Public Health Briefs

Genital Herpes: Does Knowledge Lead to Action?

SEVGI O. ARAL, PHD, WILLARD CATES, JR., MD, MPH, AND WILLIAM C. JENKINS, PHD, MPH

Abstract: We analyzed data from a national telephone survey to determine whether awareness of the herpes epidemic led to changes in sexual behavior. Of those surveyed, 67 per cent heard about herpes only within the last two years. More importantly, 45 per cent of individuals perceiving themselves to be at risk stated they had changed their behavior as a result of this perception. Among those never married, 60 per cent stated they were willing to modify their lives to avoid genital herpes. (*Am J Public Health* 1985; 75:69–71.)

The changing sexual behavior of young Americans has brought about a considerable increase in the incidence of sexually transmitted diseases (STD).[1] The etiologic pattern of these diseases has also changed in recent years. One condition in particular, genital herpes simplex virus (HSV) infections, has been given extensive media publicity. The sequelae of initial HSV infections, including their tendency to recur, their capacity for perinatal transmission, and the association with cervical neoplasia, have a great public health impact.[2] Since no cure is presently available, prevention is of primary concern.

Methods

We analyzed responses to questions about genital herpes collected by Chilton Research Services through a random telephone survey conducted on September 14 and 15, 1982 for ABC News and *The Washington Post*. Telephone numbers were generated by adding random digits to the selected exchanges representing all regions of the country. Of the 2,363 initial telephone contacts, 64 per cent resulted in complete interviews. Conjoint weighting was employed; responses were adjusted for age, race, sex, and education by using the latest available United States census figures. The margin of error was plus or minus 3 per cent. Respondents consisted of 610 men and 895 women aged 18 and over. Their demographic characteristics were generally similar to that of the American population.

The questionnaire was streamlined to encourage a maximum response rate, and questions were asked in a manner to generate brief responses without clarifying information. For example, respondents were allowed only two categories of social class: working and middle.

Results

Knowledge

A large majority of respondents (83 per cent) were aware of the recent increase in STD (Table 1). Similarly, most (75 per cent) also indicated that they were particularly familiar with herpes. This knowledge of STD in general, and familiarity with herpes in particular, was higher among the

TABLE 1—Knowledge of Sexually Transmitted Diseases and Genital Herpes

Characteristics	Per Cent		
	Aware of STD Increase (n = 1474)	Familiar with Herpes (n = 1466)	Heard of Herpes Only within the Past Two Years (n = 1249)†
Total	83	75	67
Age (years)			
18–29	79**	79**	61**
30–49	88	79	67
50+	80	67	72
Sex			
Male	78**	74	67
Female	86	76	68
Race			
White	84**	78	66
Black	71	61	70
Other	76	63	75
Marital Status			
Never Married	80*	78	58
Previously Married	86	79	68
Married—Living w/Spouse	84	75	68
Education			
8th grade or Less	60**	40**	73**
High school	78	69	75
College	92	87	57
Income			
Under $12,000	74**	62**	74*
$12,000–30,000	85	78	67
$30,000+	91	85	60
Social Class			
Working Class	78**	71**	70**
Middle Class	88	80	63
Urbanity			
Suburb of Large City	88**	81**	63
Large City	82	76	65
Small Town	78	71	68
Rural Area	82	72	73

*Significant at .05 level—based on multiple chi-square test.
**Significant at .01 level—based on multiple chi-square test.
†Numbers of responders vary across items since item specific response rates are not constant.

Address reprint requests to Sevgi O. Aral, PhD, c/o Technical Information Services, Center for Prevention Services, CDC, PHS, DHHS, Atlanta, GA 30333. All authors are affiliated with that agency. This paper, submitted to the Journal June 29, 1984, was revised and accepted for publication July 23, 1984.

middle aged (30–49), women, and Whites, and increased with education, income, and subjective social class identification. They also varied significatly by marital status and place of residence. Much of the familiarity with herpes was apparently rather recent. When asked whether they had heard of herpes only within the past two years, 67 per cent responded positively.

