Knowledge, Attitude, and Practice About AIDS and Condom Utilization Among Health Workers in Rwanda

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Health workers in rural Rwanda were surveyed cross-sectionally on knowledge, attitude, and practice (KAP) about AIDS, HIV, and condom utilization. Participants were 350 health workers from six randomly chosen communities (three rural, three semirural). In general, knowledge about HIV/AIDS was moderate to good, with an average of 63% of the questions answered correctly; men (and younger respondents) had a better knowledge than did women ($p = .01$; older participants, $p = .015$). However, in the specific area of HIV/AIDS symptoms, knowledge was inadequate. In general, the attitude of health workers toward condoms was not sufficiently positive. Regular use of condoms was reported by 17%; the only variable significantly associated with condom use was having more than one partner during the past year. Men and those who scored high on knowledge had a more positive attitude toward infected individuals than did women ($p = .003$) and those with less knowledge ($p = .001$). In conclusion, there is an urgent need to institute educational programs to reduce the stigma about condoms among health workers in Rwanda.

**Key words:** condoms, Rwanda, HIV/AIDS, health workers

Situated in the Great Lakes region of Africa, Rwanda is a hilly country with a population of about 7.3 million, a total fertility rate of 6.0, and a life expectancy of 42 years at birth in 1999 (World Health Organization, 2000). The country and its health system are slowly recovering from the aftermath of the genocide of 1994. Recent data indicate that HIV prevalence in Rwanda is alarmingly high and still on the increase among several population subgroups. With a sero-prevalence of about 11% in adults, the country is categorized by the Joint United Nations Programme on HIV/AIDS (UNAIDS) as one of the 17 countries with the highest prevalence worldwide (Ministry of Health of Rwanda, 1998; UNAIDS, 2000). In 1997-1998, HIV prevalence in pregnant women of the Byumba district ranged from 5% in rural areas to more than 13% in residents of the Kibali community (around the district capital, Byumba Town) to well more than 20% in women residing in Byumba Town (Leens et al., 2000).

To understand factors affecting condoms use and identify correlates associated with a positive attitude toward condoms, an investigation was carried out in which the knowledge, attitude, and practice (KAP) toward AIDS and condom utilization were investigated among health workers. These health workers, known as *Animateurs de Santé*, play a crucial role in disseminating health-related information, as well as distributing condoms to the population. Obtaining information on their KAP was considered to be of great importance for developing a successful strategy to reduce the further spread of the disease.

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Method and Design

Byumba Health District is a district of predominantly rural nature in northern Rwanda, with an estimated population of 0.5 million inhabitants in 2000. The health care system comprises a 150-bed hospital and 20 health centers; in addition, some 900 health workers are engaged in the district on an unpaid basis. Their primary role is to distribute health-related information (such as on vaccination campaigns, hygiene matters, etc.) in their communities. Since 1998, health workers also have had condoms for distribution. To learn more about the factors that may influence condom use and acceptance, the following questionnaire investigation was carried out.

Six communities were selected by random drawing: Gituza (rural), Ngarama (rural), Muhura (rural), Kinyami (semirural), Kiyombe (semirural), and Kibali (semirural). Semirural, as used here, referred to those communities that are adjacent to the highway traversing the district (from Kigali, the Rwandan capital to Kampala, the capital of Uganda). The questionnaire (in the local language Kinyarwanda) had three parts, on knowledge, on attitude, and on practice toward AIDS and HIV. Similar questionnaires have been used in Togo, Canada, Uganda, and Zimbabwe (Chikovere, & Mbizvo, 1999; Mungherera, Van Der Straten, Hall, Faigeles, & Mandel, 1997; Sallah et al., 1999). The part on knowledge has 20 questions covering transmission, treatment, and prevention of HIV (anchored by true, false, I don’t know). The part on attitude specifically deals with acceptance of preventive measures (e.g., condoms, 5 questions); the health workers’ self-perception, particularly their role in distributing condoms, as well as acceptance of infected individuals; the credibility of governmental measures and programs (3 questions); and finally 1 question on their own susceptibility (ranging from 1 = strongly disagree to 5 = strongly agree). The part on practice includes several questions on current and previous sexual activity and practice as well as on condom utilization by the respondents.

In addition, questions on age, gender, education (years of schooling), experience as health worker (years), and primary occupation were included; this was to investigate whether these factors might have an influence. Responses were graded according to correct answers (or rates thereof, respectively) in the knowledge part. Questions were combined within the different areas of knowledge elucidated (i.e., transmission, prevention, general knowledge, as well as for all 20 questions). Attitudes were scored according to responses obtained for most unsupportive to most supportive behavior, where answers to the five choices of agreement with a statement were summed up. In the third part, questions were asked about current and previous sexual practice; special focus was on risk behavior and condom utilization by the survey participants.

