guarda, Ortega, Vasquez, & De Santis, 2010; Moreno, 2007). In a recent article reporting results from focus groups with Hispanic men, SAVA is described as “*ramas de una sola mata*—branches from one same tree” (González-Guarda et al., 2010). Hispanics view these interwoven conditions as rooted in common social, cultural, and environmental experiences Hispanics face. Hispanics explain that upon arrival to the United States their traditional family dynamics are challenged by the need for a dual income. This need interferes with Hispanics’ ability to spend time with and parent their children, and produces relationship stressors that can result in maladaptive behaviors such as substance abuse, risky sexual behaviors, violence, and depression in families (González-Guarda, Peragallo, Vasquez, Urrutia, & Mitrani, 2009; González-Guarda, Vasquez, Urrutia, Villarruel, & Peragallo, in press). Despite qualitative connections made by Hispanics in the community, few quantitative studies have explored the relationships between more than two of the syndemic conditions at one time. However, Wenzel, Tucker, Elliott, and Hambarsoomians (2007) tested the hypothesized relationships between substance abuse, history of intimate partner violence, and risk for HIV among Hispanic women. After controlling for economic variables (e.g., housing status), history of substance abuse and intimate partner violence were predictive of having multiple sexual partners (Wenzel et al., 2007). Path analysis between these variables indicated that SAVA and mental health conditions predict one another and interact to produce more negative health consequences. For example, women experiencing trauma and living with HIV have much higher levels of depression and drug use than women with either of these conditions alone (Newcomb & Carmona, 2004). This finding is congruent with syndemic theory, underscoring the synergistic effects of clustering conditions on the burden of disease.

Substance abuse and HIV

Injection drug use is responsible for a large proportion of new HIV infections among Hispanics and is the leading cause of HIV transmission among Puerto Ricans (CDC, 2008a). In addition, substance abuse is associated with HIV in other ways. Substance use during sexual intercourse appears to be relatively common among adult Hispanic men and women, with approximately 25% of community samples reporting frequent alcohol use during sexual intercourse with their most recent partner or use during sex at least once in the past 60 days (González-Guarda et al., 2008; Zellner et al., 2009). Hispanic men who have sex with men, who prefer to engage in unprotected anal intercourse, believe alcohol use during sexual intercourse increases sexual desire and decreases inhibition (Balán, Carballo-Diéguez, Ventuneac, & Remien, 2009). These beliefs have been validated across Hispanic groups, as alcohol and drug use have been associated with increased unprotected anal intercourse, multiple sex partners, and living with HIV among Hispanic men who have sex with men (Akin, Fernández, Bowen, & Warren, 2008; Fernández et al., 2007), a history of sexually transmitted infections and a partner who engages in substance abuse and risky sexual behavior among Hispanic women (González-Guarda et al., 2008), and unprotected sex, using substances before sex and having more sexual partners among Hispanic youth (Bellamy et al., 2008).

Substance abuse and intimate partner violence

The relationship between substance abuse and intimate partner violence among Hispanics is well documented. Researchers working with drug abusing Hispanic women found these women often have a history of intimate partner violence, and have advocated for the inclusion of intimate partner violence interventions as a means of improving substance abuse treatment (Duke et al., 2006). Researchers also found that Hispanic women's partner's substance use is associated with physical violence and severe psychological aggression (Caetano et al., 2000; Caetano, Nelson, & Cunradi, 2001; Caetano, Schafer, & Cunradi, 2001; Hazen & Soriano, 2007). Male alcohol use is also a risk factor for both male and female perpetrated intimate partner violence, with the male partner more likely to be drinking regardless of which gender perpetrates the violence (Caetano et al., 2000, 2001). Researchers have suggested that substance abuse and intimate partner violence are associated among Hispanics, not because of direct relationships between the two, but rather because of associated sociodemographic factors (e.g., income) and psychosocial variables (e.g., relationship characteristics) that may link these conditions (Caetano et al., 2001). For example, in one study examining the relationship between the SAVA conditions, women who reported abusing alcohol and/or illicit drugs were more likely to report having a partner who abused substances (i.e., assortative mating), which was in turn related to the partner's risk for HIV (González-Guarda et al., 2008). However, most of the research describing these relationships has been cross-sectional in design. Consequently, the direction and mechanisms driving these relationships are not well delineated.

