

“Getting AIDS: Not in My Back Yard.” Results from a National Knowledge, Attitudes and Practices survey

Daniel Chemtob MD MPH DEA^{1,5}, Beverley Damelin MPH¹, Niva Bessudo-Manor MPH¹,
Romney Hassman MBA⁴, Yair Amikam BA², Jonathan M. Zenilman MD⁵ and Dov Tamir MD MPH³

¹Department of Tuberculosis and AIDS, Public Health Services, ²International Relations Department, and ³Department of Health Promotion, Ministry of Health, Jerusalem, Israel

⁴Israel AIDS Task Force, Tel Aviv, Israel

⁵Department of Epidemiology, Johns Hopkins Bloomberg School of Public Health, Baltimore MD, USA

Key words: human immunodeficiency virus, behavioral surveys, sexually transmitted infection, safe sex, migration

Abstract

Background: Israel, as a country of immigration, has a heterogeneous distribution of risk for human immunodeficiency virus. Therefore, general population-based surveys of sexual behaviors among young adults may be useful for guiding prevention policy. To the best of our knowledge, the present survey is the first one among Israeli adults ever published.

Objectives: To survey knowledge, attitudes and practices regarding sexually transmitted infections in Israeli adults in order to target the future AIDS public campaigns for the general population.

Methods: A national sample of 800 individuals, aged 18–45, was interviewed telephonically in September 2000.

Results: The average number of sexual partners reported in the previous 3 months was 1.3. Accurate knowledge on HIV transmission modes was expressed by 99% of respondents for unprotected sexual intercourse, 97% for re-use of needles and syringes, and 85% for mother-to-child infection. However, incorrect notions on transmission were also prevalent (34% for insect bites, 29% for kissing and 21% for public toilets). Prevention of STIs and prevention of pregnancy were the most common reasons for using condoms (72–73%); HIV prevention was the motivation for 39%. Fifty percent of single individuals without steady partners always/usually used condoms. It was decided that women need empowerment to negotiate condom use.

Conclusions: Gaps were found between knowledge (at high level), attitudes (perceiving greater risk for others than themselves) and behavioral practices (combining low level of partner exchange with widespread disregard for safe sex). Promptly implemented, these findings will serve as a baseline for further surveys.

IMAJ 2006;8:610–614

Israel has a heterogeneous distribution of risk for human immunodeficiency virus [1,2]. Most Israelis are considered to be at low risk of HIV [1,2] according to World Health Organization

Part of this paper was presented in abstract form at the XIV International AIDS Conference, Barcelona, 2002, and at the Annual Conference of the Society of Public Health Physicians in Israel, Haifa 2006.

The opinions expressed in this article are those of the authors and do not purport to represent the opinions of the agencies with which they are associated.

HIV = human immunodeficiency virus

STI = sexually transmitted infection

KAP = knowledge, attitudes and practices

definitions [3]. However, the population is continually in flux. Since 1990, almost one million immigrants arrived from the former Soviet Union (the total Israeli population was 6.37 million at the end of 2000) [4], a region defined recently as a concentrated level of HIV epidemics [5]. Similarly, some 60,000 Ethiopians immigrated since 1985, and some 260,000 migrant workers have been living in Israel since the mid-1990s, often from countries with a generalized level of HIV epidemic, i.e., HIV prevalence consistently over 1% in pregnant women [3]. In developed countries, general population-based surveys of sexual behaviors (also known as KAP surveys, or surveys of Knowledge, Attitudes and Practices) have been conducted in adults [3,6-10] and adolescents [11,12] and guide prevention policy. In Israel, broad population-based surveys among adolescents have been performed [13-15], but no similar survey among adults has been published. In 2000 the Ministry of Health collaborated with major AIDS non-governmental organizations [16] to conduct a national survey on AIDS and other sexually transmitted infections and their prevention. Our objective was to obtain national population-based data in order to inform policy, understand HIV-related KAP among adults in the general population, and design a national AIDS campaign. We analyze here the survey results and briefly present the rationale of AIDS campaigns that incorporated these results.

Subjects and Methods

Study population

Our national sampling of the Israeli population used telephone listings. We performed a random phone survey among 800 participants aged 18–45 years, excluding the neighborhoods demographically associated with the Ultra-Orthodox Jewish sector (estimated at 10% of the general population; King J, personal communication) and the Israeli Arab sector (estimated at 18% [4]). Based on previous experience we considered that a telephone survey would not be accepted by these two populations, and that a specific culturally sensitive questionnaire would be necessary. Immigrants from the former Soviet Union in the previous decade (from 1990 onwards) were the only subpopulation group targeted for separate sampling and analysis (in 2000 they represented some 15% of the Israeli population [4]). No separate sampling was done for the numerically too-small group of Israelis

from the Sub-Sahara (and for which anthropologic survey [17] was considered more adequate).

