論文の内容の要旨

論文題目　Perceived Family Support, Depression, and Suicidal Ideation Among People Living With HIV/AIDS in the Kathmandu Valley, Nepal

(ネパール国カトマンズ渓谷における HIV/AIDS 感染者の家族支援認識、うつ症状、および自殺念慮)

あみや　れいちぇる　まりー
網谷　レイチェル マリー
Rachel Marie AMIYA

Introduction

With the prolonged life expectancy made possible through introduction of highly active antiretroviral therapy (HAART), mental health issues have come to the fore as a critical concern in people living with HIV/AIDS (PLWHA). Especially common among the several psychiatric conditions comorbid with HIV/AIDS are depression and suicidal ideation. The ramifications of this psychological burden are especially problematic for PLWHA in that depressive symptoms have been shown to detrimentally impact HIV-related clinical outcomes including drug compliance, quality of life, disease progression, and mortality. Moreover, depression is associated with increased HIV risk behaviors. Such psychosocial health problems are critically important to address among PLWHA, particularly inasmuch as they can act syndemically to the detriment of efforts to curb HIV.

Targeting modifiable causes of depression and suicidal ideation may help to reduce suffering and improve treatment outcomes among PLWHA. To this end, psychosocial resources such as social and family support have been identified as potentially protective against psychological disturbances in other chronic disease populations. In particular, as family is frequently the main source of support – both tangible and intangible – in times of illness, the perception of a supportive family environment may have a direct or buffering effect on mental health, moderating the impacts of the associated physical and psychosocial stressors.

Yet, while the beneficial impacts of support from social and family networks are widely recognized, the same intimate relationships can also be a source of tension and discord. Such *negative* social interactions constitute a distinct dimension of social support, with separate and potentially deleterious impacts on mental health. Importantly, sustained interpersonal strains tend to be more characteristic of relationships with family than with non-related peers, as friendships high in unsupportive elements are generally less likely to be maintained relative to the more obligatory bonds of family. Yet few studies to date have considered the way that each discrete aspect of perceived family support, both negative and positive, may differentially impact mental health. Moreover, while research has highlighted the important mental health effects of psychosocial variables such as family support in other acute and chronic diseases, few studies have examined these factors in the context of HIV/AIDS. This is particularly true in low- and middle-income countries like Nepal, where mental health remains a lower priority in general. Similarly, almost all studies of suicidal ideation, attempts, and completions have taken place in the developed as opposed to the developing world, where 85% of suicides occur and where the brunt of the HIV burden falls.

The aim of the present study was thus to facilitate a more robust and nuanced understanding of the temporal associations of perceptions of both supportive and *un*supportive dimensions of family interaction with concurrent and prospective adverse mental health outcomes among PLWHA in the low-income South Asian country of Nepal. In particular, the longitudinal methods employed were designed to (1) describe depression, suicidal ideation, and PFS as well as changes therein among adult PLWHA from one point to another over time; (2) assess the concurrent associations of depression and suicidal ideation with PFS elements; (3) determine the extent to which PFS dimensions at one point account prospectively for variations in subsequent experience of depression and suicidal ideation; (4) examine potential moderating interactions between positive and negative dimensions of PFS in predicting subsequent experiences of depression and suicidal ideation; and (5) determine whether changes in PFS dimensions from one point to another predict incident depression and suicidal ideation, as well as continuous changes in the severity of depressive symptoms and suicidal thoughts over the same period.

Methods

This prospective cohort study surveyed a community-based sample of 322 HIV-positive residents of the Kathmandu Valley in Nepal, among the poorest countries in South Asia. Baseline and 18-month follow-up interviews were conducted face-to-face during February-March 2010 and June-August 2011, respectively, as part of a broader Healthy Living Intervention Study. Data were collected at both time points using pre-tested, structured, Nepali language questionnaires including measures of depressive symptoms, suicidal ideation, perceived family support, and other sociodemographic, clinical, health behavioral, and psychosocial characteristics. Retention at follow-up was 79% (N=254).

