Barriers to Human Immunodeficiency Virus Related Risk Reduction among Male Street Prostitutes

Patricia M. Simon, MSW, PhD
Edward V. Morse, PhD
Paul M. Balson, MD, MPH
Howard J. Osofsky, MD, PhD
H. Richard Gaumer, PhD

Two hundred eleven male street prostitutes between the ages of 18 and 51 years were interviewed and tested for antibodies to the human immunodeficiency virus (HIV). Economic, social, and emotional barriers to the reduction of HIV-related risk behavior were examined within the context of several concepts present in the Health Belief Model (HBM). Three lifestyle factors were found to function as barriers to engaging in risk reduction behavior. Subjects who were more economically dependent on prostitution, perceived less control over the hustling encounter, and reported increased pleasure from sexual activity with their customers were more likely to engage in risk-taking behavior. Prostitutes' perception of the severity of HIV infection was not significantly associated with their risk behavior. Unexpected findings indicated that increases in perceived susceptibility to HIV and perceived benefit of condom use for HIV prevention were significantly related to increased risk-taking behavior. Practical applications of findings in the design and implementation of future HIV-related preventive health education programs are discussed.

Patricia M. Simon, is Assistant Professor, Department of Psychiatry, Louisiana State University Medical Center.

Edward V. Morse, is Associate Professor, Department of Sociology, Tulane University, New Orleans, Louisiana, and Clinical Associate Professor, Department of Psychiatry, Louisiana State University Medical Center, New Orleans, Louisiana.

Paul M. Balson is Professor, Department of Psychiatry, Louisiana State University Medical Center.

Howard J. Osofsky is Professor and Head, Department of Psychiatry, Louisiana State University Medical Center.

H. Richard Gaumer is Assistant Professor, Department of Pathology, Louisiana State University Medical Center.

Address reprint requests to Patricia M. Simon, MSW, PhD, Department of Psychiatry, Louisiana State University Medical Center, 1542 Tulane Avenue, New Orleans, LA 70112.

INTRODUCTION

In the absence of either a cure or vaccine, the focus of reducing the spread of the human immunodeficiency virus (HIV) continues to rest in the public health sector where preventive health education programs remain the only viable course of action to contain the acquired immunodeficiency syndrome (AIDS) epidemic.[1] Since January 1981, over 195,000 cases of AIDS and over 124,000 AIDS-related deaths have been reported to the Centers for Disease Control.[2] Estimates suggest that an additional 1 million to 1.5 million persons are infected with HIV and thus capable of infecting others.[3]

Most HIV-related health education programs are designed to convey knowledge about transmission and prevention of HIV and are based on the assumption that increased knowledge results in risk reduction behavior. Although some short-term HIV-related risk reduction has been documented within a primarily white middle-class gay population, these changes appear to be incomplete and subject to recidivism, challenging the notion that providing information and increasing knowledge easily translates into risk reduction behavior.[4,5]

To date, the health education literature has not addressed the HIV-related preventive health needs of male prostitutes, a group of individuals at particularly high risk for the acquisition and transmission of HIV. Yet, because of a propensity toward risk-taking behaviors, the male prostitute is both a likely recipient of infection as well as an important epidemiological bridge for transmission of HIV to the general population.[6] In order to develop successful long-term intervention strategies aimed at reducing the spread of HIV infection within the male prostitute population, it is necessary to identify factors that might mitigate against prostitutes' HIV-related risk reduction behavior.

THE HEALTH BELIEF MODEL

Since the 1950s, the Health Belief Model (HBM) has been the major conceptual framework used to explain and predict engagement in preventive health behavior.[7] The HBM postulates that perceived susceptibility to, and severity of, a particular illness combined with perceived benefits and barriers to a recommended health action will affect individuals' adoption of preventive health behaviors. Additionally, various demographic (ethnicity, occupation, education) and social psychological (i.e., social support, psychological health, normative expectations, and knowledge) variables are expected to affect individuals' perceptions of risk, which in turn influence differential rates of engagement in risk reduction behavior.[7] The constructs of the HBM, therefore, offer a utilitarian framework for exploring various factors that can affect the reduction of risk behavior within groups considered to be at high risk for the acquisition and transmission of HIV.[4,7-11]