Survey methods

A 51-item questionnaire* containing questions on demographic items (11 questions), knowledge (7 questions), attitudes (13 questions) and behavioral practices (20 questions) was developed by governmental and non-governmental agencies, and addressed knowledge, attitudes and practice regarding AIDS/STI with an emphasis on the use of preventive measures and condom use, in particular. The instrument was qualitatively tested through two gender-defined focus groups (each consisting of approximately 10 individuals aged 20–30). The survey was performed in September 2000.

Registered home telephone numbers were called randomly and only the first eligible respondent was interviewed. Each participant agreed to the interview. The power of the study was 96.5% and the level of significance 0.05 (two-sided test). The refusal rate was 23%.

Data analysis

In addition to univariate analysis, data were stratified by three “partner status” categories: married and two non-married groups (single with/without steady partner for over 3 months). Snap and Statistica software packages were used.

Results

Demographic characteristics

The demographic characteristics of the sample are shown in Table 1. The distribution of gender, age groups, marital status and immigration from the former Soviet Union (since 1990) was established in accordance with a national sampling frame.

Sexual activity

Ninety-three percent stated that they were sexually active, with a mean number of 1.32 sexual partners (range 0–10) in the past 3 months [Table 2]. Singles without a current steady partner had the highest number of sexual partners, and males reported more partners than females [Table 2]. The average number of sexual partners (in the last 3 months) was indirectly proportional to the age group (1.6, 1.3 and 1.1 for ages 18–24, 25–34 and 35–45, respectively). The distribution of the number of sexual partners was similar for immigrants from the former Soviet Union and other Israelis. Refusal to answer the questions on frequency of sexual activity was low (3% females vs. 1% for males).

Levels of knowledge

• Related to sexually transmitted infections

When subjects were asked to spontaneously recall names of STI, AIDS was mentioned most frequently (88%), while less than one-third of the respondents named others. Syphilis, herpes and gonorrhoea (each) were named by 31–32%, and

Table 1. National survey on AIDS/STI knowledge, attitudes and practices in Israel, 2000 – demographic characteristics (n=800) (only one item by response)

	No.	%
Gender		
Males	398	49.75
Females	402	50.25
Age (yrs)		
18–24	248	31
25–34	276	34.5
35–45	276	34.5
Partner status		
Married	428	53.5
Single with steady partner	127	15.9
Single without steady partner	245	30.6
Origin		
Former USSR immigrants (since 1990)	120	15
All other Israelis *	680	85
Education		
Primary/secondary/high school	353	44.1
Vocational, post-high school	142	17.8
Academic (undergraduate & graduate)	305	38.1
Type of religious observance**		
Secular	567	70.9
Traditional	182	22.8
Religious	51	6.4
Income level		
Less than average	149	18.6
Average	304	38.0
Above average	281	35.1
Refused to answer	66	8.3

* Excluding Arab Israelis and Ultra-Orthodox Jewish Israelis

** Type of religious observance, according to self-definition commonly used in Israel

Table 2. National survey on AIDS/STI knowledge, attitudes and practices in Israel, 2000 – sex behavior and practices related to HIV testing and condom use

	Mean no. of partners in past 3 months (range)	Underwent HIV test in the past year (%)	Always/usually use condoms in past year (%)	Never used condom in the past year (%)
Gender				
Females	1.09 (0–7)	15	17	69
Males	1.54 (0–10)	15	34	46
Age (yrs)				
18–24	1.62 (0–10)	16	39	40
25–34	1.30 (0–10)	14	22	60
35–45	1.14 (1–4)	14	17	70
Partner status				
Married	1.06 (1–2)	11	12	75
Single with partner	1.31 (0–3)	21	22	50
Single without partner	2.04 (0–10)	17	50	33
Origin				
Immigrants from former USSR	1.38 (0–10)	8	28	54
Other Israelis *	1.31 (0–10)	16	25	58
Total	1.32 (0–10)	15	25	57

* Excluding Arab Israelis and Ultra-Orthodox Jewish Israelis

* The (Hebrew) questionnaire can be obtained from the first author.

Table 3. National survey on AIDS/STI knowledge, attitudes and practices in Israel, 2000 – correct and incorrect knowledge on modes of transmission, in percentage

Correct knowledge	Percentage
Sexual relations	
With unknown partner	99
With known partner	63
Blood	
Used needles	97
Blood products	94
Piercing/tattooing with unsterile equipment	93
Mother to child during pregnancy and birth	85
Incorrect knowledge	Percentage
Insect or mosquito bite	34
Saliva or kiss from unknown person	29
Public toilets	21
Sharing items (brush, cup, sheets, etc.)	16
Shaking hands or touching of face	5
Through the air	2

scabies, chlamydia, hepatitis, were each named by fewer than 10% of respondents. When assisted by being read a listing of STI, 100% knew of AIDS and over 60% had heard of the other conditions mentioned, except for hepatitis and chlamydia. Knowledge was higher in the 25–34 and 35–45 year old age groups. Twenty-three percent of respondents knew someone who had a sexually transmitted infection, most commonly herpes. Herpes was perceived as most prevalent – with 39% believing Israelis to be at high risk of exposure – followed by gonorrhea (24%), syphilis and scabies (21% each), viral hepatitis (13%) and chlamydia (5%). When asked about personal exposure, 12% responded that they had feared at some time having an STI. Only 8% had consulted with a doctor (12% females, 4% males, $P < 0.001$).

