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***FEATURE***

# Influence of Religiosity on HIV/AIDS-Related Behaviors of Adolescents[1]

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***Abstract.*** *The 6th of the 8 United Nations Millennium Development Goals is to combat HIV/AIDS, which affects the fulfillment of 4 other goals. Combating HIV/AIDS depends on effective sex education and the care of AIDS patients across countries, cultures, and all kinds of boundaries. Is religion a protective factor against HIV/AIDS, or is it a barrier? Literature is divided on this issue. The purpose of this study was to determine the influence of religiosity on attitudes and protective practices against the risk of HIV/AIDS in 849 Peruvian students from 52 private schools in the 3 cities: Lima, Cuzco and Iquitos. Results showed that the level of religiosity and attitudes are not significantly related, but religion did encourage protective practices against the risk of HIV/AIDS ($r = .059$, $p > .05$, $r = -.156$ $p < 0.01$). This establishes a low relationship between religiosity and protective practices against the risk of HIV/AIDS. Attitudes were also found to have a highly significant correlation ($p < .01$) with protective practices against the risk of HIV/AIDS.*

**Keywords**: HIV/AIDS, religion, behaviors, attitudes, adolescents

The United Nations Millennium Development Goals include ending poverty and hunger, universal education, gender equality, child health, maternal health, combat HIV/AIDS, environmental sustainability, and global partnership (United Nations, 2010). The goal to "combat HIV/AIDS" becomes very important because it directly affects the accomplishment of four other goals: child health,

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maternal health, gender equality, and ending poverty; this last one because AIDS is increasing poverty by killing manpower in poor African countries, and leaving innumerable orphans (Ogunbodede, 2004).

## The Global AIDS Pandemic

Although the number of people dying annually from AIDS-related causes worldwide decreased from a peak of 2.3 million in 2005 to an estimated 1.7 million in 2011, since the beginning of the epidemic, almost 67 million people have been infected with HIV and 31 million people have died of HIV-related causes (UNAIDS, 2012; UNAIDS & WHO, 2009). The estimated number of people 15 years and older acquiring HIV infection in 2011 was 2.2 million, 500,000 fewer than in 2001. Sub-Saharan Africa is the region most affected, and it is home to 69% of all people living with HIV worldwide (UNAIDS, 2012), and 91% of all new infections among children. The pandemic had orphaned more than 14 million children by 2008 (UNAIDS & WHO, 2009).

The global HIV/AIDS epidemic is stabilizing but it is still at an unacceptably high level. Since 1999, the year in which it is thought that the epidemic peaked, the number of new infections globally has fallen by 19% (UNAIDS, 2010). In 33 countries, HIV incidence has fallen by more than 25% between 2001 and 2009. Of these countries, 22 are in sub-Saharan Africa. The epidemics (UNAIDS, 2011) in some sub-Saharan African countries—Ethiopia, Nigeria, South Africa, Zambia, and Zimbabwe, for example—have either stabilized or are showing signs of decline (UNAIDS, 2010). However, despite the overall declining trends, there is a resurgence of HIV in several high-income countries, and also in countries like the Philippines, Bangladesh, and in five countries of the former Soviet Union, where the HIV incidence increased by more than 25% between 2001 and 2009 (UNAIDS, 2010). In addition, there are 7,100 new people infected with the virus daily (ONE International, 2011). The number of new HIV infections continues to outstrip the numbers on treatment—for every two people starting treatment, a further five become infected with the virus. Less than 40% of people living with HIV know their status (UNAIDS & WHO, 2009).

In sub-Saharan Africa, young women 15-24 years of age are 8 times more likely than men to be HIV positive (UNAIDS & WHO, 2009). The estimated 1.3 million people who died of HIV-related illnesses in 2009 in the region comprised 72% of the global total of 1.8 million deaths attributable to the pandemic (UNAIDS, 2010). In 2010, 68% of all people with HIV lived in sub-Saharan Africa, a region with only 12% of the global population. Sub-Saharan Africa also accounted for 70% of the new HIV infections in 2010, and AIDS has claimed at least a million lives there annually since 1998 (UNAIDS, 2011). The epidemic continues to be most severe in southern Africa where half of the worldwide deaths from AIDS-related illnesses in 2010 occurred. South Africa has more people

living with HIV (an estimated 5.6 million—more than 25% of its population) than any other country in the world (UNAIDS, 2010; UNAIDS, 2011).

In Asia, according to UNAIDS (2010), an estimated 4.9 million people were living with HIV in 2009, about the same as 5 years earlier. No country in the region has experienced a generalized epidemic (a concentrated epidemic is just in at-risk groups such as sexual workers, homosexuals, and drug addicts). Thailand is the only country in this region with the HIV/AIDS prevalence close to 1%, and the epidemic appears to be stable overall. In Cambodia, adult HIV prevalence has declined to 0.5% in 2009, down from 1.2% in 2001. The incidence (number of new cases of the sickness) fell by more than 25% in India, Nepal, and Thailand between 2001 and 2009, and it remained stable in Malaysia and Sri Lanka during that period. The prevalence is increasing, however, in such low-prevalence countries as Pakistan (where drug injecting is the main mode of HIV transmission), and in Bangladesh and the Philippines, where HIV incidence increased by 25% between 2001 and 2009.

The number of people living with HIV in Latin America increased from 1.3 million in 2000 to 1.7 million in 2007, and there is a shift in the main mode of HIV spread from homosexual activity or injection drug usage to heterosexual transmission (Benavides, Leon, Baker, Collins, & Halabi, 2009). Until recently, the Peruvian Ministry of Health (MINSA) had found the greatest number of new HIV cases in 1996, with 1,189 infected (MINSA, 2008); however, between January and September 2009, an alarming total of 1,968 new HIV cases and 404 new AIDS cases were reported (CPN Radio, 2009; Guerra, 2009).

