

Responses of Male and Female Physicians to Medical Complaints in Male and Female Patients

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Workups by male and female physicians in response to five common complaints in a sample of 200 men and women—100 married couples—revealed no significant differences in the extent and content. This study contrasts with observations made in a previous study of male physicians who were found to perform more extensive workups for men than for women. The present study differs from the previous one in several respects, however: (1) the physicians are significantly younger, (2) the patients are significantly older, (3) the physicians practice in a prepaid health maintenance organization as opposed to a fee-for-service group, and (4) the practice consists of men and women partners. If the first and last factors are the most important in accounting for the present observations, it is possible that whatever sexist behavior exists will decline with the infusion of young physicians—both men and women—into the evolving medical practice setting.

A prominent allegation by feminists is that women's medical complaints are not taken seriously and are often passed off as being psychogenic and hysterical. There has been little empirical research investigating the question of sexism in medical practice, however, and the few studies that have been reported are not strictly comparable and show little agreement.¹⁻⁹

The suspicion that women patients are not taken so seriously as male patients was given its first empirical support by the observation that a group of male family physicians did more extensive workups in response to common complaints for men than they did for women.³

In that study the extent and content of workups undertaken by a fee-for-service practice group of male family physicians were measured for a set of identical complaints in a sample of husbands and wives. In the study reported here the same analysis was carried out

for a prepaid practice group of male and female family physicians. The undesired variable of practice reimbursement was necessitated by an insufficient number of women family physicians in a similar fee-for-service group practice setting to provide meaningful comparisons with the previous study. To control for this variable, therefore, this follow-up study was carried out simultaneously on both male and female physicians who are part of a prepaid health maintenance organization (HMO).

METHODS

THE PHYSICIANS

The physicians comprise 10 male and 10 female board-certified family physicians belonging to a large health maintenance organization serving predominantly white, middle-class communities in southern California. This HMO includes physicians from all specialties and serves as a community-based training program for medical students and residents. Of the male physicians, nine are white and one Asian, ranging in age from 34 to 59 years. Of the female physicians,

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TABLE 1. SEX AND AGE DIFFERENCES OF SAMPLE MEMBERS BY PRESENTING COMPLAINT

Complaints	Number of Cases		Mean Age (years)	
	Male	Female	Male	Female
Chest pain	35	39	57	55
Headache	22	20	51	50
Dizziness	21	18	61	59
Fatigue	10	19	62	50*
Back pain	54	69	56	58
Total visits	142	165	Overall	57 55

*Difference in mean patient ages for fatigue is significant at $P < .05$

nine are white and one Asian, ranging in age from 31 to 46 years. Four women physicians (aged 30 to 60 years, with a mean age of 41 years) refused to participate—in contrast with their male counterparts, all of whom, both in this study and the previous one, agreed on request.

THE PATIENTS

The physicians and their nurses provided the names of married couples who had been under their care and living together a minimum of two years or provided access to their charts, in which case subjects were obtained by means of random number search. The rationale for choosing patient subjects from a sample of husbands and wives was to reduce confounding variables associated with age, socioeconomic level, education, distance from the health care facility, and type of insurance. Originally it was intended to confine the study to the period prior to May 1979, the publication date of the previous study.³ However, because sufficient numbers were not available within this limited period of time, patients seen after May 1979 were included.

Comparisons of these two time periods were performed for mean content scores and mean extent of workup scores for each patient; t tests revealed that there were no significant differences between data collected prior to 1979 and data collected after 1979 for either content scores ($t = 1.13$, $df = 303$, $P = .259$). No records were included that represented workups carried out by physicians after this second study began.

The sample of patients consisted of 100 married

couples, five couples from each of the 20 physicians in the study. The patients were selected on the basis that each member of the couple had a recorded visit for one of the following complaints: back pain, dizziness, chest pain, fatigue, or headache.

ANALYSIS OF PHYSICIAN RESPONSE

The analysis of physician response was identical to that carried out in the previous study.³ The criteria for selecting the complaints listed above were that they occurred commonly in the sample population, were not directly related to sexual organs or functions, and had a potentially serious etiology necessitating a medical workup on initial presentation. All the charts of the study's sample were reviewed and, as in the previous study, only first visits for each complaint were analyzed. If a complaint was repeated after an interval of greater than six months, it was analyzed as an initial complaint.

In recording data, the components of the workup were divided into history, physical examination, and laboratory procedures ordered or performed. Two indices of physician workup were constructed, one designed to measure the extent of the physician's workup in response to the patient's complaint, the other to assess the content of the workup. The extent of the history and physical examination were each rated on a four-point scale. The number of tests, eg, blood tests, were also tallied and added to this rate to provide an overall numerical score denoting the extent of the physician's workup.

In contrast to the extent of measurement, the content of the workup was assessed by comparing the

TABLE 2. SUMMARY OF CONTENT AND WORKUP SCORES FOR EACH COMPLAINT BY SEX OF PATIENT AND PHYSICIAN

Complaint	Number of Cases	Extent of Workup Scores				Summary of 2 x 2 Analysis of Variance (F Values)		
		Means				Patient Sex (A)	Physician Sex (B)	A x B
		Female Physicians		Male Physicians				
		Female Patients	Male Patients	Female Patients	Male Patients			
Chest pain	65	6.08	5.44	5.59	5.63	.31	.06	.52
Headache	51	4.94	4.56	5.33	5.85	.02	2.18	.71
Dizziness	39	6.20	5.50	5.38	4.36	2.94	3.44	.08
Fatigue	29	5.25	8.00	6.09	6.75	1.73	.01	.59
Back pain	123	4.98	4.65	4.79	4.35	.95	.36	.02
Content of Workup Scores								
Chest pain	65	4.54	4.69	5.00	4.74	.04	.32	.23
Headache	51	4.29	4.11	4.08	4.80	.33	.13	2.29
Dizziness	39	2.60	2.90	2.54	2.36	.00	.79	.37
Fatigue	29	2.13	2.83	2.00	2.25	.59	.21	.12
Back pain	123	4.73	4.90	5.83	4.39	.49	.29	1.22