- *Related to modes of transmission*

Knowledge of HIV transmission modes was high [Table 3], and age did not affect results. Although 99% of respondents knew that HIV could be spread by sexual intercourse without a condom, only 63% recognized risk from unprotected sex with a person they knew well. The correct response was inversely correlated with increasing age (70%, 62% and 58% for ages 18–24, 25–34 and 35–45, respectively, $P < 0.01$). Knowledge of needles transmission and vertical transmission (from mother to child) was high in all age groups. A third of the respondents believed insects were a vector, and 2% responded that HIV could be transmitted by airborne route [Table 3]. Ninety-two percent of respondents believed HIV is preventable, mostly through education and condom promotion. Immigrants from the former Soviet Union were less likely to express the opinion that HIV was preventable (84% vs. 94% other Israelis, $P < 0.001$) and that education was as useful as condom use (35% compared with 52% among other Israelis, $P < 0.001$).

Table 4. National survey on AIDS/STI knowledge, attitudes and practices in Israel, 2000 – perceived risk of HIV infection, according to personal acquaintance and status, in percentages (attitudes)

	Married (%)	Single with steady partner (%)	Single without steady partner (%)	All (%)
Perception of risk (%)				
Public at risk of HIV infection				
Any risk	94	95	93	94
High risk	45	58	54	50
Friends at risk of HIV infection				
Any risk	72	77	81	76
High risk	15	22	22	18
Self at risk				
Any risk	40	49	68	49
High risk	7	5	13	8
Perception that people are taking a high level of AIDS protection measures				
Myself	83	86	94	84
My friends	61	66	59	63

n=800. National sampling of the Israeli Jewish population aged 18–45, excluding Ultra-Orthodox Jews.

- *Related to risk behavior*

In a non-prompted question asking respondents to define high risk groups, the most common responses were male homosexuals (30%), intravenous drug users (24%), commercial sex workers and their customers (17%). A very low percentage (1–2%) suggested incorrect stereotypes such as ethnic minorities (Ultra-Orthodox Jews, Bedouins and Arabs).

Attitudes and practices

Ninety-four percent perceived Israelis to be at risk of HIV, but this did not translate into perception of personal risk; 76% perceived their friends to be at risk but only 49% believed that they personally were at risk [Table 4]. Females were more likely to view Israelis at high risk of infection (females 59%, males 41%, $P < 0.001$). Fewer respondents saw their friends at “high risk” of contracting HIV (18%) than the whole population (50%), and yet fewer saw high risk to themselves (8%).

Most felt comfortable discussing sex with others, with only 2% stating that there was no one with whom they felt comfortable speaking about this subject. The order of preference for dialogue was with sexual partners (81%), friends (61%), professional medical authorities (45%), other family members (39%) and, finally, anonymous options (19%).

When asked about reasons for using condoms (multiple answers were allowed), prevention of STI and prevention of pregnancy were equally the most common answers (72% and 71%, respectively), and AIDS was specifically mentioned as the motivation by 39%. When addressing only those without steady partners, 74% answered “prevention of STI” and “prevention of pregnancy,” and 43% “AIDS prevention.” Among those who did not always/usually use condoms, most gave the reason of being in a

permanent relationship (43%) or perceived no need for condom use (18%), and 3% had no fear of AIDS (due to recent HIV testing). Only 8% did not use condoms due to their unpleasantness and a further 3% stated that it destroyed spontaneity.

Sixty-eight percent of respondents had ever used condoms [Table 2]. On the last occasion that a condom was used, males initiated this in 49% of cases (vs. 16% by females). Of those who were sexually active and had used condoms, 18% had ceased to use them only after being tested for HIV, but 51% believed that taking the HIV test enabled having sex without condoms. Other reasons for discontinuing condom use were having gotten to know one's partner after a few dates (29%), intuition/good impression (25%), and having received information about the partner through the social circle (15%). When addressing only those without steady partners, the results were almost similar (22%, 53%, 29%, 27% and 15%, respectively).

Females were significantly more likely to feel safe to stop using condoms only after HIV testing (61% compared to 44% for males, $P < 0.001$), as were other Israelis (not including immigrants from the former USSR) (56% compared to 25% for the immigrants, $P < 0.001$).