## HIV/AIDS Prevention and Treatment Resources

After more than two decades of dissemination of knowledge and strong emphasis on strategies based on condom use, particularly among teens and young people, the results of the AIDS prevention campaign are still far from expectations. The latest survey data from 64 countries indicate that fewer than 40% of males and 38% of females ages 15-24 have accurate and comprehensive knowledge about HIV and about how to avoid transmission (UNAIDS & WHO, 2009). HIV/AIDS continues to rank among the leading causes of death for adolescents worldwide (Sweifach & LaPorte, 2006). Although the overall number of new AIDS cases diagnosed in the United States each year has been decreasing, the rate among adolescents is increasing, and AIDS is a leading cause of death among American 15-24 year olds (Cole, Nelson, & Steele, 2008).

Young people in Latin America and the Caribbean are 30% of the population, and one out of 20 is infected with an STD. Among women, 25% of girls under 20 years of age become mothers because of lack or misuse of contraceptive methods (OPS, 2008). The prevalence of HIV in Peruvian young people aged 15-24 years in 2007 was 0.5% for males and 0.3% for females (WHO, UNAIDS, & UNICEF,

2008). In total, 70% of the cases were among people aged 20-39 years, and 75% of infected people lived in Lima, the capital city (MINSA, 2008).

Sexual practices of adolescents in many countries frequently show risky behaviors such as early initiation, multiple partners, and inconsistent use of condoms. Sexual intercourse is initiated among U.S. teenagers at an average age of 15.8, in the Netherlands at 17.7, in Germany at 16.2, and in France at 16.8 (Bok, 2002). Despite acknowledging the notorious unreliability of self-reporting for high figures, a study among 29 African American men, with an average age of 23.4 reported an average of 37.12 sexual partners in their short lifetime, with number of partners ranging from 1 to 156 (Corneille, Tademy, Reid, Belgrave, & Nasim, 2008). In Jamaica, 42% of public school students who claimed to be sexually active reported initiating sexual intercourse at the age of 10 (Robinson, Thompson, & Bain, 2001). In Peru, approximately one-fourth of adolescents between ages 15 and 24 have already had sexual relations, and the average of age of initiation was 14 to 15 years (Quintana & Vasquez del Aguila, 2003; Paucar, 2002; Ruiz, 2002; Caceres, 1999). During their first sexual experience, 72% to 84.2% of them reported that they did not use a condom (Caceres, 1999; Perez, Quintana, Hidalgo, & Dourojeanni, 2003).

After more than 25 years of promoting condom use and HIV knowledge, studies around the world have shown that there is *no* correlation between knowledge and protective behaviors. This was shown in Catholic and public school students in Lebanon (Cullari & Micus, 1990), in public schools students in China (Abdullah et al., 2003), in Hong Kong (Ho, 2002), in Colombia (Miguez-Burbano et al., 2000), and among high school students from Armenia, the Caribbean, the Philippines, Romania, Canada, and the United States (Hopkins et al., 2002). Peruvian adolescents with the highest level of knowledge about STD/AIDS are the ones with higher coital prevalence (Soto, 1999).

Regarding AIDS treatment, despite considerable progress, global coverage remains low: in 2008, only 42% of those in need of treatment had access (compared with 35% in 2007). Among these, only 38% of children in need of treatment in low-and middle income countries received it, and one-third of the people living with HIV are co-infected with TB (UNAIDS & WHO, 2009).

Resources for combating HIV/AIDS are huge and grow from one year to another. In 2008, US$ 15.6 billion was estimated to be available from all sources for HIV. UNAIDS estimated, however, that US$ 25 billion were needed for HIV services in 2010 (UNAIDS & WHO, 2009).

The combat against HIV/AIDS is in the second generation stage; in the first generation, efforts were concentrated on spreading knowledge about HIV transmission and HIV prevention through condom use. In the second generation, efforts are going further toward the search for effective interventions that target actual attitudes and behavior change through comprehensive sexual education,

besides targeting culture, values, social factors, and other barriers. Because religion is one of the main domains that shapes culture, values, social norms, barriers, attitudes and behaviors, it is the next question that requires special attention: is religion useful in the struggle against HIV/AIDS?

## Religion and HIV/AIDS

Change is needed in both attitudes and behaviors that are protective against HIV/AIDS in order to achieve the 6th UN Millennium Development Goal of combating HIV/AIDS. Behavior change is not only the domain of behavioral sciences through health education; it also belongs to the field of religion. This is because, to a great extent, attitudes and behaviors are not only shaped directly by religion but also indirectly through culture. So, the question comes naturally: How useful is religion in combating HIV/AIDS? Literature is divided in support of three positions: religion is both useful and not useful, religion is not useful, and religion can be useful. We will review studies from all three of these perspectives.

### Mixed Results

First, we look at studies with mixed results, showing that religion is both useful and not useful in the battle against HIV/AIDS. Chemtob and Srour (2005) found that HIV prevalence was lower in Arab Israelis than in non-Arab Israelis or in Arabs residing in neighbor countries. This may be because of the conservative Islamic religious moral values about sex that are practiced among Arabic countries and cultures. This does not explain, however, why Arab Israelis have less HIV than other Arab countries. The Arab-African countries of the Northern Sahara certainly do not reflect the HIV/AIDS incidence and prevalence of the Sub-Saharan countries where Christian religions and other animist cults are present. However in Malaysia, a majority Muslim country, figures appear to be changing due to industrial development that has brought social and cultural changes, and is affecting the already complex nature of the country's young adult population (Anwar, Sulaiman, Ahmadi, & Khan, 2010). Not only is knowledge about sexual health and STIs insufficient among young people, but one study in the Pulau Pinang region has shown that a considerable percentage of them are also involved in risky sexual behavior that may increase the prevalence of STIs and AIDS in the population. In this population, 12.6% claimed to have sexual experience, of which 75.7% had their sexual debut at 15-19 years, and 38.2% had had more than three partners (Anwar et al., 2010).