Data analysis included descriptive statistics as well as univariate and multivariate procedures to investigate the influence of several factors on KAP of the participants.

Results

The field survey was carried out between February 15 and 18, 2000. All together, 360 questionnaires were distributed; questionnaires of 10 respondents were excluded because of illiteracy issues.

Of the 350 health workers, 78 (22.3%) were women and 272 were men (77.7%). Mean age of health workers was 34.1 years in women ($SD = 7.6$) and 36.7 years in men ($SD = 8.6$), ranging from 19 to 66 years. The vast majority were married ($n = 303$; 86.8%), whereas 23 (6.6%) reported being a bachelor, 19 (5.4%) widowed, and 4 (1.1%) divorced. Of those who mentioned their primary occupation ($n = 337$), the majority reported being a farmer ($n = 167$; 63.0%), whereas 39 (14.7%) worked for the government, 13 (4.9%) in a health-related job, 11 (4.2%) in the field of education, and 35 (13.2%) in another job. On average, respondents had worked for 3.5 years as health workers, with no difference between men and women.

Knowledge

Although only 74% of the health workers did know that AIDS is transmitted by a virus called HIV, it was overwhelmingly accepted that AIDS can be transmitted by sexual contact (93% correct answers), cannot be transmitted by hugging (91%), and can be tested in blood (90%). Eighty-six percent of the health workers agreed that the combined use of condoms and spermicide is the most effective means of protecting
against the disease, and 85% rejected the hypothesis that there might have been cases in which the disease had been transmitted by handshaking. A similar number (84%) agreed that the risk increases with the number of sexual partners and that traditional medicine cannot cure the disease successfully (82%) and that the virus can be transmitted from a mother to her unborn child (80%) but cannot be transmitted via dirty latrines (79%).

Knowledge was less accurate regarding the symptoms of AIDS: Less than half of the respondents (46%) knew that infected individuals do not necessarily exhibit symptoms, and one third thought that “one can see already, if someone has the disease.” Thirty percent did not know that even after 5 years of being infected, the disease may not be apparent to the individual, and only about 40% thought that fever can be a symptom of the disease.

Knowledge on Transmission

Knowledge on transmission was significantly better among men than women (5.7 vs. 5.3, \( p = .039 \)), among younger than older respondents (3.7 vs. 3.5, \( p = .049 \)), and among those with secondary school education versus those with less (6.0 vs. 5.4, \( p = .0002 \)).

Knowledge on Prevention

The mean score of correct answers to the five questions on prevention was 3.61 (SD = 1.1). The only significant differences that existed among groups were related to education: Those with secondary school education scored on average 3.8, versus 3.5 in those without secondary schooling (\( p = .0197 \)).

Overall Knowledge

The overall knowledge mean score for all participants was 13.7 correct answers out of a possible 20, ranging from a low of 1 to a high of 19. On average, men achieved a significant higher mean score (13.9; SD = 2.9) than women did (13.0; \( p = .0140 \)). A significant difference was also found with regard to age: Whereas those younger than 35 years old scored a mean of 14.1, older health workers achieved only—on average—a score of 13.4 (\( p = .0150 \)). Mean score of respondents with secondary school education was 14.8, thus significantly higher than among those who attended only primary schools (13.3; \( p = .0001 \); see Table 1). Knowledge was also different according to residence of respondents: Whereas semirural health workers scored a mean of 14.8 correct answers, rural health workers achieved only 13.2 (\( p = .0001 \)).

Attitude

Two thirds of the respondents did agree (and all together, 40% did strongly agree) with the statement that “if one carries a condom, people think one is looking for a sexual relationship.” This resulted in an overall score of 3.9, indicative of the group being—on average—in agreement with the statement made. Half of the health workers found it “unpleasant to distribute condoms” (50.6%; mean score of 3.3), and they agreed that “it is embarrassing to discuss the issue with people whom one does not know” (47.9%; \( M = 3.2 \)) (see Figure 1). One third (32%) of the respondents agreed with the statement that “people don’t buy condoms from me, because it is not my work to sell condoms” (see Figure 1), whereas 37% did agree or strongly agree with the statement that “condoms reduce sexual pleasure,” resulting in a score of 3.1 (SD = 1.2).

Attitude Toward Infected Individuals

The attitude toward infected individuals was tested with five questions, the answers to three of which are displayed in Figure 1. Nearly half (45%) believed that “people who have the disease, have gotten what they deserve,” and one third (35%) agreed that “it is better not to have a friend with AIDS.” Thirty-two percent agreed that HIV-infected individuals should be put into quarantine, whereas the majority did not agree with this statement or were indifferent (see Figure 1). Two factors were identified that were predictive of a
supportive behavior toward HIV-positive individuals: knowledge and gender (see Table 2). Men and individuals with high knowledge had, on average, a more positive attitude toward infected individuals than did women and lower-scoring respondents.