Attitudes

Americans take seriously both the STD epidemic in general and herpes in particular. A majority (61 per cent) of respondents even stated that they were *personally* concerned about the STD increase (Table 2). STD-related concerns showed significant differences by sex, race, and level of income. About one-third (31 per cent) stated an intention to avoid associating with someone who has herpes. The tendency to avoid persons with herpes varied significantly by age, race, marital status, education, income, social class, and place of residence. A sizable majority (81 per cent) of respondents indicated that they would favor an obligatory premarital test for herpes if it were available—which it is not.

Action: Perception of Risk and Behavior Change

Nearly one in five Americans (19 per cent) perceive themselves to be at risk of getting herpes (Table 3). Those who are young, males, Blacks, and never married perceived themselves to be at higher risk than other categories. For example, over one in four Americans younger than age 30 felt they were at risk of genital herpes.

Overall, 45 per cent of the respondents who considered themselves to be at risk for herpes indicated that they had changed their sexual behavior to decrease their likelihood of contracting the condition (Table 3). Behavior change varied inversely with age. Among racial groups, Blacks showed the greatest propensity to change their behavior. The never married respondents showed the greatest changes in behavior related to risk perception (60 per cent). Multivariate analyses (data not shown) indicated that education, sex, income, and race contributed independently to awareness; marital status, sex, and education to risk perception; marital status and residence to reported behavior change.

TABLE 2—Attitudes toward Sexually Transmitted Diseases and Genital Herpes

Characteristics	Per Cent		
	Personally Concerned About STD Increase (n = 1456)	Would Avoid Someone with Herpes (n = 1126)	Favoring Premarital Herpes Test (n = 1176)
Total	61	31	81
Age (years)			
18–29	58	24**	72**
30–49	62	28	82
50+	62	43	91
Sex			
Male	57*	31	77**
Female	63	30	85
Race			
White	59*	29**	81
Black	73	47	89
Other	66	42	85
Marital Status			
Never Married	63	28**	73**
Previously Married	57	35	76
Married—Living w/Spouse	58	29	83
Education			
8th grade or Less	65	54**	92**
High school	61	35	84
College	60	24	78
Income			
Under $12,000	66*	43**	60*
$12,000–30,000	59	23	81
$30,000+	57	24	76
Social Class			
Working Class	61	35**	85*
Middle Class	60	25	78
Urbanity			
Suburb of Large City	59	25*	77*
Large City	62	32	81
Small Town	63	33	83
Rural Area	57	36	86

*Significant at .05 level—based on multiple chi-square test.
**Significant at .01 level—based on multiple chi-square test.

TABLE 3—Risk of Genital Herpes and Effect on Behavior

Characteristics	Per Cent	
	Perceiving Themselves at Risk (n = 1199)	At Risk Who Changed Behavior (n = 223)
Total	19	45
Age (years)		
18–29	26**	56**
30–49	14	44
50+	18	29
Sex		
Male	25**	48
Female	15	42
Race		
White	18*	42*
Black	28	72
Other	23	41
Marital Status		
Never Married	32**	60*
Previously Married	21	52
Married—Living with Spouse	15	36
Education		
Eighth Grade or Less	25	46
High School	20	40
College	17	50
Income		
Under $12,000	22	60
$12,000–30,000	18	40
$30,000+	16	46
Social Class		
Working Class	20	43
Middle Class	17	47
Urbanity		
Suburb of Large City	17	52*
Large City	23	44
Small Town	18	51
Rural Area	16	21

Discussion

The fact that knowledge about genital herpes is widespread and relatively recent underscores the role of the media in transmitting health information. However, the media can also overdramatize the disease and stigmatize the individual, such as referring to herpes as "the new scarlet letter."[3] An unexpected finding that 81 per cent of Americans sampled favored a premarital herpes test shows the high level of anxiety surrounding the herpes issue in the population, especially since screening would have limited (if any) value.

