Journal of Gerontology: MEDICAL SCIENCES
1996, Vol. 51A, No. 3, M142–M146

Copyright 1996 by The Gerontological Society of America

Sexuality and Aging — Usual and Successful

Diana Wiley[1] and Walter M. Bortz II[2]

[1]Active Living Institute, Palo Alto, California.
[2]Palo Alto Medical Foundation and Stanford University School of Medine.

Background. As aging research increasingly reflects an effort to dissociate true time-driven changes from those that can be improved, sexuality in later life remains largely unexplored. Several problems are evident. There is a lack of normative data, a lack of a conceptual framework relating to the biology, psychology, and sociology of sex, and an attitudinal resistance that obscures the entire topic.

Methods. We conducted a three-part instructional series on major topics involved with sexuality and aging. We surveyed our group of attendees (*n* 158, average age 68 for males, 65 for females) before and after the series.

Results. A remarkably robust sex life was evidenced by both the men and the women, even until advanced old age. Yet, a substantially decreased involvement was reported from 10 years earlier. Despite current activities, people of both sexes wished they were participating even more than they currently were. Impotency was identified as the major negative feature for the men; relationship problems were for the women. A questionnaire 6 months after the series reported improved sexual attitudes, but no change in sexual activities from the earlier survey.

Conclusion. Sexuality is a major quality-of-life issue which persists into old age. Our study showed that the usual sexual practices reported by our group were not considered by them to be ideal. The intervention of this instructional series provided improved sexual attitudes but not performance. Additional studies are encouraged.

IS post-reproductive sexual activity a vestigial remnant, an anomaly, or is it an integral and shaping part of the increasingly large percentage of our lives spent after 50 years of age? Can it be considered a quality-of-life issue?

The entirety of our vision of what is normative aging is undergoing profound reanalysis (1,2). What had been assigned to inevitable changes is, upon reexamination, shown not to be time-coded, but is instead secondary to preventable and reversible features. The supposed decrements of aging are known now to be the result of practices over which we can exercise control. Butler and Lewis describe late life sexuality as a "mythology fed by misinformation" (3).

Masters and Johnson wrote, "Can that one facet of our lives affecting more people in more ways than any other physiologic response other than those necessary to our very existence, be allowed to continue without benefit of objective scientific analysis?" (4). The lack of insight which accompanies this central part of life is astonishing. The Kinsey Report of 1948 was the first to break the stereotype that sexual activity stopped at age 50 (5). Every survey since this time has concluded that older people are not only more interested in sex than was originally thought, but that their practices could be robust, even until old age (6–15).

Despite this qualitative shift in awareness, the perception is nonetheless confirmed that aging brings major changes in sexual attitudes, desires, and performance. We now recognize that decrements in sexuality have biologic, attitudinal, and situational dimensions. Fortunately, all of these contributors lend themselves to an activist approach which has increasing likelihood of success as the knowledge base expands.

With this in mind, a questionnaire was given to the 158 attendees of a sexuality and aging lecture series held at the Palo Alto Senior Center in October 1993. Participants were a self-selected group with a presumed higher interest in sexuality than a random sample would bring.

METHOD

A three-part instructional program was held at the Palo Alto Senior Center in October 1993. The program content included formal and informal presentations, slide visuals, and written materials on a wide range of topics relating to the biology and psychology of aging and sexuality.

A survey questionnaire was developed to obtain data regarding expression and aging. Items from previously developed instruments were included along with some written specifically for this survey (16–18).

A follow-up questionnaire was mailed to each attendee 6 months following the initial lectures. This instrument inquired as to whether certain behaviors were occurring relatively more or less as compared to 6 months ago, and whether an attitudinal shift had occurred. The questionnaire was to be returned unsigned.