Substance abuse and mental health

Research examining the relationship between mental health and substance abuse has documented that mental health problems, both internalizing and externalizing, may have an effect on substance use for Hispanic adolescents and adults (Buchanan & Smokowski, 2009; Chisolm, Mulatu, & Brown, 2009). For Hispanic adolescents, this pathway may work through acculturation stressors, impacting mental health and leading to substance use (Buchanan & Smokowski, 2009). Karch, Barker, and Strine (2006) found bipolar I disorder is a significant predictor of incident drug abuse, and panic disorder is a significant predictor of incident drug dependence. These researchers also found Hispanics with a substance abuse problem are the racial/ethnic group least likely to be diagnosed with a mental illness or to have received treatment, even though family reports of depression among Hispanics are

comparable to other racial/ethnic groups. It appears the lack of association between substance abuse and mental health is due to the under-diagnosis of mental illness for Hispanics, another contributor to health disparities in this population, rather than a true lack of association (Karch et al., 2006).

HIV and mental health

Studies have documented the strong association between HIV and mental health conditions among both community and clinical samples of Hispanic men. In a study targeting a community sample of Hispanic men who have sex with men, higher levels of depressive symptoms were associated with lower levels of safer sexual behaviors (De Santis, Colin, Vasquez, & McCain, 2008). Among injection drug users in Puerto Rico, severe anxiety symptoms were significantly associated with unprotected vaginal sex, unprotected oral sex, and injection-related HIV risk behaviors (Reyes et al., 2007). Although fewer quantitative studies explored these relationships among Hispanic women, results from qualitative studies identified mental illness to be associated with risk for HIV, in that women with mental illness are more likely to have unfaithful partners, be victims of sexual abuse, be unable to leave a risky sexual relationship as a result of loneliness or mental illness symptoms, and experience impaired judgment leading to unprotected sex with partners of unknown serostatus (Collins, von Unger, & Armbrister, 2008). A diagnosis of HIV or AIDS may also dramatically impact the mental health and well-being of Hispanics as they cope with various layers of stigmatizations (e.g., being HIV positive, gay and Hispanic) (Dowshen, Binns, & Garofalo, 2009).

Intimate partner violence and HIV

The relationship between intimate partner violence and HIV has gained increased attention during the past decade. Studies conducted with Hispanic community women have documented individuals reporting a history of intimate partner violence are more likely to report risk for HIV, such as a high perception of risk for sexually transmitted infections, a history of sexually transmitted infections, inconsistent condom use, male partner control of sexual relationships, and partner-related risk factors (e.g., partner infidelity, partner never tested for HIV, partner having sex with commercial sex workers) (González-Guarda et al., 2008; Raj, Silverman, & Amaro, 2004; Wu, El-Bassel, Witte, Gilbert, & Chang, 2003). Depression, substance abuse, and exchange sex have been identified as mechanisms in which intimate partner violence, HIV, and other sexually transmitted infections are related (Fuentes, 2008). Studies including clinical samples of Hispanic women have noted that women who are HIV seropositive are more likely to report a history of adult sexual abuse and more severe history of trauma (Newcomb & Carmona, 2004; Wyatt et al., 2002). Although fewer studies have examined these relationships among Hispanic males, the relationship between intimate partner violence and risk for HIV (e.g., inconsistent condom use, infidelity, forced intercourse) also appears to be strong among heterosexual men and men who have sex with men (Feldman, Ream, Díaz, & El-Bassel, 2007; Raj et al., 2006). Pathways between these conditions include an increase in sexual risk behaviors among victims and perpetrators of intimate partner violence, psychological and physiological consequences of violence that facilitate HIV transmission (e.g., being immunocompromised), forced sex with an infected partner, and the inability to negotiate safer sex practices (Campbell et al., 2008).