Note: All P values were nonsignificant

recorded history and physical examination with a criteria list generated for each of the presenting complaints, as described in the previous study.* A standardized workup index was achieved by computing the ratio of procedures undertaken to those stipulated in the criteria list. Thus, the workup index for content represents the standardized proportion of process criteria met for each of the five complaints in each visit. To test interobserver correlation of extent and content scores, a second observer analyzed a random 6 percent of medical records. The correlation coefficients were 0.94 for extent and 0.97 for content.

OTHER DATA

Also collected were other identifying data such as age and sex of the physician and patient and the date of the visit.

*Content and extent criteria for history and physical examination are available on request from the authors.

RESULTS

A total of 307 patient visits were analyzed for the 200 patients; 165 visits by female patients and 142 visits by male patients. Table 1 presents the number of visits by complaint and patient sex and age. There were no significant differences between male and female patients with respect to visits for any complaints. The only difference with respect to mean age occurred with fatigue ($P < .05$).

The mean ages of this patient sample are 56.76 years for male and 55.35 years for female patients; the mean ages of patients in the previous study were 47.91 years for male and 42.49 years for female patients. Student's *t* test reveals statistically significant differences for men ($t = 5.06$; $P < .001$) and for women ($t = 3.91$; $P < .01$) between both studies.

In this study the mean age of the physicians was 41.2 years, with female physicians averaging 38.7 years and male physicians 43.6 years. The difference in age between male and female physicians was not significant ($P > .20$). However, *t* tests between groups revealed that this group of physicians was significantly younger than the physicians participating in the previous study, whose average age was 51.2 years ($P < .01$).

Table 2 is a summary of the mean extent of workup

and mean content of workup scores for each complaint by physician and patient sex. A 2×2 (physician sex by patient sex) analysis of variance revealed that there were no significant differences between male and female patients for either content or extent of care provided for any of the five complaints. These data suggest that physicians treated their male and female patients equally with respect to the amount and appropriateness of care provided. The analysis of variance also revealed that male and female physicians' workup scores were not significantly different from one another for any of the five complaints, indicating that male and female physicians undertook similar workups in terms of amount and appropriateness. In addition, there were no significant interactions, suggesting that male and female physicians worked up male and female patients in a similar manner.

Analysis of each of the 20 physicians' performance shows that all the physicians in the sample clustered and were within one standard deviation of the mean workup index for both content and extent.

DISCUSSION

In this sample of physicians there was no evidence of inequality in the response to medical complaints in male and female patients. Not only were there no statistically significant differences noted, but no trends were found in the data (such as all men receiving higher scores than women without significant differences individually). Women patients received higher content and extent scores as often as men.

In general, workup scores by this group of physicians were higher than the highest workup scores of the previous group of physicians reported on by Armitage et al³ in which significantly higher scores for men occurred in both content and extent of care.

It is possible that a self-selection factor might have influenced the women physicians' behavior or the observations made on women physicians in this study. Whereas all the men physicians in this and the previous study agreed to participate, four women physicians refused. Although the reasons given for refusal did not suggest a sexual bias, this possibility cannot be excluded; hence, it is not certain that these results would have been the same had their patients' charts been included in this study.

Several factors should be noted that might account for the differences observed: (1) this sample of physicians was significantly younger than the previous sample, (2) this sample of patients was significantly older, (3) the physicians in this study were part of a

prepaid health maintenance organization in contrast with the prior sample, who practiced in a fee-for-service group, and (4) both men and women practiced together in partnership.

In other important respects the two study samples of physicians were similar: the setting for both was a predominantly white, middle-class southern California suburb; both groups comprised board-certified family physicians who practiced in association with a broad range of subspecialty physicians; both groups are highly regarded in their communities and serve in a university family practice teaching program.

In trying to weigh which, if any, of the above-mentioned factors might account for the contrasting behavior of the physicians, it was considered whether the method of reimbursement might play an important influence. In the HMO setting, physician extenders are widely used for many routine visits by female patients, eg, gynecologic examinations and birth control counseling. It could be argued that such usage may prevent the HMO family physician from developing close relationships with female patients, thus increasing their uncertainty and therefore perceived necessity for more extensive workups of female patients when symptoms occur. However, content and extent scores were higher for both male and female patients in this study compared with the previous one—in contrast to the a priori expectation that prepayment reduces the number of health care services provided¹⁰; thus "differences in reimbursement" does not seem a likely explanation.

It is possible that the difference in patient ages between the two studies explains the observations. One would have to postulate a critical age at which the physicians become more concerned about the etiology of the complaints and enhance their workups accordingly. One would have to postulate further that the majority of female patients in this study had passed this threshold, whereas only the male patients in the previous study had done so. Further studies may clarify this point.

Another explanation for the observations noted in this study in contrast to the previous one lies in the physicians being significantly younger and both male and female physicians practicing in close professional association. If this explanation is true, several trends in medicine today offer the prospect that sexism, to the extent that it exists, will diminish in medical practice. Not only is it possible that attitudes will change among established physicians (mostly male), but also it is likely that practice patterns will change with the rising tide of women graduates from medical school, the increasing number of young medical graduates as a whole, and the increasing trend toward group practice (which will increase the likelihood of professional associations between male and female physicians).¹¹⁻¹³

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