RESULTS

Questionnaires were received from 118 of the 158 attendees (77%), 47% female, 53% male. On average, males were significantly older (M 68.3 ± 6.0 SD) than females (M 64.0 ± 7.8) ($t[101] = 3.30$, $p < .001$). Twenty-three (37.1%) males and 11 (20%) females were 70 years of age or older (age range 56–85 for males, 42–82 for females). The men were more likely to possess at least a college education (82% men vs 72% females). Females were slightly more likely to live alone (40% vs 33%), whereas males were more likely to live with a partner (64% vs 53%). Over two-thirds of all respondents claimed to have an active sexual partner.

The frequency of sexual activity of any type (past, current, and desired [with a partner]) is displayed in Table 1. Notable first is the high desire for sex for both men and women. Ninety-two percent of the group as a whole reported that ideally they would wish sex at least once per week; this percentage was undiminished in those over 70. In contrast to the stated desired frequency, less than half the men and women reported having sexual activity at least once per week. Sexual activity recalled from 10 years previously was remarkably similar to the current "desired" frequency, leading to the conclusion that the group currently desired the sexual activity of 10 years earlier. Overall, approximately 32% of the respondents reported that the frequency of their

Table 1. Frequency of Sexual Activity: Past, Current, and Desired

	10 yrs ago		Current		Desired	
Males						
Age	<70	>70	<70	>70	<70	>70
<1 wk	16%	17%	47%	67%	3%	9%
1 wk	27	39	41	22	32	44
2+ wk	57	44	12	11	66	48
Females						
Age	<70	>70	<70	>70	<70	>70
<1 wk	20%	18%	48%	67%	12%	9%
1 wk	22	36	32	11	31	36
2+ wk	57	45	19	22	57	55

Note: Males: <70 n = 37, >70 n = 23; Females: <70 n = 40, >70 n = 11.

sexual activity had not changed during the past 10 years, 60% reported a decrease in frequency of sexual activity, and 8% reported an increase. A larger percentage (67%) of males reported a decline in frequency of sexual activity than did females (51%). This is reflected in the fact that 71% of the males desired an increase in frequency of sexual activity, whereas only 52% of the females did so. Twenty-nine percent of the males reported no discrepancy in the frequency of sexual activity and that which they desire.

In an effort to determine what sexual behaviors our subjects participated in now and 10 years ago, an item requested that kissing, oral sex, manual genital stimulation, intercourse, orgasm, loving and caring, and satisfying your partner be placed in rank order of importance. Table 2 presents the mean rankings for males and females as well as a test of significant change over time. Whereas the women reported stable sexual preferences over the 10-year interval, the men reported a change. Ten years earlier, intercourse and orgasm were clearly the highest-rated forms of sexual activity for the men, but their ranking declined significantly within the decade. Reciprocally, oral sex ($p > .05$) and love ($p > .005$) preferences rose. Loving and kissing were highly rated by the women in both samplings, regardless of age.

Estimation of global sexual satisfaction is at least partially dependent upon frequency of thinking about sex and enjoyment of sexual activities (13). The questionnaires revealed certain patterns. Approximately 50% of both males and females reported thinking about sex less now as compared to 10 years ago, with there being little difference as a function of age.

Table 2. Preferred Form of Sexual Activity 10 Years Ago and Currently

	Males					Females				
	10 yrs ago		Currently			10 yrs ago		Currently		
	n = 47		n = 40			n = 36		n = 26		
	M	SD	M	SD	t	M	SD	M	SD	t
Importance of kissing	4.26	1.90	4.31	2.03	1.00	3.02	1.75	3.30	1.87	<1
Oral sex	5.70	1.65	5.27	1.79	2.17*	5.50	1.93	5.04	2.05	<1
Manual/genital stim.	4.57	1.58	4.30	1.87	1.00	4.50	1.90	3.96	2.12	<1
Intercourse	2.72	1.59	3.23	1.73	2.56**	4.24	1.80	4.92	1.81	1.05
Orgasm	2.93	1.95	3.81	2.29	3.42***	3.94	1.76	3.78	1.79	<1
Loving and caring	4.00	1.85	3.31	1.78	3.41***	2.62	1.68	2.39	1.64	1.35
Satisfying partner	3.22	1.74	3.11	1.67	<1	4.08	1.86	4.11	1.55	1.12

Note: 1 = most important, 7 = least important.
*$p < .05$; **$p < .01$; ***$p < .001$.