Intimate partner violence and mental health

Numerous studies have found Hispanic women reporting a history of intimate partner violence are more likely to score more poorly on mental health indicators such as depressive symptoms, mental health functioning, vitality and energy and posttraumatic stress disorder compared with nonabused women (Bonomi, Anderson, Cannon, Slesnick, & Rodriguez,

2009; Caetano & Cunradi, 2003; Chen, Rovi, Vega, Jacobs, & Johnson, 2009; Fedovskiy, Higgins, & Paranjape, 2008; González-Guarda et al., 2008; Lown & Vega, 2001). This may be because Hispanic female victims of intimate partner violence are more likely than women from other racial/ethnic groups to report an unmet mental health need (Lipsky & Caetano, 2007). Language, cultural, and political barriers (e.g., documentation status) may serve as obstacles to accessing services. Although fewer studies have explored the relationships between intimate partner violence and mental health among Hispanic men, Hispanic male victims of intimate partner violence also score more poorly on mental health indicators (Caetano & Cunradi, 2003). All types of intimate partner violence (i.e., physical, sexual, and psychological) appear to have a significant negative impact on the mental health of Hispanics (Chen et al., 2009).

Potential Links: Risk and Protective Factors

The Syndemic Model includes individual, cultural, relationship, and socioenvironmental factors that appear important in understanding the ecology of each of the syndemic conditions independently and/or the clustering of these conditions. These factors may serve as common risk or protective factors linking these conditions, and provide a more comprehensive understanding of how syndemics contribute to health disparities. Because the factors at each level of influence are related to the syndemic conditions as well as to each other (represented by bidirectional arrows), some factors are discussed in more than one level. The list of factors included in the model is based on the available research literature. Because this literature is limited, it is likely that important linking factors are missing.

Individual factors

Individual level factors are divided into intrinsic (internal) and extrinsic (external) variables, categorizations utilized by Heilemann, Lee, and Kury (2002) during previous exploration of factors associated with depression among Hispanics. Self-esteem, self-efficacy, and self-reliance are important intrinsic variables associated with the syndemic conditions. Higher levels of self-esteem have been found to be protective against SAVA and depression (Collins et al., 2008; De Santis et al., 2008; González-Guarda et al., 2008). Self-efficacy has also been identified as protecting against HIV and substance abuse, and is an important mechanism of change in interventions targeting these conditions (Peragallo et al., 2005; Wong & Longshore, 2008; Zea, Reisen, Poppen, & Bianchi, 2009). Although little research has been conducted on the role self-efficacy plays in promoting or protecting against intimate partner violence among Hispanics, qualitative studies have identified the importance of women's self-reliance as a necessary attribute that prevents intimate partner violence from initiating and/or continuing (González-Guarda et al., in press).

Extrinsic variables such as income, education, and employment status appear to be common risk/protective factors across the syndemic conditions. Among Hispanic women, income, education, and employment status have been found to be inversely related to the level of depressive symptoms, risk for intimate partner violence, and unmet mental health needs (Heilemann et al., 2002; Lipsky & Caetano, 2007). Income and education have also been found to be inversely related to depressive symptoms and substance use during sex among Hispanic men who have sex with men (De Santis et al., 2008; Dolezal, Carballo-Diéguez, Nieves-Rosa, & Díaz, 2000). It is possible that higher socioeconomic status and one's standing in society influence one's own sense of self and control over one's life (i.e., the intrinsic variables), which in turn leads to health promotion or risky behaviors. Of these extrinsic variables, employment status appears to be among the strongest predictors of intimate partner violence and a potential source of stress that may be associated with the syndemic conditions (Caetano & Cunradi, 2003). In a study examining work-related stress,

Hispanic men experiencing work stress were more likely to drink, and in turn were more likely to abuse their wives (Jasinski, Asdigian, & Kantor, 1997).