The primary independent variable – perceived family support (PFS) – was measured using the 10-item Nepali Family Support and Difficulty Scale, developed specifically for use in Nepal. In addition to total scores calculated from the sum total of all scale items, scores for two sub-scales – positive PFS (6 items) and negative PFS (4 items) – were calculated on the basis of principal component analysis. Dependent variables, meanwhile, were assessed using the Nepali Beck Depression Inventory (BDI)-Ia. The BDI-Ia has been validated for use in Nepal with clinical diagnoses of major depressive disorder, based on which a score of 20 or higher suggests moderate to severe depressive symptoms with the need for mental health intervention. Suicidal ideation endorsement was defined on the basis of responses to BDI-Ia item #9.

After describing the data, multivariable regression analyses were carried out, conceptualizing the data cross-sectionally and then longitudinally. In the cross-sectional analysis phase, multiple logistic regression was used to examine factors associated with depression and suicidal ideation as categorical outcome variables, with further multivariable models separately constructed to assess potential effects of each of the PFS sub-scale scores and individual scale items. An additional regression was performed to explore factors associated with perceived family support.

In the longitudinal analyses, hierarchical multiple linear regression models were constructed to assess the proportion of variance in depressive symptoms that could be explained by baseline perceived family support, adjusting as well for the baseline BDI-Ia score as an independent variable in the analysis. Structural equation modeling (SEM) was then used to examine the concurrent and lagged, main and interactive effects of perceived family support dimensions on depression and suicidal ideation, respectively, accounting simultaneously for the associations of covariates with both perceived family support and the outcome variables. Finally, multivariable regressions were used to assess associations between changes in perceived family support dimensions from baseline to follow-up associated with incident depression and suicidal ideation at 18-month follow-up, as well as with continuous changes in both mental health outcomes, stratified by baseline PFS level.

All major sociodemographic characteristics and other factors having previously established or theoretically feasible associations with the dependent variables were included as covariates or potential confounders in the analyses. Statistical tests were two-sided, evaluated as significant at the $p<.05$ level, and executed using SPSS version 18.0 for Macintosh.

Results

Among all 322 participants surveyed at baseline, 26% met the BDI-Ia-defined threshold for depression and 14% reported suicidal ideation in the past 2 weeks. Taking a broader perspective, 43% had ever thought about ending their lives and 17% had actually attempted suicide since being diagnosed with HIV, with 35 individuals reporting more than one such suicide attempt.

Based on cross-sectional analyses at baseline, significantly lower rates of both depression and suicidal ideation were observed among those with total perceived family support scores in the highest (*depression*: AOR=.16, 95% CI=.06, .39 / *suicidal ideation*: AOR=.35; 95% CI=.12, 1.00) and middle (*depression*: AOR=.34; 95% CI=.17, .68 / *suicidal ideation*: AOR=.43; 95% CI=.18, 1.00) tertiles relative to lowest-tertile scorers. Of the two different sub-types of support measured, only negative PFS was significantly associated with both measures of psychological disturbance; those reporting high levels of negative PFS were nearly four times more likely to be depressed (AOR=3.77; 95% CI=1.90, 7.47) and over four times more likely to report suicidal ideation (AOR=4.17; 95% CI=1.80, 9.67) than their counterparts with low negative PFS levels. Those reporting high levels of positive PFS were also nearly four times *less* likely to register depression than those reporting low levels of such support (AOR=.26; 95% CI=.12, .60), but this same significant association was not observed with suicidal ideation as the dependent variable.

Meanwhile, three variables were significantly associated with overall perceived family support among participants: gender, education level, and internalized AIDS stigma. Namely, female participants (*B*=-3.31, SE=.72; 95% CI=-4.72, -1.89) and those reporting higher levels of internalized AIDS stigma (*B*=-.54, SE=14; 95% CI=-.82, -.25) perceived lower levels of family support. On the other side, those educated to the primary level or higher (*B*=2.50, SE=64; 95% CI=1.25, 3.75) enjoyed higher perceived family support levels

Notable variations in the individual scores of depression between baseline and follow-up assessments were observed. Among the 62 participants who met the BDI-Ia threshold for moderate-to-severe depression at baseline and who completed follow-up interviews, 16% (n=10) were still depressive (BDI-Ia$\geq$20) at follow-up. Meanwhile, of the 192 participants available at follow-up who fell below the BDI-Ia-defined threshold for depression at baseline, 8% (n=16) were newly depressive (BDI-Ia$\geq$20) at follow-up.