Table 3. Feelings About Decreased Sexual Frequency, Percentage of Respondents

	Female		Male	
	<70 (n = 38)	>70 (n = 9)	<70 (n = 37)	>70 (n = 23)
Very troubled	24%	0%	26%	21%
Somewhat troubled	39	44	59	58
Doesn't bother	29	56	11	21
Somewhat relieved	0	0	2	0
Very relieved	7	0	2	0

The findings for sexual enjoyment as compared to 10 years ago are more complex. While approximately 53% of the males under 70 reported less enjoyment now, only 43% of those over 70 did so; indeed, 33% of those over 70 reported more enjoyment now, as compared to 21% of the younger men. Seven of the 9 females who were over 70 years of age reported more sexual enjoyment now as compared to 10 years ago.

Recognizing that a decline in sexual activity was predicted and found in men and women, we felt it was important to assess the emotional reaction to this decline. Table 3 shows that for women, and particularly men, the falloff in sexual frequency was rated as somewhat or very troubling. Even the men over 70 had not adjusted to their decreased level of sexual activity.

When the group was asked to what they attributed their decreased sexual activity, a variety of responses was elicited. Fifteen percent of the women as a group, and 43% of the women over 70, cited illness as a major contributing factor to decreased sexual activity. In a question about health problems, a large number of male respondents wrote in "erection difficulties" as a health problem which affected their sexual activity. Relationship problems were mentioned by both men and women as the most important single factor in their decline. Many long-term couples find that unresolved emotional issues, resentments, and anger transform their sexual intimacy into predictable rituals and responses (19–21).

When the men were queried about ease of erection and their comfort level (embarrassment) about erection problems, the responses were more revealing (Table 4). Eighty-three percent reported that achieving erections was more difficult than 10 years earlier, and 88% were either somewhat or very uncomfortable about this fact. It is interesting that a quarter of the women reported that erection difficulties were "uncomfortable," indicating that potency is a couple's issue as well. A six-month follow-up questionnaire was mailed to each participant to assess changes which may have resulted from attending the lecture. Sixty-six (56%) of the 118 who returned the first questionnaire returned the follow-up questionnaire. Since no demographic information was obtained, only global results are presented.

Dimensions on which the change was indicated included: knowledge, permission, confidence, and interpersonal sensitivity. Relatively few of the respondents indicated that they were engaging in more sexual activity of any kind.

We acknowledge the methodologic issues which our study contains (22). We can claim no generalizability of our findings, nor can we attest to the reliability of the data. We do feel, however, for so many of our group to claim concern and inadequacy, that success claims are probably not overstated.

Discussion

Aging research is undergoing a major change in direction (1,2). The last several decades have been appropriately consigned to description of the normative alterations which accompany the passage of time, from the subcellular to the whole, from biochemical to behavioral. Although considerable work remains to be done in this domain, the emphasis is altering to reflect interventional efforts to improve those functional declines of older people which are not strictly time-coded. The works of Fiatarone et al. (23), Haskell et al. (24), Schaie (25), and others employ protocols which challenge long-held beliefs that the deteriorations of age are immutable. The musculoskeletal, circulatory, and intellectual functioning of older subjects are now shown clearly to be improvable to substantial degrees by appropriate techniques. "Usual" can become "successful" by intervention.