Relationship factors

Relationships with intimate partners, family, and social organizations play a crucial role in setting the context for individuals' exposure to or protection from SAVA and mental health conditions. Relationship conflict has been identified as one of the strongest, most important predictors of intimate partner violence among Hispanic couples (Aldarondo, Kantor, & Jasinski, 2002). Family conflict is also important in promoting other risk behaviors. Hispanic women growing up in families in which more conflict exists during childhood (e.g., physical and/or emotional abuse) are more likely to report psychological distress, more pregnancies, increased drug use, and a higher number of sexual partners than adolescents not experiencing conflict (Newcomb, Locke, & Goodyear, 2003). Family conflict surrounding sexual orientation has been shown to influence mental health (i.e., depression and suicidal ideation) and to predict risky sexual behaviors such as unprotected intercourse among Hispanic men (Ryan, Huebner, Diaz, & Sanchez, 2009). Being able to communicate effectively with partners and family members about sensitive issues relating to the syndemic conditions (e.g., condom use) helps foster healthy relationships and protects against these conditions (González-Guarda et al., in press; Peragallo et al., 2005). Healthy relationships with community institutions such as schools, churches, and community organizations also appear to be protective. Hispanic adolescents who are more connected with schools report safer sex practices, less substance use, and more self-efficacy (Bellamy et al., 2008).

Cultural factors

Cultural factors play an important role in linking the syndemic conditions. Studies have shown acculturation may adversely affect some Hispanics, but protect others. These studies have found acculturation to be positively associated with risks for HIV among Hispanic men, such as having unprotected sex, multiple sexual partners, and having sex under the influence of alcohol or drugs, regardless of sexual orientation or country of origin (Dolezal et al., 2000; Fernández et al., 2005; Loue, Cooper, & Fiedler, 2003), involvement in intimate partner violence (Caetano, Ramisetty-Mikler, Caetano Vaeth, & Harris, 2007), drug use, social isolation, and attempted suicide (Fernández et al., 2005). For adolescents, acculturation stress has been found to influence family dynamics, which in turn impacts adolescent mental health and substance use (Buchanan & Smokowski, 2009). However, for some groups of Hispanics acculturation may be protective. In a study of factors influencing risk for HIV and other sexually transmitted infections, Abel and Chambers (2004) found that less acculturated women were more comfortable using condoms (Abel & Chambers, 2004). Because acculturation may interact with other individual and socioenvironmental factors, the role acculturation has on promoting or protecting against risky behaviors is not clear.

Hispanic stress, the psychological stress experienced by Hispanic adults in the United States (Cervantes, Padilla, & Salgado de Snyder, 1990), may explain differences in how acculturation impacts risky behaviors. Hispanic stress is the strain associated with conditions common to Hispanics in the United States, such as the acculturation process, language difficulties and conflicts, anxiety related to legal status, cultural and value differences, and perceived or actual discrimination and racism (Dawson, 2009; Finch & Vega, 2003; Negy, Schwartz, & Reig-Ferrer, 2009). Qualitative studies found Hispanics view the stress associated with immigration and navigating between two cultures as risk factors for the syndemic conditions (González-Guarda et al., 2010, in press). In accord with what other scholars have found regarding the physiological (Dressler, 2004) and psychological impact of stress (Dressler, 2004; Stall et al., 2003), it is possible that Hispanics experiencing higher levels of stress encounter physiological and psychological changes that make them more

vulnerable to maladaptive behaviors. Cultural values upholding the importance of the family (*familism*), traditional gender roles (*machismo and marianismo*), and religion, appear to serve as both risk and protective factors for the syndemic conditions. Meyer and Champion (2008) found gay Hispanic men lacking acceptance of sexual orientation from family became secretive about male partners, and engaged in risky sexual behavior as a result of instability in primary relationships. The authors suggested Catholicism, a common religion among Hispanics, may contribute to feelings of guilt and unhealthy coping and that *machismo* promoted risky “manly” behaviors such as not using condoms and drinking (Meyer & Champion, 2008). The important role cultural family expectations and *machismo* play in influencing risky behaviors among men (e.g., having multiple partners, not using condoms, exhibiting power and control over intimate partners, and drinking from a young age) has also been identified by heterogeneous groups of heterosexual Hispanic women and men (González-Guarda et al., 2010, in press; Rhodes et al., 2007). For Hispanic women, traditional female roles based on mirroring the image of the Virgin Mary (i.e., *marianismo*) prevent discussion of intimate issues (e.g., sexual intercourse before marriage) that may conflict with cultural role expectations of being a good wife and mother (Talashek, Peragallo, Norr, & Dancy, 2004). Traditional gender roles may place women at risk for HIV and intimate partner violence by limiting their ability to negotiate condom use and disclosing abuse by a partner.