This paper examines male prostitutes' health beliefs in relationship to their engagement in HIV-related risk behavior; special emphasis is placed on the concept of perceived barriers to risk reduction. Male prostitutes' risk behavior is hypothesized to be shaped by their health beliefs and by social psychological factors acting as barriers to reduction of HIV-related risk. It is expected that

increases in male prostitutes' perceptions of their susceptibility to HIV infection, seriousness of HIV infection, and benefit of condom use during sexual activity will be associated with HIV-related risk reduction. It is also expected that the presence of economic, social, and emotional barriers to male prostitutes' risk reduction will be associated with increases in HIV-related risk-taking behavior.

METHODS

Overview

A convenience sample of 211 adult male street prostitutes was recruited from New Orleans, Louisiana. Based on interviews with the New Orleans Vice Squad and a census of prostitutes conducted during a year of unobtrusive field observations, it was conservatively estimated that at least 500 males over the age of 18 years were practicing prostitution during the time of the study. Information on lifestyle, sexual and drug use behaviors, knowledge of and attitudes toward HIV/AIDS, perceived susceptibility to and seriousness of HIV/AIDS as well as perceived benefits and barriers to engagement in preventive health behavior was gathered using a semistructured interview schedule. Self-esteem and psychological symptomatology were assessed using standardized self-report instruments.[12,13] Blood samples were collected to determine the point prevalence of HIV seropositivity.

Sample

Male street prostitutes were contacted and asked to participate in the study as they were encountered by field workers who walked the streets of known prostitution areas in New Orleans. A male street prostitute was defined as a biological male who receives payment, either in money or in trade, in exchange for sexual favors and solicits primarily in the streets or in known hustler bars. Because the activities of male prostitutes usually take place clandestinely, it was unrealistic to assume that the population parameters of this group could be estimated accurately enough to allow a random sample to be drawn. Therefore, subjects were recruited to fill quotas within a $2 \times 2 \times 2$ sampling frame design where differences in drug use patterns (intravenous [IV] vs. non-IV drug use), age (18 to 24 and age 25 years and older), and race (white vs. nonwhite) formed the eight cells. The sampling frame necessitated a minimum of 25 subjects per cell facilitating comparisons of risk-taking behavior across previously identified high-risk subpopulations.[14,15] As the cells of the sampling frame began to fill the field workers continued to approach and speak with each male prostitute they encountered accepting those subjects meeting the necessary criteria. Although a population of over 50 juveniles (under age 18 years) were observed soliciting, legal constraints prevented their inclusion in the study. Prostitutes suspected of being severely psychotic or severely mentally retarded, though rarely encountered, were not included in the study.

The continued presence of a researcher in the field (2 years) provided a constant flow of study subjects and visual verification of their solicitation. Ap-

proximately 98% of the prostitutes approached by the field researchers chose
to participate in the study. This high rate of participation is probably related to
the fact that prostitutes were told they would be paid; the field workers were
known and trusted on the streets; the prostitutes wanted to be anonymously
tested for HIV or at least did not object to being tested; and lastly, prostitutes
reported enjoying the opportunity to tell their story to individuals they believed
would be nonjudgmental. Reasons for nonparticipation included disinterest,
fears of breached confidentiality, and suspicion of the researcher being associated
with either the police or a religious group.

Procedures

Subjects came to the Department of Psychiatry at the Louisiana State Uni-
versity (LSU) Medical Center for preliminary screening, blood drawing, and
completion of interviews and self-reports. All data were collected between Oc-
tober 1988 and August 1989. Although most subjects were observed soliciting
for prostitution, further verification of their occupation was provided by screen-
ing interviews. Once screened, subjects were given a full explanation of the study
and assigned a confidential ID number linking interview material and blood
specimen. A computerized vital statistics program identified each person by
height, weight, birth date, race, eye color, hair color, unusual dentition, tattoos,
and distinguishing body characteristics thus reducing the chances of multiple
sampling to zero and obviating the need to ask for names.