Our hypothesis seeks to ask whether sexuality is a function whose nature conforms to those other areas of human experience which are demonstrated to be improvable. It seems logical to propose that at least some of the declines in sexual competence with age similarly mislabeled as inevitable are improvable. We recognize the complexity of this proposition. First, there is extremely limited information available as to what the sexual attitudes and activity of older people are (3). Second, there is no conceptual framework which encompasses the biologic, psychologic, and social aspects of sexuality. Third, there is an attitudinal overlay of the entire area which obscures and confuses late life sexuality as a major quality-of-life issue (3,13,14,26).

We sought to address these areas by our protocol. In effect, we asked three basic questions: What is your sexual activity? How do you feel about it?, and can anything be done to improve it? We conclude, first, that our group in later life was still sexually active; second, they would like to be more sexually active; and third, intervention strategies are possible.

Our group, both males and females, reported present sexual activity most commonly once per week or less. This is in contrast to the recall of activity of 10 years earlier, which reflected substantially more. Notable are those over 70 reporting active sex lives currently. Of interest too is the fact that although the majority of men and women express general satisfaction with their sex lives, a large percentage of men and women desired more frequent sex. Sixty-six and

Table 4. Ease of Erection as Compared With 10 Years Previously and Comfort Level

	Ease Compared With 10 Years Previously			Comfort Level	
	<70 (n = 40)	>70 (n = 22)		<70 (n = 37)	>70 (n = 21)
Much more difficult	48%	50%	Very uncomfortable	34%	38%
Somewhat more difficult	35	36	Somewhat uncomfortable	58	43
Same	11	9	Indifferent	3	10
Less difficult	2	5	Comfortable	5	10
Other	3	0			

57% of the men and women, respectively, under 70 years of age, and 48 and 55% of the men and women over 70 years of age desired to have sex two or more times per week. Thus, this indicates that what is "usual" is not the "ideal."

The principal explanation for the male troubling is traceable to erectile dysfunction. Eighty-three percent of those under 70 years of age and 86 percent of those over 70 reported more difficulty with erections than 10 years previously. Ninety-two percent were uncomfortable with this fact. Numerous reports, notably including the elegant work of the Massachusetts Male Aging Study (MMAS) under McKinlay, detailed the very high incidence of erectile dysfunction in older men (5,6,27–33). Some degree of dysfunction was found in 52% of the Boston cohort of 1,290 men age 40 to 70 (17). The prevalence of complete impotence tripled from ages 40 to 70. McKinlay and Feldman had no subjects over 70, however. The 1992 National Institutes of Health consensus conference on impotency noted the paucity of normative data on erectile dysfunction (34). The participation of illness and drugs in our sample and all others is clear, but the issue remains as to whether erectile problems are also integral to the aging process. Is impotency a "para-aging" phenomenon (6)? The knowledge concerning the role of transmitters and hormonal controls is already improving conceptual insight to this area, which until now has been dominated by vast ignorance and circumspection. Our survey indicates that if sexuality is to be maintained in robust form until the last stages of life, an increased attention to the potency issue will be required.

The changes in potency potential undoubtedly contributed to the change in sexual repertoire reported by our male participants. Whereas intercourse and orgasm were rated as the favored form of sexual activity 10 years previously, their ranking became admixed with other expressions of intimacy at the time of the current sampling (35). LoPiccolo notes that as a result of erectile dysfunction, couples turn to other sexual activities (36). Men have compensated for a lack of erection by pursuing other sexual behaviors.

For women, relationship issues predominate, as has been frequently noted before (37,38). In the first questionnaire we attempted to assess the relationship through various questions having to do with commitment, tension, sexual communications, enjoyment of sexual activity, and frequency of sexual thoughts. There is sufficient evidence to demonstrate that problematic relationships benefit from sex therapy, the provision of information, and the polishing of good communication skills (39,40). LoPiccolo (36) writes, "Sexual education about the aging process and about the normality of more expressive genital foreplay can greatly aid these couples" (p. 162). Studies have shown that couples who have frequent sex have fewer arguments, experience increased self-esteem, and are less anxious (41–42).