Thirty-five percent of the respondents had undergone HIV testing in the past, and one-sixth (15%) in the past year. HIV testing was not associated with gender, age, marital or immigration status. Of those never tested ($n=514$), only 2% reported that they had avoided testing due to fear of the results.

The majority did not believe that HIV transmission occurs through casual contacts such as working with an infected person (75%), having her/him as their neighbor (72%), studying in the same classroom (64%) or participating in sports together (52%). There was less confidence regarding sharing a home (38%) or receiving medical treatment from a person living with HIV (31%). Thirteen percent of respondents did not feel safe in any of the aforementioned settings.

Discussion

This national HIV/STI KAP survey provided population-based data to facilitate development of targeted HIV-prevention messages. It will also serve as a baseline for longitudinal program evaluation. We found that HIV transmission modes were well known, but there were also major misconceptions. The high awareness related to HIV was not present for other STI. Although over half the respondents believed that unprotected sex should occur only after both partners test negative, 18% had ceased to use condoms only after being tested for HIV. Moreover, condom use in new relationships was often inconsistent and quickly interrupted. Contrary to popular perception, the number of partners and patterns of condom use did not differ by population groups (new immigrants from the former USSR vs. other Israelis).

As in other developed countries, only a small proportion of persons at risk get tested [18-20], and condom use is often inconsistent [6,9]. In developing our intervention strategy, we decided to first emphasize the need to continue condom use until being tested HIV-negative. Between 1998 and 2003, approximately 145,000–210,000 individuals underwent free, voluntary and

confidential HIV testing annually (Department of Tuberculosis and AIDS, Ministry of Health, unpublished data), and blood products from some 130,000–230,000 donors are tested annually (National Blood Bank, unpublished data).

Discontinuing condom use after a short period is typical. Qualitative research in parallel to the present survey (Department of TB and AIDS, unpublished data) suggests that women were often reluctant to negotiate condom use with their partner, even, only a few days after starting a new relationship. They perceived that this request would be misinterpreted, and would contradict their willingness to engage in a more prolonged and committed relationship.

Many respondents perceived other Israelis as being at high risk for HIV, but saw themselves at low risk [Table 4]. This may also explain the relatively low condom use rate during sexual relationships, even among singles without steady partners (in the past year, 32% always used condoms, 18% usually used them, 33% did not use at all).

Our study has a few limitations: we did not seek information on high risk populations or behaviors (e.g., drug injection, commercial sex, gender of sex partners, or types of sexual intercourse). Core questions in various studies are often different, making it difficult to compare between studies [7,21-23]. Our data are derived exclusively from self-report and are therefore subject to recall bias, to overestimation, under-reporting and mode bias [24,25]. Nevertheless, we have established a baseline, which will be used to prospectively evaluate AIDS and STI knowledge, awareness, and sexual behavior patterns.

More than half the interviewees were married, consistent with the distribution in the general population, as were the gender and age distributions, and the subgroup originating from the former Soviet Union [4]. As stated in the Methods section, distribution according to religious preference was not representative, because Ultra-Orthodox Jews and the Arab populations (generally living in defined neighborhoods) were intentionally excluded, and also because some of these definitions are subjective. Children below the age of 18 were excluded from this survey because of the issue of informed consent.

Implications of this study in future national AIDS campaigns

Based on our findings, we decided that the first national AIDS campaign, in December 2000, would focus on the need for continuing condom use until both partners tested HIV-negative: "Leave the condom on until testing negative" was the campaign slogan. In December 2001, we started to target women (especially those without steady partners) to refuse having sex without a condom: first using a pun in Hebrew "Make him stand up to the facts." The publicity materials in 2002 then featured four different women with the new slogan: "AIDS, one time without is enough." Each woman represented a different stereotype and, despite their difference (yielding, trusting, open-minded, obsessive), shared the same request for the need to use a condom. We anticipate that future campaigns will highlight increasing acceptance of people living with HIV (by decreasing the general perception of risk from casual contact), and increasing awareness for other (non-AIDS)

sexually transmitted infections. We believe that careful monitoring of data trends (probably every 3 to 4 years) will inform us when new messages become necessary.

Acknowledgments. We thank Ms. N. Edelman and the other members from *Lapam* (Israeli Governmental Advertising Agency) for their contribution to this survey and to the design of the AIDS campaigns.

The Israel Ministry of Health funded the survey.

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Correspondence: Dr. D. Chemtob, National TB Program Manager and Director, Dept. of Tuberculosis and AIDS, Public Health Services, Ministry of Health, P.O. Box 1176, Jerusalem 91010, Israel. Phone: (972-2) 672-8112
 Fax: (972-2) 672-5568
 email: daniel.chemtob@moh.health.gov.il; dchemtob@jhsph.edu