Subjects were interviewed using a one and one-half hour semistructured in-
terview schedule written in street vernacular designed to obtain information
about lifestyle, sexual and drug use behaviors, patterns of prostitution, and
knowledge of AIDS. Reliability checks were distributed throughout the survey
instrument. All participants received HIV pretest counseling before having blood
drawn and posttest counseling if and when they returned to receive results. HIV
status was determined using the enzyme-linked immunosorbent assay (ELISA).
Positive sera were confirmed by Western blot (Du Pont De Nemours E I & Co,
Wilmington, Delaware). Criteria for Western blot positivity were at least two
of the three major bands positive (p^{24}, gp^{41} and gp^{120} or gp^{160}). Subjects were
reimbursed $25.00 (approximately one third of what they could earn for an
equivalent amount of time turning tricks) for travel expenses and time lost from
work.

Dependent Variable

Risk Behavior

Subjects' scores on four HIV-related risk factors (participation in anal-genital
and oral genital sex, sexual orientation, and syphilis serostatus) weighted by the
coefficient of each factor's correlation with HIV seroprevalence were summed

Table 1. Human Immunodeficiency Virus (HIV) HIV-Related Risk Factors and Their Correlation with Serostatus ($N = 211$)

	N	%	HIV Status
HIV status			
Negative	174	82.5	
Positive	37	17.5	
Anal sex			
Don't Do	37	17.5	
Insertive	100	47.4	$r = .187$[a]
Receptive	15	7.1	$p = .006$
Both	59	28.0	
Oral-genital sex			
Don't Do	2	.9	
Receptive	105	49.8	$r = .269$[a]
Insertive	13	6.2	$p = .0001$
Both	19	43.1	
Sexual orientation			
Heterosexual	82	38.9	
Bisexual	87	41.2	$r = .269$[a]
Homosexual	42	19.9	$p = .0001$
Syphilis			
Nonreactive	162	77.5	$r = .240$[a]
Reactive	47	22.5	$p = .0005$

[a] Coefficients used to weight the Risk Behavior Scale.

to form an HIV Risk Scale (HIVRS) (Table 1).[6,14–16] This zero-order correlation weighting procedure was used in an effort to take into account differential rates of risk for each of the four factors. Subjects' scores on the HIVRS ranged from .54 (lowest risk) to 2.4 (highest risk) with a mean of 1.3 and a standard deviation of .5. Cronbach's alpha reliability for the scale is .69. Other factors considered but excluded from the HIVRS because they were not significantly correlated with HIV serostatus included IV drug use; needle sharing (with or without proper cleaning); condom use; feces play; anal fisting; oral-anal sex; and internal water play. Although the lack of a significant correlation between HIV serostatus and both IV drug use and condom use appears counterintuitive, similar relationships have been reported by Elifson et al.[16] in their study of male prostitutes in the Atlanta area. One possible explanation for the lack of a significant relationship between HIV status and IV drug use is that the risk associated with male prostitutes' frequency and type of sexual contacts overshadows any risk exposure resulting from IV drug use. Another possible explanation is related to the fact that few prostitutes reported sharing needles, which in turn may be an artifact of Louisiana law that does not require prescriptions for needles. The lack of a significant relationship between condom use and serostatus is likely the result of little variance within the sample, as rarely did a prostitute wear a condom or require his customer to wear a condom.

Independent Variables

Demographic and Lifestyle Indicators

Sociodemographic information including age, level of education, race, and number of years in prostitution was also obtained. Participants' number of years in prostitution was used as a surrogate indicator of their level of involvement in hustling activities and was calculated by subtracting the age a subject began prostituting from his age at the time of the interview. Subjects who had been hustling 1 year or less were coded as 1; for all other subjects, the numeric code represents the actual number of years in prostitution rounded to the nearest whole number. Although data on actual frequency of sexual contacts over time would have been a preferable indicator of level of involvement, participant recall of such specific data raises a serious issue of reliability necessitating the use of a surrogate indicator.