Other studies have shown that religion is both useful and not useful in combating HIV/AIDS. In Tanzania, religion has been found to help in HIV disclosure, and to not interfere with ARV treatment, but is associated with HIV stigma. In a sample of 438 attending Catholic, Lutheran and Pentecostal churches in both urban and rural areas, 84.2% reported that they would disclose their HIV status to their pastor or congregation if they became infected. Although the

majority of respondents (80.8%) believed that prayer could cure HIV, almost all (93.7%) said that they would begin ARV treatment if they became HIV-infected. However, shame-related HIV stigma is strongly associated with religious beliefs, such as the belief that HIV is a punishment from God, or that people living with HIV/AIDS have not followed the Word of God (Zou et al., 2009).

Religion is often associated with some life turning point. A study showed that HIV was the key turning point for 37% (26% positive, 11% negative), whereas for 63% it was not (Kremer, Ironson, & Kaplan, 2009). Characteristics associated with perceptions of HIV as the most positive turning point included having a near-death experience from HIV, increased spirituality after HIV diagnosis, and feeling chosen by a Higher Power to have HIV. Notably, perceived antecedents of viewing HIV as the key positive turning point were hitting rock bottom and calling on a Higher Power. Conversely, viewing HIV as the most negative turning point was associated with declining spirituality after diagnosis (Kremer et al., 2009).

Regarding the dominant presence of HIV/AIDS in Sub-Saharan Africa and the way to combat it, there are two opposing perspectives according to Aguwa (2010). First, there is the idealistic perspective, represented by the Christian churches, which upholds genuine and reasonable moral values and personal principles of discipline. Then there is the pragmatic perspective represented by government and social organizations that promotes the condomization of the continent. The first approach may easily give the impression that people could be sacrificed on the altar of doctrines. Writing about Nigeria, Aguwa (2010) stated that "a viable anthropology, whether secular or religious, that intends to be realistic should effectively speak to Africa's cultural, social, economic, and health issues and bring about desirable results" (Conclusion section, para. 3). He calls on churches to help provide solutions that actually work, not only rhetoric, while at the same time recognizing the great good they have already done.

**Religion as Useful**

The second perspective affirms that religion can be useful to combat HIV/AIDS. After analyzing studies on the positive association between religiosity and sexual issues among teens, Dilorio, Pluhar and Belcher (2005) found that parents who expressed greater levels of religiosity or religious attendance were more likely to talk with teens about sexual topics, to have more rules about sex, and to be more conservative with regard to sensitive topics.

It appears that from an unbiased look at scientific facts on HIV prevention (see for example Tiendrebeogo & Buykx, 2004), that there is stronger support for the health behavior changes such as abstinence and fidelity proposed by Christianity and other religions than for the condomizing approach proposed by governments and social organizations. Despite more than two decades of

relentless condomania, rates of HIV/AIDS and other STIs have doubled or tripled in the United Kingdom, Canada, Switzerland and Sweden, while in most African nations, the relentless rise in AIDS has devoured innumerable lives, despite the dissemination of millions of condoms and condom-centric sexual instruction. This suggests that barrier protection initiatives have not achieved their desired epidemiological impact (Genuis, 2009). Why do they continue to do this despite the evidence that it is not working? An expert from John Hopkins University points to four reasons: First, promoting condom use is relatively easy to do; second, implementing organizations are good at distributing condoms and providing clinical services but they do not know how to guide people in sexual behavior change; third, policy decisions are directed by westernized people who have been trained in prevention models from concentrated epidemics; and fourth, there is a preference for clinical services above the ABC approach (see below) in budget distribution (Hearst, 2007).

On the contrary, comprehensive attempts to curb sexual behavior have been remarkably successful in some regions, including Uganda, Thailand, and Cambodia, where vigorous educational efforts have focused on delayed sexual debut and partner reduction. For example, sexual activity among 13- to 16-year olds in one district of Uganda declined from nearly 60% in 1994 to less than 5% by 2001 (Genuis, 2009). In Guinea, West Africa, where HIV prevalence is one of the lowest among the countries of the region and the continent, "it was found that faithfulness to one's sexual partner or partners was the most widely-practiced HIV prevention strategy" (Kiš, 2007, p. 9).

In the past decade, 150 AIDS experts, including Nobel laureates, the president of Uganda, and officials of most international AIDS organizations endorsed a statement of the "ABC approach" to AIDS prevention: **A**bstinence, **B**e faithful, and **C**ondoms. This approach suggests that in generalized epidemics, the priority for young people should be A, not starting sexual activity too soon. The priority for adults should be B, limiting one's number of partners. And C (condoms) should be the main emphasis only in settings of concentrated transmission, like commercial sex (Halperin et al., 2004).

In addition, there are numerous strengths in collaborating with faith-based institutions such as (1) having a captive audience of youth, parents, and potential volunteers; (2) being respected institutions in the community and having community credibility; (3) having religious faith and a strong moral sense, which play important roles in protecting youth from harm; (4) having the potential to use their faith-based organization to offer youth development programs to reach youth and adults outside of their communities (Francis & Liverpool, 2009). This is why a set of strategies for developing effective faith-based public health HIV interventions has been recommended. First, the faith-based community and the target population can be involved in program design, implementation and evaluation and, second, if faith-based leaders are reluctant to discuss HIV/AIDS,

the issue can be framed as part of broader Christian values. The church should teach individuals the biblical and theological foundations of sickness and health and emphasize compassion, not condemnation, fear or hostility toward HIV/AIDS prevention and/or people who are HIV infected. Third, efforts must be made to ensure that the program is culturally appropriate for the target audience (Francis & Liverpool, 2009). Fourth, churches that are open to it need to provide intensive HIV/AIDS prevention reorientation-training workshop for church leaders to ensure a sustainable plan to address HIV/AIDS prevention needs (Aja, Modeste, Lee, Montgomery, & Belliard, 2009). Finally, a study found that sex education and HIV education for African American teens was more effective when it was provided by adults rather than by peers (Baldwin et al., 2008).