These data cast some doubt on previous tenets that "social prophylaxis" has little success in controlling STDs.[4] Nearly one in five Americans who perceived themselves to be at risk for herpes stated they had modified their behavior. Among the young, never married, and Blacks, consistency existed between risk perception and behavior change. However, although risk perception was significantly higher among men, behavior change was not; conversely, place of residence significantly affected behavior change, even though it was not associated with risk perception.

Our inferences are somewhat limited by the quality of the data. Sexual behavior is a sensitive topic; thus the reliability of answers to telephone surveys, where it is difficult to establish rapport between interviewer and respondent, is uncertain. Selection bias is also an important consideration, and some of the questions were not sufficiently detailed. For example, we have no data on the nature of the behavior change. Whether those who modified their behavior decreased the number of their partners or became more discriminating in the choice of partners, or even (if already infected) used specific herpes dating services[5] is unknown.

While these data were not ideal, at least they provide a basis for cautious optimism regarding behavior change for health risk reduction. Moreover, to date these are the best available data from a national sample on the effect in the US of the increasing herpes media attention. Based on estimated herpes prevalence,[6] our findings regarding risk perceptions by specific subgroups appear consistent with expectations. In light of the potential human suffering caused by STD, and sequelae such as infertility, ectopic pregnancy, and even neoplasia, the possibilities for reducing STD risks through preventive behavior modification should not be discounted.

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An Analysis of Economic Costs Associated with an Outbreak of Typhoid Fever

WAYNE X. SHANDERA, MD, JEFFERY P. TAYLOR, MPH, THOMAS G. BETZ, MD, AND PAUL A. BLAKE, MD, MPH

Abstract: We examined the costs of a typhoid fever outbreak caused by exposures to contaminated food over a 47-day period at a restaurant. For the 49 respondents, the patient-related costs ($215,548) were primarily medical expenses ($183,902) and lost income or productivity ($28,603). The estimated patient-related costs for all 80 outbreak-associated cases was $351,920. Had contaminated food continued to be served, the prevention-related costs ($36,500) would have been offset by patient-related costs ($7,488/day) within 5 days. (*Am J Public Health* 1985; 75:71–73.)

Introduction

Acute infectious disease outbreaks may result in significant economic losses that are seldom quantitated. In some outbreaks, preventive measures instituted by public health officials may result in important savings. This was the case with an outbreak of typhoid fever that occurred in San Antonio, Texas, during August and September 1981. After 24 cases of typhoid fever had been reported to the city health department, an epidemiologic investigation was begun which resulted in the closing of a Mexican restaurant and the termination of the outbreak.[1] The incriminated food was barbacoa, a mixture of tissues which were picked from steamed bovine heads by a typhoid carrier and kept unrefrigerated until they were warmed for sale. Eventually, 80 cases were reported and the outbreak proved to be one of the largest foodborne, common-source outbreaks of typhoid fever in the United States during this century. Persons who became ill had eaten food from the Mexican restaurant over a 47-day period. In this paper, we analyze patient-related expenses and expenses associated with the control of this outbreak and objectively demonstrate the economic benefits of the preventive measures that were undertaken.

Materials and Methods

The outbreak itself has been reported in detail elsewhere.[1] Seventy-eight persons with diagnosed typhoid fever were mailed a questionnaire asking them for information about associated personal costs. Nonrespondents were contacted with a second and third letter and subsequently by telephone. Costs were itemized in several categories: hospitalization (based on actual hospital bills), physician visits, emergency room visits, medications, lost wages, and other

Address reprint requests to Dr. Paul A. Blake, Enteric Diseases Branch, Center for Infectious Diseases, Centers for Disease Control, Atlanta, GA 30333. Dr. Shandera is also with the Enteric Diseases Branch; Mr. Taylor is with the Bureau of Epidemiology, Texas Department of Health; Dr. Betz is with the Division of Field Services, Epidemiology Program Office, CDC.

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