Health Beliefs

Subjects' HIV-related health beliefs were operationalized based on several HBM concepts with particular emphasis on the dimension of barriers to risk reduction. Because this study was exploring the utility of certain HBM constructs to the design of health education interventions, exhaustive measures of each concept were not used.

Perceived Severity.   The concept of perceived severity of a given illness is typically measured in terms of the individual's evaluation or assessment of the medical, social, or psychological consequences of contracting that illness.[7] Factor analytic techniques were used to construct a scale measuring male prostitutes' perception of the severity of HIV. Subjects' responses to five true-false items measuring their perceptions of the seriousness of HIV infection/AIDS were entered into a principal components factor analysis. Three variables had factor loadings of .5 or better and were used to build the scale. The sum of the three standardized factor scores comprise the perceived severity scale. Theta reliability for the scale is .67.

Perceived Susceptibility.   The concept of perceived susceptibility is usually measured as an individual's subjective perception of his risk of contracting a given condition.[7] The male prostitutes' perception of their susceptibility to HIV infection and AIDS was measured by their response to the question: "On a scale of 1 to 10 with 1 being impossible and 10 being a sure thing, what are your chances of developing AIDS?" As only four participants reported knowing their HIV status prior to entry into the study, the relationship between prostitutes' perceived susceptibility and actual HIV status was not tested.

Perceived Benefit to Health Action.   Although susceptibility to a condition that is also believed to be serious is seen as a precursor to health behavior, the concept of perceived benefit is seen as the dimension leading the individual to health action.[7] Benefit to a particular health action is based on the individual's perception of the efficacy of that action in combination with perceptions about the availability of that action. That is, a recommended health action must be

seen as both feasible and efficacious. Feasibility of condom use was measured by the prostitutes' reports of their willingness to carry condoms while out hustling. Subjects were asked, "How often do you carry rubbers on you when you hustle sex?" Responses were scored on a 5-point scale ranging from (1) never to (5) always. Efficacy of condoms as an HIV-related preventive health action was measured by the prostitutes' response to the true-false item, "Using a condom during sex can lower the risk of getting AIDS."

Perceived Barriers. Barriers to engagement in risk reduction are seen as the potentially negative aspects imputed to a particular health action.[7] Reports from both male prostitutes and their customers indicated that condom use either while prostituting or in personal sexual relationships was not practiced on a regular basis.[17] Whereas 98 of the male prostitutes surveyed stated reasons for not using condoms (i.e., complaints of discomfort, denial of risk, and blame of customers), the majority ($n = 110$) voiced no specific complaints about condom use. A comparison of these two groups yields no statistically significant difference in their HIV status ($\chi^2 = .32; p < .5$). Therefore, attention has been focused on possible structural barriers to male prostitutes' HIV-related risk reduction. These barriers are thought to emanate from social psychological characteristics inherent to prostitutes' lifestyle and/or environment and can be conceptualized as either economic, social, or emotional in nature.

Three emotional factors were thought to function as potential barriers to male prostitutes' risk-taking behavior: the presence of psychological symptoms; level of self-esteem; and level of sexual enjoyment experienced from hustling. Prostitutes' psychological symptomatology and self-esteem were assessed using standardized instruments, the SCL-90-R[12] and the Index of Self-Esteem,[13] respectively. The SCL-90-R is a 90-item self-report symptom inventory designed to reflect psychological symptom patterns. Each item is rated on a 5-point scale of distress (0–4), ranging from "not at all" to "extremely." The SCL-90-R yields distress scores on nine primary psychological symptom dimensions and three global indices of distress. Internal consistency ($\alpha = .77$ to .90) and test-retest reliability is high ($r = .78$ to .90).[18] Only the summary score represented by the Global Severity Index (GSI) scale, which is based on both the number of symptoms an individual experiences and the intensity of perceived distress related to those symptoms, was used in the data analysis. Participants' scores on the GSI ranged from .07 to 3.81 with a mean of 1 and a standard deviation of .71.[19]

Self-esteem, the individual's perception of his self-worth, was measured by the Index of Self-Esteem (ISE), a 25-item self-report measure of the evaluative component of self-concept.[13] Each item is rated on a 5-point scale (1–5) from "rarely or none of the time" to "mostly or all of the time" ($\alpha = .91$ to .94).[20,21] Subjects' scores on the ISE range from 0 to 78, with a mean of 33.16 and a standard deviation of 16.8. Scores on the ISE are interpreted inversely, that is, the lower the ISE score the higher the individual's level of self-esteem.