**Religion Seen as Not Useful**

Religion has also been found to be neutral or negative in combating HIV/AIDS. Despite the fact that African Americans account for 49% of the 3,725 AIDS cases reported in the United States among those aged 13–19, and for 56% of all HIV infections among those aged 13–24, African American churches have the most difficulty reconciling sex and sexuality with their religious ideology (Francis, Lam, Cance, & Hogan, 2008). They do not address AIDS largely because of the stigma associated with the disease and, although leaders are willing to provide youth with health education, they are not willing to discuss specific behaviors associated with HIV transmission. In addition, the presence of gays and lesbians who are active members of their churches is generally denied and never discussed (Francis et al., 2008).

Studies among adolescents about the relationship between religion and attitudes and practices regarding HIV/AIDS have not been found. Exploring this relationship might be useful since the greatest incidence of HIV/AIDS takes place at that age. The objective of this study was to find out the influence of the level of religion on protective attitudes and practices against the risk of HIV/AIDS among Peruvian teens in private high schools. By doing this, we can begin to provide answers to the larger question of whether religion is useful in combating HIV/AIDS.

## Method

This is a descriptive, correlational-comparative study. The adolescent population was 4,404 high school sophomore, junior, and senior students from 155 private schools in Lima, Peru's capital, Cuzco from the highlands, and Iquitos from the jungle region. The official list of these high schools was obtained from the Ministry of Education in 2005. The participating schools were randomly selected from among those whose monthly tuition was less than 400 nuevos soles, (or approximately US$133 at the 2005 exchange rate).

The sample consisted of 849 adolescents (448 males and 401 females) from 30 schools in Lima, 17 in Cuzco, and 5 in Iquitos, considering a margin of error of 4% and a 95% confidence interval. Inclusion criteria were students from private schools, belonging to the three last years of high school, who agreed with the permission of their parents to participate in the study. This study surveyed students from private schools for two reasons. First, there have been many studies done among public school students about HIV/AIDS knowledge, attitudes, and behaviors, while studies on the same issues in private school students are uncommon. Second, the majority of private schools in Peru are owned or operated by people who wish to include some kind of religiosity in their overt or hidden curriculum. Since we wanted to know the effect of religion on the lives of teens, we went to places where to some degree it was included. Adolescents were selected by multistage sampling: (1) departments (states), cities and districts were selected through purposive sampling; (2) schools were selected using cluster sampling in each district; and finally (3) adolescents were selected through stratified sampling by years of study and systematic sampling to identify the participants.

An instrument was prepared to assess religiosity, attitudes and practices (RAP). The instrument for religiosity was the Test of Intrinsic and Extrinsic Religiosity, developed by Gordon Allport in 1950, and adapted by Moreno in 2004. The attitudes and practices sections were developed based on the theoretical implications of HIV/AIDS, and on a questionnaire designed by Hopkins et al. (2002). The RAP survey on HIV/AIDS was divided into three sections: The first part evaluated religious beliefs and religious behaviors with 21 questions using a 5-point Likert scale ranging from *Strongly Disagree* to *Strongly Agree*. The second part consisted of 15 questions that used the same scale, and assessed attitudes toward risky sexual behaviors, and toward people infected with HIV/AIDS. The third part consisted of 10 questions to evaluate student practices of sexual risk behaviors and use of protective measures.

After a pilot test in three private schools with 65 respondents, the instrument was validated by a multidisciplinary team of medical, public health, education, and psychology professionals trained in adolescent sexual education and research on HIV/AIDS from the Graduate School Public Health Unit from the Peruvian Adventist University in Lima, and the Loma Linda University School of Public Health, in California. The reliability of the entire instrument was tested using Cronbach's Alpha, yielding a total of 0.86. Internal consistency was measured for each section, obtaining the following coefficients: 0.83 for Religiosity, 0.78 for Attitudes, and 0.95 for Practices. Overall, the instrument presented good levels of reliability, as well as content and criterion validity.

The research team was trained in using a protocol for data collection in the cities of Lima, Cuzco and Iquitos. Before data collection in every school, both adolescents who wanted to participate and their parents signed a letter of consent.

The next day, the adolescents responded to the questionnaire. Students filled out the questionnaires individually and then deposited them in an envelope on the teacher's desk. During this time, the researcher stood at the entrance to the classroom. When everyone had finished, the researcher retrieved the envelope.

Data analysis was performed using SPSS statistical software. To correlate religiosity, attitudes and protective practices against the risk of HIV/AIDS, Spearman's correlation coefficient was used; and to compare religiosity, attitudes and practices regarding socio-demographic characteristics, the nonparametric H of Kruskal-Wallis was used.

## Results

### Sociodemographic Characteristics of the Study Group

Of the 849 participants, 52.8% were male and 47.2% were female. The average age was 14.95 ± 1.12 years, with 45.7% from Lima, 30.0% from Cuzco, and 24.3% from Iquitos. Of the participants, 30.6% were sophomores, 34.5% juniors, and 34.9% seniors. Regarding the educational level of parents/guardians, 31.1% of the mothers had completed only secondary education and 46.2%, higher education; while 32.2% of fathers had completed only secondary education, and 53.4%, higher education. Regarding religion, 62.1% were Catholics, 13.8% were Protestants, 11.5% were Seventh-day Adventists, and 11.1% reported not belonging to any religion.

### Religiosity

Table 1 shows the behaviors of religiosity, observing that the largest percentage (81.3% agree) corresponds to "I ask God to enlighten me when I have to make an important decision" followed by (74.5% agree) "In all acts of my life, God is present." It is important to note that 66.2% of teens agree that "The most important thing for me is to serve God as best I can," 68.9% agree that "It is not so important what a person believes, or if the person is not a believer, as long as the person leads a morally correct life," 27.2% agreed that "I believe that in life there are things more important than faith and religious beliefs" and 37% believe that their "faith and religious beliefs sometimes limit my ability and alternative actions" showing that more students agreed with the statement than those who disagreed (29.9%).