Familism, traditional gender roles and religion may also protect Hispanics against the syndemic conditions. Page (2007) noted healthier behaviors among less acculturated, Spanish-speaking, childbearing Hispanic women when compared with their White and Black counterparts (e.g., less substance abuse). He attributes these differences to a traditional sense of family, and satisfaction gained from fulfilling traditional gender roles. Positive aspects of traditional gender roles may serve as protective factors, as these promote men’s responsibility in providing for and protecting ones’ family and respecting oneself (Rhodes et al., 2007) and women’s responsibility in staying at home and refraining from risk behaviors (Talashek et al., 2004).

Socioenvironmental factors

Medical anthropologists have described the role that oppressive social, political, and environmental forces, such as poverty and discrimination, play in influencing health among socially marginalized groups (Baer, Singer, & Susser, 1997; Singer, 1999, 2003). A long history of and exposure to oppressive socioenvironmental forces (e.g., colonialism in Latin America, racism and discrimination in the United States) contributes to a sense of internalized oppression, a condition classified by low self-esteem, learned helplessness, sadness, anxiety, and maladaptive behaviors among Hispanics. This may result in oppression illness and somatic symptoms that Hispanics treat through substance abuse (Singer, 1999, 2003).

Inequitable access to resources, such as health care, can also negatively impact some Hispanics and increase risk for adverse health outcomes. Rhodes et al. (2007) found less acculturated Hispanic men reported misinformation or little familiarity with public health services available to undocumented people, and feared a violation of confidentiality if care was accessed. Rural Hispanic women experiencing intimate partner violence and associated mental health problems have been shown to be less likely than women from other racial/ethnic groups to seek medical or social services (Krishnan et al., 2001). Barriers to accessing services for the syndemic conditions are due to a general mistrust of and the cultural insensitivity of the health care system (Belknap & Sayeed, 2003), perceived discrimination, language conflict (Buchanan & Smokowski, 2009), and fear of deportation (Moreno, 2007).

Community level socioeconomic factors appear to influence risky sexual behaviors and mental health. Caetano and Cunradi (2003) found that living in a neighborhood with high unemployment rates is a risk factor for depression among married or cohabitating Hispanic men. Hispanic adolescents with foreign-born parents in Los Angeles County were found to be nearly two times as likely to participate in delinquent behavior (including sexual activity in the past 12 months) if residing in a neighborhood with an above county average poverty level (Frank, Cerdá, & Rendón, 2007). Cultural factors interact with the socioenvironmental conditions Hispanic men face upon immigration to the United States. Difficulty in securing a job and having to accept low wage positions in harsh environments challenges masculinity, and in turn may lead to aggression toward female partners, substance abuse, risky sexual behavior, and poor mental health (González-Guarda et al., 2010; Rhodes et al., 2007).

Limitations

Although this model contributes significantly to the current state of the science regarding the relationship between SAVA and mental health, more research is needed to clarify the exact nature and direction of these relationships, as well as their interactions. Most of the research included as support for this Syndemic Model was cross-sectional in design. Consequently, the exact mechanism and cause-effect relationships between the major conditions in the model remain unspecified. Additionally, the relationships and interactions between the different levels of influence (i.e., individual, cultural, relationship, socioenvironmental) are not well delineated. For example, more information is needed to describe how socioenvironmental conditions influence relationships, culture and, individual decision-making processes. Little is known regarding how syndemics affect Hispanic subgroups differently, or how distinctive subgroup characteristics (e.g., the legal status of Puerto Ricans vs. other Hispanic subgroups) confer certain risk or protective factors to some groups. Data from more robust research including longitudinal designs, larger samples, and diverse groups of Hispanics are needed to continue to refine the Syndemic Model and identify risk and protective factors common to all four conditions. Of equal importance is the continued identification of additional syndemic conditions, such as mental health problems (e.g., attention-deficit/hyperactivity disorder, bipolar disorder, personality disorders) known to contribute to sexual risk behaviors and illicit substance use, and exploration of the relative importance of these factors in predicting the syndemic among Hispanics. The current research on the syndemic conditions as they relate to Hispanics depicts this group as passive recipients of extrinsic factors that place them at risk. Adding more information to this model that identifies important individual and cultural characteristics that make Hispanics resilient to these conditions is essential when expanding the model. Expanding on these will provide the knowledge-base for strength-based culturally tailored interventions addressing health disparities among Hispanics.