The third emotional barrier considered was the amount of enjoyment a prostitute received from engaging in sexual activities with his customers. It was expected that the more the prostitute enjoyed engaging in acts of prostitution, the greater the barrier to risk reduction behavior. Enjoyment was measured using subjects' responses, on a 3-point scale (ranging from 1, none to 3, a lot) to the question, "How much enjoyment do you get from sex with your tricks?"

Four social barriers to risk reduction were examined: prostitutes' general level of knowledge about HIV infection/AIDS; their frequency and quantity of alcohol and drug use; their substance use during hustling activities; and their perception of the amount of control they have over the hustling encounter.

A scale of subjects' general knowledge level regarding prevention and transmission of HIV infection was developed by conducting a principal components factor analysis using respondents' answers to nine true-false items. Standardized factor scores of five items with factor loadings above .5 were used to construct the HIV General Knowledge Scale. Theta reliability for the General Knowledge Scale was .73.

Two measures of substance use as a potential barrier to preventive health behavior are employed in the data analysis.[22–24] An additive scale indexing the frequency of alcohol, marijuana, and cocaine use was constructed by summing prostitutes' responses to questions of how frequently (0, no use to 5, daily use) they used each substance. Secondly, prostitutes' substance use specific to hustling was assessed by asking: "How often are you high while hustling?" Responses were: 68% stated that they were usually high while hustling; 17% were seldom high; and 15% indicated that they were never high while they were hustling.

The final social barrier to risk reduction considered was "locus of control." Based on the health behavior literature, it was expected that male prostitutes' perceptions about the amount of control they had during the hustling encounter would be inversely associated with their participation in high-risk HIV-related behavior.[25,26] Prostitutes' perceptions of control during encounters with their tricks were measured by asking, "On a scale of 1–10 with 1 being none and 10 being complete, when out hustling sex, how much control do you feel you have over what you do?"

Two indicators of economic dependency on hustling were used to examine economic barriers to prostitutes' risk reduction behavior. On a 4-point scale ranging from 1 (little economic dependence) to 4 (sole means of economic support) subjects were asked: "How much of your expenses are covered by hustling sex?" Second, the number of tricks a prostitute turned per week was calculated by multiplying the number of tricks turned a day by the number of days worked a week. The prostitutes averaged 17.6 tricks per week.

RESULTS

Regression of the Independent Variables on Risk Behavior

A simultaneous multiple regression model was used to examine the relationship between HIV-related risk behavior and male prostitutes' sociodemographic characteristics and health beliefs. Predictor variables including sociodemographic indicators, scales of severity and susceptibility, perceived benefit to condom use, and social, emotional, and economic barriers to risk reduction were entered into the equation. Tests for multicollinearity and interaction among the variables were not statistically significant.

Results of the regression analysis are presented in Table 2. Taken together, the independent variables explained 22% of the total variance in the male pros-

Table 2. Regression of Health Beliefs and Social Psychological Factors on Human Immunodeficiency Virus (HIV)-Related Risk Scale Scores (N = 206)

Variable	b	SE	β	Partial r^{2a}
Age	− .003	.008	− .03	.001
Education	.02	.02	.10	.01
Race	.02	.08	.01	.001
Years hustled	.01	.008	.16	.01
Perceived severity of HIV	− .03	.07	− .03	.001
Perceived susceptibility to HIV	.04	.01	.17**	.03
Perceived benefit to condom use (availability)	.07	.02	.19**	.04
Perceived benefit to condom use (efficacy)	.34	.18	.13*	.02
Psychological symptomatology	− .01	.06	− .01	.001
Self-esteem	.001	.003	.007	.001
Enjoyment from sex with tricks	.15	.05	.18**	.04
Economic dependence on hustling	.12	.04	.22***	.06
Number of tricks per week	.005	.005	.08	.007
Frequency and quantity of substance use	− .03	.01	− .19**	.04
High on drugs or alcohol while hustling	− .001	.03	− .001	.00
Control over the hustling situation	− .04	.01	− .19**	.04