Table 2 shows the results of religious beliefs held by the students obtaining the highest percentage (82.3%) in the belief that the Bible is the word of God, followed by 74.5% who believe that Jesus Christ has freed them from their sins and 69.1% believe that their body belongs to God. However, regarding the influence of religious principles in the decision to smoke, drink, use drugs, have

premarital sex and use condoms, the rates were not generally higher than 50% (39%, 39.7%, 50.7%, 43.0, and 36.7%, respectively).

Table 1

*Frequency Distribution of Religiosity*

| **Religiosity** | **Disagree** | | **Indifferent** | | **Agree** | |
|---|---|---|---|---|---|---|
| | **N** | **%** | **N** | **%** | **N** | **%** |
| I ask God to enlighten me when I have to make an important decision. | 57 | 6.7% | 101 | 12.0% | 687 | 81.3% |
| In all acts of my life, God is present. | 66 | 7.8% | 149 | 17.7% | 629 | 74.5% |
| The most important thing for me is to serve God as best I can. | 68 | 8.1% | 217 | 25.7% | 559 | 66.2% |
| I strive to put into practice my religious principles in all areas of my life. | 85 | 10.0% | 255 | 30.1% | 507 | 59.9% |
| My faith and religious beliefs are the foundation of my vision of life. | 102 | 12.1% | 233 | 27.6% | 509 | 60.3% |
| It is not so important what a person believes, or if the person is not a believer, as long as the person leads a morally correct life. | 120 | 14.1% | 144 | 17.0% | 585 | 68.9% |
| I object that religious beliefs influence my daily life. | 376 | 44.5% | 221 | 26.2% | 248 | 29.3% |
| I believe that in life there are things more important than faith and religious beliefs. | 412 | 48.8% | 203 | 24.0% | 230 | 27.2% |
| My faith and religious beliefs sometimes limit my ability and alternative actions. | 253 | 29.9% | 281 | 33.2% | 313 | 37.0% |

Table 2

*Frequency Distribution of Religious Beliefs*

| I believe that… | I don't believe | | I doubt it | | I believe | |
|---|---|---|---|---|---|---|
| | N | % | N | % | N | % |
| I believe that Jesus Christ has freed me from my sins. | 57 | 6.8% | 158 | 18.7% | 628 | 74.5% |
| I believe that the Bible is the Word of God. | 51 | 6.0% | 99 | 11.7% | 697 | 82.3% |
| My body belongs to God. | 94 | 11.1% | 168 | 19.8% | 585 | 69.1% |
| My religious principles do not influence my decision to smoke. | 330 | 39.0% | 196 | 23.2% | 320 | 37.8% |
| My religious principles do not influence my decision to drink alcohol. | 337 | 39.7% | 209 | 24.6% | 302 | 35.6% |
| My religious principles do not influence my decision to use drugs. | 428 | 50.7% | 173 | 20.5% | 243 | 28.8% |
| My religious principles do not influence my decision to have premarital sex. | 363 | 43.0% | 208 | 24.6% | 273 | 32.3% |
| My religious principles do not influence my decision to use condoms. | 309 | 36.7% | 206 | 24.5% | 327 | 38.8% |

**Attitudes Towards HIV/AIDS**

To report the attitudes toward risky sexual behavior and toward people with HIV/AIDS, we used three categories: positive, indifferent, and negative. The positive and negative categories resulted from merging the 5-point Likert scale alternatives 'strongly disagree' and 'disagree', and 'agree' and 'strongly agree' to see the differences more clearly.

Regarding attitudes towards risky sexual behavior, Table 3 shows that the majority of adolescents have an active attitude of protection against the spread of HIV/AIDS: "an unprotected sexual intercourse may jeopardize my health" and "people my age should use a condom when having sex" (84.0% and 84.9% respectively). Regarding the attitude that students have towards people with AIDS, the highest percentage of positive attitudes is "allowing people with AIDS to attend the same church as the other church members" and "visit a patient with

Table 3

*Attitudes Towards AIDS Sexual Behaviors, and People With AIDS*

| Attitudes | Negative | | Indifferent | | Positive | |
|---|---|---|---|---|---|---|
| | N | % | N | % | N | % |
| **Attitudes towards sexual behavior** | | | | | | |
| It's okay for people my age to have sex. | 531 | 62.5% | 174 | 20.5% | 144 | 17.0% |
| It's okay for people my age to have sex with someone who you have been dating for a long time. | 493 | 58.1% | 153 | 18.0% | 203 | 23.9% |
| An unprotected sexual intercourse may jeopardize my health. | 101 | 11.9% | 35 | 4.1% | 713 | 84.0% |
| People my age should use a condom when having sex. | 91 | 10.8% | 37 | 4.4% | 718 | 84.9% |
| **Attitude towards people with AIDS: It's okay to…** | | | | | | |
| Study with a person with AIDS. | 154 | 18.1% | 224 | 26.4% | 471 | 55.5% |
| Have a friend who has AIDS. | 163 | 19.2% | 178 | 21.0% | 506 | 59.7% |
| Work with a person with AIDS. | 181 | 21.3% | 189 | 22.3% | 478 | 56.4% |
| Be friends with a homosexual. | 331 | 39.1% | 195 | 23.0% | 321 | 37.9% |
| Hug or to touch an infected person with HIV. | 166 | 19.6% | 156 | 18.4% | 526 | 62.0% |
| Visit a sick person with AIDS. | 67 | 7.9% | 114 | 13.4% | 668 | 78.7% |
| Have people with AIDS attend the same church than the rest of the church members. | 64 | 7.5% | 66 | 7.8% | 718 | 84.7% |
| Have people with AIDS treated at the same hospital, clinic or medical center. | 263 | 31.0% | 185 | 21.8% | 400 | 47.2% |
| Travel on the same means of transportation with a person whom you know is infected with AIDS. | 128 | 15.1% | 162 | 19.1% | 557 | 65.8% |
| Continue dating even though you find out that he/she has AIDS. | 460 | 54.3% | 246 | 29.0% | 141 | 16.6% |

AIDS," 84.7% and 78.7% respectively. The most frequent at-risk attitudes against infection with AIDS were found in the answer "to continue dating even if he/she has AIDS" (only 54.3% feel that it's not okay).