From the longitudinal analyses, perceived family support contributed significantly (p=.001) to the variance in depression at follow-up, beyond that afforded by sociodemographic, clinical, health behavioral, and psychosocial factors. Considering the perceived family support sub-scales separately, negative PFS contributed significantly (p=.04), but only when considered separately from positive PFS. Namely, individuals who reported higher perceptions of negative PFS at baseline also reported higher levels of depression at follow-up. However, the effect disappeared once positive PFS was also added to the model; hence, negative PFS did not appear to have a main effect on depression at follow-up after accounting for the effect of positive PFS. Positive PFS, meanwhile, contributed significantly (p=.04) to the variance in depression at follow-up – beyond that afforded by sociodemographic, clinical, health behavioral, and psychosocial covariates and of negative PFS – explaining an additional 1% for a total of 18% variance in follow-up depression explained by the final model.

SEM analyses yielded similar findings, with perceived family support predicting depressive symptoms and suicidal thoughts in both concurrent and lagged models. Further, SEM revealed baseline negative PFS, when considered in conjunction with the effects of baseline positive PFS, to be a significant predictor of baseline depressive symptoms and suicidal thoughts but not of follow-up depressive symptoms or suicidal thoughts, consistent with a possible buffering effect through positive PFS. Baseline positive PFS, meanwhile, inversely predicted follow-up depressive symptoms and suicidal thoughts but was not associated with baseline mental health outcomes when considered alongside negative PFS.

Regarding impacts of *changes* in perceived family support dimensions after 18 months, a decrease or sustained low level of total perceived family support was associated at follow-up with higher incidence of new depression among those not depressed at baseline (AOR=4.21; 95% CI=1.17, 15.16). Conversely, an increased or sustained high level in perception of total (AOR=.29; 95% CI=.09, .95) or positive (AOR=.26; 95% CI=.07, .95) family support from baseline to follow-up was associated with lower incidence of new depression at follow-up. Meanwhile, participants who experienced decreased or sustained low levels of negative PFS from baseline to follow-up were over six-and-a-half times *less* likely to report suicidal ideation after 18 months (AOR=.15; 95% CI=.05, .45). By the same token, those who experienced increased or sustained high levels of negative PFS from baseline to follow-up were over eight times *more* likely to report suicidal ideation at follow-up (AOR=7.30; 95% CI=2.33, 22.87).

Analyzed continuously, changes in both total and positive PFS correlated negatively with changes in depressive symptoms across the 18-month follow-up period, though stratified analyses revealed that associations were only significant for those with lower baseline PFS scores. Corresponding changes in *negative* PFS, meanwhile, showed significant positive associations with changes in both depressive symptoms and suicidal thoughts, regardless of baseline negative PFS score.

Conclusions

This study is among the first to shed light on important and distinct roles played by both positive and negative elements of perceived family support in prospectively determining the experience of serious psychological distress in the context of HIV/AIDS in a low-income Asian country. Against heavy burdens of BDI-Ia-defined depression (26%) and suicidal ideation (14%) observed among PLWHA in the Kathmandu Valley of Nepal, cross-sectional and longitudinal analyses showed that supportive family interactions may exert a protective effect and unsupportive family interactions a perhaps even stronger contributing effect, particularly in the emotional realm. Levels of depressive symptoms across the measurement period were high though apparently transient, underlining the importance of immediate and short-term environmental factors in determining psychological adaptation to and ongoing coping with an HIV diagnosis and life therewith.

Overall, findings underscore a need to work within a context of limited mental health resources in Nepal and similar settings by adapting and implementing psychosocial interventions incorporating family group counseling, support, and psychoeducational elements as an integral component of HIV prevention, care, and treatment efforts. Given the identified correlates of perceived family support, such interventions would perhaps be most fruitful by focusing especially on female gender and low levels of education as risk factors for poor perceived family support, and devoting special attention to the issue of stigma, both external and internalized. Specifically, future programs should work with PLWHA to enhance natural support networks and therein navigate the double-edged sword that is family support – identifying and mitigating family relationships that are the source of negative exchanges while engaging positive family support structures to buffer against psychiatric comorbidities.