Male erectile dysfunction initiates a cascade which inevitably enmeshes the sexual partner. The couple is often trapped in a pattern of negative anticipation, adversive experience, avoidance, and withdrawal. Sex therapists see patterns of blaming, insecurities, helplessness, resentment, and anger. Using a team therapeutic approach, the couple can learn to see the erection problem as not just a male issue, but as a couple's problem (43).

Our protocol, which consisted of three 2-hour educational sessions with ourselves and a urologist and gynecologist as teachers, represented our intervention. Knowledge and education about sexual matters have been cited as major determinants of sexual gratification (13). It was therefore our hope that our informational sessions would generate a positive response. It is important to note that the age cohort of this study group was raised in a time of relative sexual ignorance. In their youth there was little if any formal acknowledgment of sex education. The adventurousness of the group, even those over 70 years of age, both male and female, is notable.

Whereas our follow-up questionnaire showed no real change in sexual behaviors, there was a substantial expression of increased knowledge, confidence, and sensitivity. Desire for intercourse and masturbation were also said to be increased at the follow-up interval. It is tempting to speculate that these positive behavioral changes were the result of this instructional effort, and that a more intensive and extended intervention may provide not only a greater attitudinal shift but sex-positive practice-effects as well.

The heterogeneity of our sample reflects a similar spread pattern noted on other biologic functions. The fact that a substantial number of our sample continues to maintain good sexual functioning until late in life indicates that improvement in this area is not merely theoretical but possible.

As other biologic functions prove susceptible to an interventionist approach with aging, it is reasonable to propose that decrements in sexual activity may yield to an enlarged knowledge base, from which a sound counsel may proceed.

Acknowledgments

The study was supported by a grant from the Active Living Institute, Palo Alto, California.

We acknowledge the assistance of Dr. Susan Ballagh and Dr. Henry Ritter for their participation in the program, and Dr. Douglas Wallace and Dr. Ping-Shen Wen for their assistance in the statistical methodology.

Address correspondence to Diana Wiley, Active Living Institute, 299 California Avenue, Suite 307, Palo Alto, CA 94306.

References

1. Rowe WJ, Kahn R. Human aging: usual and successful. Science 1987;237:143–9.
2. Bortz W. Redefining human aging. J Am Geriatr Soc 1987;37:1092–6.
3. Butler R, Lewis M. Sex after 60. New York: Ballantine Books, 1993.
4. Masters W, Johnson V: Human sexual response. Boston: Little, Brown, 1970.
5. Kinsey AC, Pomeroy W, Martin C. Age and sexual outlet. In: Kinsey AC, Pomeroy W, Martin C, eds. Sexual behavior in the human male. Philadelphia: W.B. Saunders, 1948:218–62.
6. McKinlay JB, Brambille D. Where do we go from here? Disentangling aging processes from the processes of aging. In: Schroots J, ed. Aging, health and competence. New York: Elsevier, 1993; chapter 12.
7. Pfeiffer E, Verwoerdt A, Davis G. Sexual behavior in aged men and women. Arch Gen Psychol 1968;19:735–58.
8. Bretschneider J, McCoy N. Sexual interest and behavior in healthy 80–102 year olds. Ann Sex Behav 1988;17:109–29.
9. Starr B, Weiner M. The Starr Weiner report on sex and sexuality. New York: Stein & Day, 1981.
10. Kinsey A, Pomeroy W, Martin E. Sexual behavior in the human female. Philadelphia: W.B. Saunders, 1953.
11. Brecher E. Love, sex and aging. Boston: Little, Brown, 1984.
12. Persson G. Sexuality in a 70-year-old urban population. J Psychosom Res 1980;24:335–42.