**Protective Practices Against the Risk of HIV/AIDS**

Table 4 presents the protective practices against the risk of HIV/AIDS. The majority (74%) of students included in this study had not had sex; however, of the 26% who had had sex, 60% had it when they were between 14 and 16 years of age and 10.5% mentioned that their first intercourse was when they were less than 11 years of age, which may suggest cases of rape. Most (56.9%) of those who had had sex stated that their first sexual partner was his/her boyfriend/girlfriend, and only in boys was their first sex partner a prostitute or a homosexual. Regarding the place of their first sexual encounter, the majority (57.5%) mentioned having had their first experience at home and/or at the home of their boyfriend/girlfriend. It is also important to know that all children under 11 who had their first sexual experience with a family member, it happened at home. Most (65.1%) mentioned that the circumstances that led them to this experience were because they were in love, but 10.2% were under the influence of alcohol or drugs. At the moment of the survey 36.6% of adolescents who have had sex reported last had sex "one month ago or less." Regarding other sexual practices apart from vaginal intercourse, the most frequently reported (32.0%) was oral sex and /or anal sex. A smaller percentage (3.3%) had sex with objects, and 3.1% reported having had sexual experiences of all of the other forms mentioned.

Table 5 shows the protection practices against HIV/AIDS among those who reported having had sex. From the 26% of teens who have had sex, approximately 42% of them always use some form of safe sex method and most of them (46.5%) mentioned that they use these methods because they do not want to become pregnant or do not want their partner to become pregnant; only 36.5% of them use them because they don't want to get AIDS and/or STDs. The method most used for sexual protection is the condom (74.8%) and the least used are pills or injections (0.8%). Only 17.4% of respondents never used condoms and 37.4% always use them.

**The Influence of Religiosity on Attitudes and Protective Practices Against the Risk of HIV/AIDS**

Table 6 shows that the level of religiosity has no correlation with attitudes but it does correlate with protective practices against the risk of HIV/AIDS ($r = .059$, $p < .086$; $r = .156$, $p < .01$ respectively); however, attitudes have a significant correlation with protective practices against the risk of HIV/AIDS which are adopted by students from the study population ($r = .132$, $p < .01$).

Table 4

*Sexual Behavior Practices Regarding HIV/AIDS Risk*

| Sexual behavior | | Frequency | % |
|---|---|---|---|
| Have you had sex? | Yes | 220 | 26.0% |
| | No | 625 | 74.0% |
| Age of your first sexual encounter | Less than 11 years old | 23 | 10.5% |
| | 11 - 13 years old | 57 | 25.9% |
| | 14 - 16 years old | 132 | 60.0% |
| | More than 17 years old | 8 | 3.6% |
| First sex partner | With my boy/girlfriend | 123 | 56.9% |
| | With my friend | 62 | 28.7% |
| | With a prostitute | 11 | 5.1% |
| | With a homosexual | 4 | 1.9% |
| | With a relative | 16 | 7.4% |
| Place where first sexual experience occurred | In a motel | 22 | 10.0% |
| | At my boy/girlfriend's house | 56 | 25.6% |
| | At my house | 70 | 32.0% |
| | At my friend's house | 44 | 20.1% |
| | Another place | 27 | 12.3% |
| First sexual encounter circumstance | My partner pressed me to do it | 30 | 14.0% |
| | I was drunk | 19 | 8.8% |
| | I was using drugs | 3 | 1.4% |
| | I was in love | 140 | 65.1% |
| | All the above | 1 | .5% |
| | Out of curiosity | 22 | 10.2% |
| Last time you had sex | A year ago | 65 | 30.5% |
| | 7 to 12 months ago | 13 | 6.1% |
| | 2 to 6 months ago | 57 | 26.8% |
| | One month ago or less | 78 | 36.6% |
| Other sex practices | Oral sex | 82 | 17.0% |
| | Anal sex | 23 | 4.8% |
| | Sex with an object | 13 | 2.7% |
| | Only oral and anal sex | 49 | 10.2% |
| | Only oral sex and with an object | 2 | .4% |
| | Only anal sex and with an object | 1 | .2% |
| | All the above | 15 | 3.1% |
| | None of the above | 297 | 61.6% |

Table 5

*Protective Sexual Behavior Practices Relevant to HIV /AIDS Among Those Who Reported Having Sex*

| Protection method | | N | % |
|---|---|---|---|
| Using some kind of protection method during sex | Yes, but only with someone with whom I am not dating | 18 | 8.2% |
| | Yes, but only with my boyfriend/girlfriend | 32 | 14.5% |
| | Yes, always | 93 | 42.3% |
| | Never | 70 | 31.8% |
| | No response | 7 | 3.2% |
| Reason for using method of protection | I don't want to get pregnant or get my girlfriend pregnant | 112 | 46.5% |
| | Because in this way I protect myself from STDs | 41 | 17.0% |
| | Because in this way I protect myself from getting AIDS | 22 | 9.1% |
| | Because in this way I protect myself from getting AIDS or STDs | 66 | 27.4% |
| Method used when having sex | Condom | 184 | 74.8% |
| | Pills or injections | 2 | 0.8% |
| | Rhythm method | 11 | 4.5% |
| | None | 49 | 19.9% |
| Frequency of condom use | Never | 40 | 17.4% |
| | Whenever I remember | 34 | 14.8% |
| | Almost always | 70 | 30.4% |
| | Always | 86 | 37.4% |

**Socio-Demographic Characteristics of Religiosity, Attitudes and Protective Practices Against the Risk of HIV AIDS**

It was found that the religious variables, attitudes and practices did not conform to a normal distribution ($p < .01$); therefore, an analysis of comparisons was performed in socio-demographic characteristics using the nonparametric Kruskal-Wallis (see Table 7).