Implications

The Syndemic Model has important implications for public health nursing research, practice, and policy. The development and evaluation of interventions aimed at the prevention of SAVA and mental health as a syndemic affecting Hispanics is urgently needed. Owing to the limited access to quality and culturally appropriate health care among this population, interventions targeting the Hispanic community need to be administered in trusted community-based settings and through other nontraditional venues (e.g., hair salons, churches). Using community-based participatory research methods, members of the targeted community are involved in the development, cultural appropriateness, implementation, and evaluation of interventions, and the trust and benefit of the community is better ensured (Agency for Healthcare Research & Quality, 2004). Additionally, socioecological

approaches considering the individual, relationship, cultural, and socioenvironmental factors playing a role in these conditions can be identified and targeted (Flaskerud & Winslow, 1998). Interventions targeting these underlying factors may be more effective in preventing and/or addressing health disparities among Hispanics and other minority and marginalized populations than interventions focusing on individual conditions alone. Comparative intervention studies need to be developed and implemented to test this hypothesis.

Although this model supports the development of comprehensive, holistic, and interdisciplinary interventions addressing multiple conditions and levels of influence, organizational and political barriers may impede syndemic oriented interventions. Walkup et al. (2008) recognized several obstacles related to the need for interdisciplinary collaborations and multi-faceted approaches when considering treatment for syndemic conditions. Included problems were the fragmentation of services, health care providers accountable to different regulations and licensing requirements, different funding sources according to sector (e.g., human vs. health services), varying approaches to care, and a fear of loss of autonomy of specialty groups (Walkup et al., 2008). These barriers may also apply to syndemic researchers encountering difficulty in locating a specific agency willing to fund research as a result of the condition or discipline-specific nature of funding agencies. To reduce these barriers, organizations need to embrace a syndemic orientation and create structures and policies that support programs addressing the underlying conditions that give rise to syndemics.

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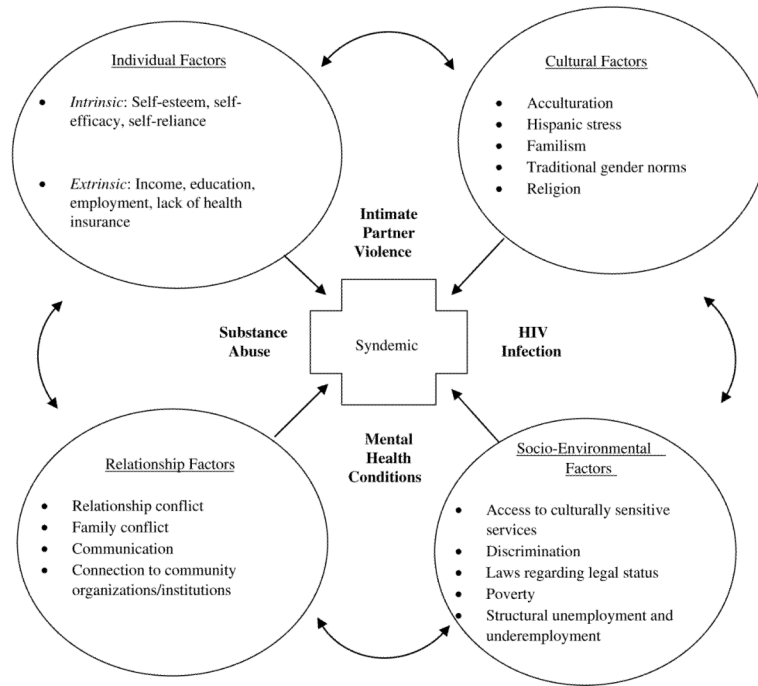


Figure 1. A Syndemic Model of Substance Abuse, Intimate Partner Violence, HIV Infection and Mental Health Conditions Among Hispanics