13. Masters W. Sex and aging — expectations and reality. Hosp Prac 1986;15:175–98.
14. Zeiss A. Expectations of the effect of aging on sexuality in parents and average married couples. J Sex Res 1982;18:47–57.
15. Adam C, Turner G. Reported change in sexuality from young adulthood to old age. J Sex Res 1985;21:126–41.
16. Barbach L. Love, lust and longevity. Longevity 1991;July:44–50.
17. McKinlay JB, Feldman H. Changes in sexual activity and interest in the normally aging male: results from the Massachusetts Male Aging Study. Paper presented at MacArthur Foundation Research Network in Successful Mid-Life Development, New York City, May 1–2, 1992.
18. Tavris C, Sadd S. The Redbook report on female sexuality. New York: Delacorte Press, 1975.
19. Zilbergeld B, Ellison CR. Desire discrepancies and arousal problems in sex therapy. In: Leiblum SR, Pervin LA, eds. Principles and practice of sex therapy. New York: Guilford Press, 1980.
20. Lief H. What's new in sex research? Inhibited desire. Med Aspects Hum Sex 1977;2:944–94.
21. LoPiccolo J, Friedman J. Broad spectrum treatment of low sexual desire. In: Leiblum S, Rosen R, eds. Sexual desire disorders. New York: Guilford Press, 1988:107–144.
22. Maslow A, Sakoda J: Volunteer errors in the Kinsey study. J Abnorm Soc Psychol 1952:47:259–67.
23. Fiatarone M, Marks E, Ryan N, Evans W. Strength training in nonagenarians. JAMA 1990;263:3029–34.
24. Haskell W, Sims C, Myll J, Bortz W, Alderman E. Coronary artery size and dilating capacity in ultradistance runners. Circulation 1993;87:1076–82.
25. Schaie KW. The course of adult intellectual development. Am Psychol 1993;49:304–10.
26. Hillman J, Stricker G. A linkage of knowledge and attitudes toward elderly sexuality: not necessarily a uniform relationship. Gerontologist 1994;34:256–60.
27. Morley J. Impotence. Am J Med 1986;80:897–905.
28. Slag M, Morley J, Elson M, et al. Impotence in medical clinic outpatients. JAMA 1983;249:1736–40.
29. Kligman E. Office evaluation of sexual function and complaints. Clin Geriatr Med 1991;7:15–39.
30. Applegate W. Sexuality in the elderly. In: Calkins E, Davis P, Ford A, eds. The practice of geriatrics. Philadelphia: W.B. Saunders, 1986:281–91.
31. Zilbergeld B. Male sexuality. New York: Bantam Books, 1988.
32. Krane R, Goldstein I, Saenz de Tejada I. Impotence. N. Engl J Med 1989;321:1648–59.
33. Schumacher S, Lloyd C: Physiologic and psychologic factors in impotence. J Sex Res 1981;17:40–57.
34. National Institutes of Health Consensus Conference on Erectile Impotence. Planning Committee Meeting. Bethesda, February 20–21, 1992.
35. Turner BF, Adams C. Reported change in preferred sexual activity over the adult years. J Sex Res 1988;25:289–303.
36. LoPiccolo J. Counseling and therapy for sexual problems in the elderly. Clin Geriatr Med, Geriatr Sex 1991;7:161–77.
37. Bell RB, Bell PL. Sexual satisfaction among married women. Med Aspects Hum Sex 1972;6:136–44.
38. Hite S: The Hite report. New York: MacMillan, 1976.
39. Derogatis P, Meyer I. A psychological profile of the sexual dysfunctions. Arch Sex Behav 1979;8:201–23.
40. Newman G, Nichols CR. Sexual activities and attitudes in older persons. JAMA 1960;173:33–5.
41. Maurice WL, Guze SB. Sexual dysfunction and associated psychiatric disorders. Compr Psychiatry 1970;11:539–43.
42. Shaver P, Freedman J. Your pursuit of happiness. Psychology Today 1976; August.
43. McCarthy BW. A cognitive behavioral approach to treatment of couples with erectile dysfunction. J Sex Educ Ther 1986;12:22–35.

Received August 31, 1994
Accepted July 21, 1995