Gender and place of origin are the demographic indicators that showed a highly significant difference ($p < .01$) in religiosity. Girls and those from Iquitos ranked higher in religiosity than boys and respondents from other locations.

Gender and place of origin were the demographic indicators which showed a highly significant difference ($p < .01$) in attitudes. Girls and those from Lima showed more positive attitudes towards people with HIV/AIDS and had better beliefs towards protective sexual behaviors. The level of education of the mother showed a significant difference ($p < 0.05$) in attitudes: students whose mothers had a higher level of education had more positive attitudes. Gender, age and place of origin also showed significant differences ($p < 0.01$) in protective practices against the risk of HIV/AIDS, showing that younger female students and those from Cuzco had better protective practices against the risk of HIV/AIDS.

Table 6

*Correlations for Religiosity, Attitudes and Protective Practices Against the Risk of HIV/AIDS*

| | Correlations | Religiosity | Attitudes | Practices |
|---|---|---|---|---|
| Religiosity | Coefficient of Correlation | 1 | | |
| | P-value | | | |
| Attitudes | Coefficient of Correlation | .059 | 1 | |
| | P-value | .086 | | |
| Practices | Coefficient of Correlation | .156** | .132** | 1 |
| | P-value | .000 | .000 | |

** Spearman's Rho correlation is significant at the .01 level (bilateral).

Table 7

*Demographic Indicators and Religiosity, Attitudes, and Protective Practices*

| | | Religiosity | Attitudes | Practices |
|---|---|---|---|---|
| Gender | $X^2$ | 8.296** | 47.813** | 53.163** |
| Ranks | Male | 402.08 | 369.98 | 368.63 |
| | Female | 450.61 | 486.47 | 487.97 |
| Age | $X^2$ | 1.332 | .673 | 19.759** |
| Ranks | 12-14 | 435.46 | 422.45 | 472.28 |
| | 15-17 | 418.40 | 425.47 | 400.21 |
| | 18-20 | 482.86 | 499.00 | 297.86 |
| Place | $X^2$ | 29.720** | 11.251** | 9.870** |
| Ranks | Lima | 394.64 | 455.63 | 427.57 |
| | Cuzco | 402.12 | 396.14 | 454.01 |
| | Iquitos | 505.57 | 403.04 | 384.24 |
| School years | $X^2$ | 2.677 | 1.443 | 5.786 |
| Ranks | Third | 443.30 | 413.43 | 453.19 |
| | Fourth | 424.71 | 422.19 | 419.73 |
| | Fifth | 409.21 | 437.94 | 405.45 |
| Father's education | $X^2$ | 4.741 | 7.234 | 8.778 |
| Ranks | Illiterate | 533.50 | 632.83 | 338.50 |
| | Incomplete elementary | 403.27 | 321.07 | 352.87 |
| | Complete elementary | 512.97 | 386.75 | 355.28 |
| | Incomplete high school | 401.05 | 405.55 | 348.56 |
| | Complete high school | 420.77 | 399.46 | 416.80 |
| | College | 406.47 | 425.75 | 425.50 |
| Mother's education | $X^2$ | 2.438 | 11.736* | 3.088 |
| Ranks | Illiterate | 382.00 | 351.00 | 440.88 |
| | Incomplete elementary | 465.65 | 404.17 | 453.42 |
| | Complete elementary | 423.73 | 335.16 | 368.35 |
| | Incomplete high school | 408.32 | 360.84 | 397.69 |
| | Complete high school | 401.88 | 430.04 | 424.61 |
| | College | 421.52 | 427.16 | 413.09 |

** The $X^2$ is significant at the .01 level
* The $X^2$ is significant at the .05 level

**Discussion**

The majority of the sample reported being truly religious, as religiosity operationalized in this study. Their answers to the first positive (+) six questions about religiosity [I ask God to enlighten me when I have to make an important decision (81.3%), in all acts of my life God is present (74.5%), the most important thing for me is to serve God as best I can (66.2%), I strive to put into practice my religious principles in all areas of my life (59.9%), my faith and religious beliefs are the foundation of my vision of life (60.3%), and it is not so important what a person believes, or if the person is not a believer, as long as the person leads a morally correct life (68.9%)] were consistent with their answers to the last negative (-) three questions [I object that religious beliefs influence my daily life (29.3%), I believe that in life there are things more important than faith and religious beliefs (27.2%), and my faith and religious beliefs sometimes limit my ability and alternative actions (37%)]. The information about their religion preference or membership could explain why: 62.1% were Catholics, 13.8% were Protestants, 11.5% were Adventists, and 11.1% said they did not belong to any religion. A quarter of the sample (25.3%) was evangelical (Protestants and Adventists); evangelicals are well known in the country as practitioners of their beliefs. However, the influence of Catholicism is also strong in the country.

The high religiosity of the students is shown when the majority reported they believe that the Bible is the word of God, Jesus Christ has freed them from their sins, and their body belongs to God; however, regarding the influence of religious principles in the decision to smoke, drink, use drugs, have premarital sex and use condoms, the rates are not higher than 50%. This apparent contradiction could be explained in two possible ways. The first possible explanation is the fact that it is one thing to believe or to profess a faith or set of beliefs, and a different thing to practice or to apply those beliefs to daily life; so, being a believer does not necessarily mean being a practitioner. The second explanation could be that students were confused about the type of question used to evaluate the last five questions on religiosity; they were requested to mark one of three alternatives (I believe, I doubt it, and I don't believe) to evaluate the negative statements (my religious principles do *not* influence my decision to smoke, … to drink alcohol, … use drugs, … to have premarital sex, … to use condoms).