[a] Adjusted r^2 = .22, F = 4.5,**** df (16,190).
  *p ≤ .05.
 **p ≤ .01.
 ***p ≤ .001.
****p ≤ .0001.

titutes' HIV-related risk behavior (F = 4.5; p ≤ .0001). Differences in age, education, race, and number of years in prostitution were not significantly associated with risk behavior. With the exception of perceived severity three of the four major dimensions of the HBM were significantly associated with risk behavior. Four barriers to risk reduction, economic dependence on hustling, perceived control over hustling, enjoyment of sex with tricks, and frequency and quantity of substance use were significantly associated with risk behavior. Economic dependence on hustling accounted for 6% of the total variance in risk behavior while controlling for the other indicators and was positively associated with HIV-related risk taking (β = .22; p < .001). That is, the greater the level of economic dependence on prostitution the greater the level of risk. Perceived control over the hustling situation accounted for 4% of the total variance in risk behavior when controlling for other variables in the model (β = .19; p < .01). As the prostitute's perception of control over the hustling situation increased, risk behavior decreased. Substance use accounted for 4% of the total variance in risk taking when controlling for other variables and was significantly inversely

associated with Risk Scale scores (β = $-.19$; $p < .01$). Surprisingly, as prostitutes' substance use increased their risk behavior decreased. The final barrier present in the model, level of enjoyment during sex with tricks, accounted for 3% of the variance in risk taking and was significantly associated with prostitutes' HIV-related Risk Scale scores (β = $.19$; $p < .01$). As prostitutes' level of enjoyment increased so too did their risk behavior. Perception of susceptibility to AIDS accounted for 3% of the variance in risk behavior and was significantly associated with prostitutes' HIVRS scores (β = $.17$; $p < .01$). Unexpectedly, the greater the level of perceived susceptibility to AIDS the greater the level of risk. As perceptions of availability and efficacy of condom use increased, risk-taking behavior increased (β = $.19$; $p < .01$, β = $.13$; $p < .05$, respectively). Prostitutes' perceptions of availability of condoms accounted for 4% of the total variance in risk behavior, whereas efficacy of condom use accounted for 2%.

DISCUSSION

The concepts suggested by the theoretical framework of the HBM were used to examine male prostitutes' HIV-related risk behavior in order to assist in the design of preventive health education programs. Data presented suggest that the presence of sociocultural barriers inherent to the practice of male prostitution can block HIV-related risk reduction behavior. The findings provide information about the relationships between prostitutes' health beliefs and their risk behavior that can serve to guide health educators in their efforts to engage and work with this extremely critical population.

It is evident from the data that most (96%) male prostitutes identify HIV/AIDS as a serious condition. However, the absence of a strong relationship between HIV-related risk behavior and prostitutes' perception of the severity of HIV infection suggests that preventive health programming based primarily on promoting AIDS as a serious condition will be incomplete. Male prostitutes are not likely to be significantly motivated to reduce their HIV-related risk behavior simply in response to being told and believing that HIV/AIDS is a serious illness.

Contrary to what was expected, the data demonstrated that increases in male prostitutes' HIV-related risk behaviors were accompanied by an increase in perceptions of susceptibility to HIV. This finding suggests that although the male prostitute is able to accurately assess his own susceptibility to HIV infection, he does not use this knowledge to engage in HIV-related risk reduction. It is possible that the prostitute's perception of increased susceptibility actually functions as a barrier to risk reduction. The male prostitute may feel that he is already infected and need not employ preventive health measures, or although he sees himself as potentially susceptible to HIV he may feel that he will be lucky and escape infection (i.e., optimistic bias or denial).[27] Future research examining the link between susceptibility and risk behavior among different sociocultural populations will be critical to the design of successful programmatic preventive health interventions for these at-risk groups.