**Attitude Toward Governmental Measures**

Variables that were influential in predicting attitudes toward governmental measures were young age and good knowledge (see Table 3):

- Older health workers were significantly less convinced that governmental measures are effective and the money well spent.
- The higher a respondent scored in the knowledge part, the more likely he or she was to accept governmental measures and programs.

**Perceived Susceptibility**

Asked about his or her own susceptibility to AIDS, nearly 1 out of 2 health workers (48%) did not feel susceptible by indicating agreement with the statement, “People like me usually do not get the disease”; this
resulted in a mean score of 3.4. However, 80% (236 of 294) of the health workers agreed that “even if people do everything to protect themselves, some will get the disease.”

Practice

A total of 316 (90.3%) respondents reported having ever been sexually active, and 239 (73.8%) mentioned that they had had sex during the past month and hence are called “sexually active” in the following discussion. Seventy-two out of 316 (22.8%) acknowledged having had more than one sexual partner over the past year.

Thirty-one percent of health workers (100 of 325) reported always having a condom with them. Of those who were sexually active, only 53 (16.8%) reported always using a condom. Condom utilization was independent of age, gender, occupation, residency, or religion, except that a significantly greater number of respondents with more than one sexual partner during the past year (31.4%) did report condom use as opposed to only 13.0% among those with one partner during the past year (χ² = 11.71; p = .001). Of respondents citing a reason for the nonuse, 44% (113 out of 257) mentioned disapproval of condoms by their partner, and 36% (94 out of 259) cited religion as a reason.

Discussion and Conclusions

Because good knowledge among health workers is a prerequisite to transmitting information to and achieving appropriate behavior change in the population, knowledge plays a key role in HIV programs. It is therefore encouraging to realize that the health workers in this Rwandan Health District had on average a moderately good knowledge of AIDS, its prevention, and transmission. Areas in which specific AIDS-related knowledge is scarce and misconceptions exist include the history and symptoms of the disease. In particular, female health workers and those from remote communities need to be reached in this respect.

A positive attitude toward the use of condoms is also a prerequisite for the message to be communicated adequately and accepted successfully by the population. The results of this study suggest that condoms are not as accepted by the health workers as is needed to ensure the success of condom promotion programs. In fact, strong prejudices against condom use do exist among health workers, and negative attitudes are evident. Listeners at campaigns and discussions will certainly have noticed the health workers’ unspoken disapproval of condoms, and it can be assumed that a positive message has obviously not yet been communicated successfully to the community. This might be a reason for the generally low condom use in the country and one reason for the enormous spread of the disease in recent years. Because health workers play a crucial role in the process of disseminating the information properly and convincingly to the population, much needs to be done to educate them.

Among the predictors of supportive attitudes, the researcher found that knowledge of HIV and its transmission is important, which correlates with reports from other countries (Peltzer, 2000; UNAIDS, 1999). Promotion of knowledge and understanding is the first step in HIV/AIDS prevention.

Consistent with findings from other countries, condom use was fairly low, with 17% using condoms regularly. Comparable figures from neighboring countries are not available. Data obtained from sexually transmitted disease clinic attenders, however, revealed that 51% have used condoms in Uganda (Nuwaha, Faxelid, & Hojer, 1999) and 24% in the same group in Malawi (Lule, Moses, & Bandawe, 1997). In Ghana, 65% of men between 15 and 24 years old had ever used a condom (Adih & Alexander, 1999). Reported reasons for not using condoms in Tanzania were the disapproval of condoms by the partner (30%), having a regular partner (49%), and reduced sexual pleasure (9%) (Nuwaha, Faxelid, & Hojer, 1999).

Future AIDS campaigns in Rwanda need to address how to overcome existing barriers to condom use. Educational programs should include the symptomatology of AIDS, including the possibility of being HIV positive without having any symptoms, and motivation for condom use. It is essential that a more positive image of condoms be built up for behavioral change to take place. To many Rwandans, condoms are suggestive of prostitution, infidelity, and mistrust. The currently negative image needs to be replaced by one suggestive of health and safety, thus resulting in an increased acceptance and utilization. It is hoped that with new campaigns, Rwanda can follow neighboring
countries that have already encountered success in tackling the problem and observed a declining trend of HIV prevalence rates over the past years (Asiimwe-Okiror et al., 1998; Kwesigabo et al., 1998; Ntozi & Kirunga, 1997).

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References