Contrary to what was found in the exploratory study in Tanzania in which HIV stigma was strongly associated with religion beliefs (Zou et al., 2009), in four HIV prevention programs among African-Americans in which AIDS stigma toward infected people was present (Francis & Liverpool, 2009), and in the Black Church in New York where members reported the stigma associated with AIDS (Harris, 2010), this study shows a group of teens with positive attitudes towards people with HIV/AIDS. The highest percentage of positive attitudes occurred in relation to "AIDS infected people attending the same church as other church members" (84.7%) and "visiting an AIDS patient" (78.7%). However, in this

study when students were asked if they would be friends with a homosexual, only 37.9% responded positively. It seems that the students surveyed lack positive attitudes toward homosexuals, but would have a positive attitude toward an HIV infected person, regardless of his/her sexual orientation. It looks like they were saying, "I have to be careful with a homosexual friend, but when someone has HIV/AIDS, it is different—you may be a friend of that person."

The positive attitude of the students in this study toward HIV infected people is shown to the point of declaring that they would "continue dating my boy/girlfriend even though he/she is infected with AIDS" (54.3%). One of the main problems contributing to the spread of the disease worldwide is the state of innocence and vulnerability of adolescents due to idealism appropriate to their age that leads them to adopt attitudes and responses that are more emotional than rational against the risk of contracting HIV/AIDS; this could explain why more than a half of the surveyed teens said that if his/her boy/girlfriend gets infected by AIDS, they would continue the relationship, even in a culture dominated by prejudice, and discrimination against people with AIDS.

In the current study, teen girls from Iquitos achieved a higher ranking in religiosity. This is contrary to what Cáceres, Yon, Mendoza, Rosasco, and Cabezudo (1998) found in a study among adolescents and adults in Chiclayo, Cuzco and Iquitos. Among the three groups, teens from Iquitos tended to perceive less risk of HIV/AIDS, therefore their sexual practices were more risky, while in Cuzco there was more sexually "conservative" behavior. The explanation for this contradiction is due to the difference in samples: In the cited study, the sample came from public schools, while the sample for this study came from private schools. In Iquitos, private schools are related directly or indirectly to a Christian church. In addition, since they are private, it is likely that their parents are also church members and similarly some studies show that parents who express greater levels of religiosity are more likely to talk with teens about sexual topics, to have more rules about sex, and may tend to be more conservative (Dilorio et al., 2005).

Girls from Lima in this study showed more positive attitudes towards people with HIV/AIDS and had better beliefs towards protective sexual behaviors. The level of education of the mother showed a significant difference ($p < 0.05$) in attitudes—the students whose mothers had higher education levels were the ones who achieved more positive attitudes. In Peru, particularly in Lima, its capital, the gap between public and private schools is notorious. Most of students in public schools come from underserved or poor communities, in which most parents have to work very hard for survival, and often their children are deprived of spending quality time with them. In many cases, there is no time for religious practices. Private schools, on the other hand, are only accessible to those students whose parents, in addition to supplying their basic needs, are also capable of affording

educational fees. At least one parent is usually a professional or at least runs a small business; parents feel and show different levels of responsibility for their children; and most of them are nominal to active church members.

This study showed that younger female students from Cuzco showed better protective practices against the risk of HIV/AIDS. Similarly, Cáceres et al. (1998) found that in Cuzco, one of the main cities of the country located in the mountains region, there is more sexually "conservative" behavior. Apparently, this conservative culture is present in Cuzco among female adolescents not only from private, but also from public schools. Cities from the Peruvian mountains tend to preserve their traditions and cultural values, including religious norms, more than population from coastal and jungle cities.

Religiosity of students has shown to have an effect on protective practices against the risk of HIV/AIDS. A good explanation for this positive association is that the majority (74%) of students included in this study had not had sex: only 26% reported having had sex. The root cause for this could be that parents who express greater levels of religiosity or religious attendance are more likely to talk with teens about sexual topics, have more rules about sex, and be more conservative with regard to sensitive topics (Diloro et al., 2005). In addition, Genuis (2009), while presenting systematically how scientific facts support behavior change to prevent HIV based on religious principles much better than based on condomization strategies, underlines how HIV rates in Uganda have precipitously dropped and countless lives have been spared following vigorous educational efforts focused on delayed sexual debut, and partner reduction.

Finally, this study showed that attitudes correlate significantly with protective practices against the risk of HIV/AIDS ($r = .132$, $p < .01$), contrary to what was found in Hong Kong where no correlation was found between attitude and behavior (Ho, 2002). This is very interesting in the study: Religiosity correlates with behavior, and attitudes correlate with behavior, but there is no correlation between religiosity and attitudes, showing that religiosity does not necessarily influence preferences, intentions, and wishes, but it definitely correlates with actual behaviors. This coincides with the mind of an adolescent, who prefers a different thing than his/her traditional values in order to challenge norms of home and society—nevertheless, when it comes to reality and actual behavior, remains tied to his/her emotional roots.

In conclusion, this study showed a positive association between religiosity and protective practices against the HIV/AIDS risk factors. Religiosity protects teens from being infected with HIV. Do these young people need to get rid of their moral values about sex, to begin an active sex life, and to use condoms effectively to be protected from HIV? Or isn't it much better and easier to reinforce and promote those protective moral values already present in the society among practitioners and non-practitioners, and additionally to discuss factual

information about barrier protection? To create the effective program for young people that the United Nations aspires to achieve, it is important that they move away from condom-centric education campaigns alone, and implement behavioral strategies that have demonstrated positive scientific outcomes. It appears that when looking at outcomes, the teachings of some religious moralists more closely approximate scientific truth than those of safe-sex enthusiasts (Genuis, 2009).

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