The positive relationship between perceived benefit to condom use and HIV-related risk behavior indicates that those prostitutes most likely to engage in

risk-taking behavior are also those most likely to view condoms as beneficial to the prevention of HIV transmission. Unfortunately, an early examination of condom use by the male prostitutes and their customers in both work and personal relationships indicated that condoms were seldom worn under any condition.[17] It is therefore possible that although male prostitutes see condoms as beneficial in the prevention of HIV infection and are willing to carry them, many of their customers are disinclined to have the prostitutes use them. Gaining a better understanding of the dynamics of the interchange between prostitute and customer as they negotiate for or against condom use is essential to the design of more effective risk reduction interventions. Designing safe sex programming that enables prostitutes to learn how to successfully negotiate for condom use without fear of losing a customer will be critical to preventive efforts.

The data presented alert health educators to several economic, social, and emotional barriers to the reduction of HIV-related risk behavior among male prostitutes. The direct relationship between increased economic dependence on hustling and increased risk-taking behavior demonstrates the strong economic value inherent in prostitution. Lack of job skills, a criminal record, and poor education typically result in job opportunities that are low paying and of short duration. A comparison of earning from the minimum wage jobs the prostitutes could hold ($4.25 per hour) with the average amount of money they obtain per trick ($20.00 for about 15 minutes) illustrates the magnitude of the economic barrier prostitutes face. Providing prostitutes with occupational alternatives, a successful intervention completed in the past but seemingly forgotten, is possibly the only way to realistically compete with the economic motivation for engaging in unsafe sex.[28]

The significant inverse relationship between frequency and quantity of substance use and HIV-related risk behavior suggests that prostitutes' increased use of alcohol and drugs results in decreased risk-taking behavior. It is possible therefore, that frequent alcohol and drug use in large quantities, rather than having the expected disinhibiting effect resulting in risk taking, potentially contributes to impotence or lack of interest in prostitution, which results in risk reduction. Because attaining an erection is frequently a prerequisite to engagement in high-risk sexual acts among the prostitutes heavy substance use actually reduces or restricts participation in these acts.

Male prostitutes who believed that they were in control of the hustling situation were also those most likely to engage in HIV-related risk reduction behavior. This finding suggests that health education efforts aimed at empowering male prostitutes to exert control over the hustling situation through price negotiations, setting limitations, acts preformed and most importantly, safer sex negotiations can contribute substantially to risk reduction.

The final barrier to HIV-related risk reduction present in the data was prostitutes' enjoyment of sex with tricks. For health educators, this finding is particularly distressing as it suggests that, contrary to common thought, some portion of prostitutes actually engage in prostitution for pleasure and that this sense of pleasure is strongly associated with risk-taking behavior. Providing male prostitutes with instruction on ways to eroticize the use of condoms and increase the level of sexual enjoyment associated with safer sex can potentially result in risk reduction behavior.

The data presented strongly demonstrate that male prostitutes engage in HIV-related risk behavior even though the negative affects on health are known. Thus, it is clear that the value placed on health within this population is likely competing with other, often stronger values. For male prostitutes the economic gains associated with prostitution in combination with the sexual enjoyment received from engaging in prostitution act as barriers to engagement in risk reduction behavior. Assuming that male prostitutes universally desire good health fails to take into consideration the concept of competing economic, social, and emotional factors arguing against good health. An examination of health saliency and the concept of competing values within specific high-risk populations should prove important to gaining a better understanding of how to tailor health education programs to target groups.

It is important to note that the extent to which the findings presented can be generalized to the larger population is limited by the necessity to use a convenience sample, the size of which limits the degrees of freedom available for extensive data analysis. It is anticipated, however, that this initial study of HIV-related risk behavior among male prostitutes can significantly contribute to current health education efforts through the identification of vital factors such as perceived susceptibility, perceived benefits to condom use, and economic, social, and emotional barriers to risk reduction. Broadening the operational definitions suggested by some of the HBM's constructs through the inclusion of factors such as health saliency, normative expectations, motivation, economic constraints, and the individual's sense of control over health can contribute significantly to the development of more applicable and useful models for the health educator.

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