Accuracy Of Patient Recall And Chart Documentation Of Falls

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Background: **This 1-year prospective study examined the accuracy of patient recall of falls and fall injuries and completeness of chart documentation of these events.**

Methods: **One hundred ambulatory geriatric family practice patients reported falls weekly by postcard with telephone call follow-up. On a final postcard they reported their recall of falls and fall injuries in the preceding 3-, 6-, and 12-month periods. Patient charts were reviewed for fall documentation.**

Results: **For the 3-, 6-, and 12-month periods, respectively, 31 percent, 44 percent, and 89 percent of participants who had reported a fall recalled at least one fall. Sixty-eight percent of participants who had reported an injury recalled one at the year's end. The positive predictive value of recalling a fall was 92 percent and of recalling a fall injury was 72 percent for the 1-year period. Only 10 of 56 (18 percent) reported falls were documented in the patient's chart.**

Conclusions: **Patients recalled falls and injuries in the previous 12 months well, but they were less accurate for recall periods of 3 and 6 months. Few reported falls were documented by the patient's physician. Awareness of falls can be increased by asking the patient about falls during the previous year and by documenting all reported and recalled falls. (J Am Board Fam Pract 1993; 6:239-242.)**

Hindmarsh and Estes[1] have recommended that elderly patients be questioned about recent falls to determine who should be examined further for mobility problems and risk of fall morbidity. Our own research has found a statistically significant association between a patient's report of a history of falls in the year before the study and the occurrence of falls during the succeeding year. Although this association was significant, the sensitivity of the question was low because fewer than one-half of those who fell during the study had recalled having fallen in the year before the study.[2] Published reports indicate that patients have difficulty recalling falls accurately. A recent study of community-dwelling elderly who made weekly reports of their falls for 1 year found that fall recall was more accurate for the entire 12-month period than for the last 6 or 3 months of the study. Eighty-seven percent of subjects who had reported a fall during the year recalled having had a fall when surveyed at year's end. Patient recall of falling was only 74 percent sensitive for positive fall status in the final 6 months and 68 percent sensitive for the last 3 months.[3] Suggested reasons for poor recall are memory deficits, lack of significant events to serve as time markers, and a conscious or unconscious reluctance of the elderly to admit to falls.[2,3]

Knowledge of falls and fall injuries suffered by patients can make primary care physicians aware of which patients are at greatest risk of future fall morbidity. For that reason a complete and accurate fall history is important. This report addresses the following questions regarding elderly patients seen in a family practice office: (1) how accurately do they recall falls during the preceding year, and (2) what percentage of their falls are documented in the office chart?

Methods

Our study took place in a 5-physician private family practice office in which geriatric patients (aged 65 years or older) comprise approximately 15 percent of the visits. Geriatric patients who were ambulatory, mentally competent, and not acutely ill were eligible to participate in the study.

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Details of subject enrollment have been published previously.[4]

On enrollment, patients were provided postcards to be returned weekly with a report of any falls. On each postcard they were asked to indicate whether they had fallen, what day they had fallen, and whether they were injured in the fall. A fall was defined as inadvertently coming to rest on the floor or another lower surface but was not due to syncope, seizure, stroke, or an overwhelming displacing force.

The research associate called patients who failed to return postcards or who reported a fall. Patients who reported falling were asked to describe the circumstances of the fall and whether they were injured. Data from these weekly postcards were labeled *reported* falls and injuries.

Subjects who completed the year of fall reports were sent a final postcard on which they would indicate the number of falls they could recall having sustained in the last 3-, 6-, and 12-month periods of the study. They were also to indicate whether they recalled any fall injuries. Data from this final postcard were labeled *recalled* falls and injuries. All subjects' office charts were reviewed when they completed the study and 1 year later to determine whether falls occurring during the study period were documented.

Comparisons were made between the subjects' recall status and their reported status as a faller or nonfaller for each of the study periods. Similar comparisons were made between recall and report of individual falls for the same time periods. Report and recall of fall-related injuries were compared only for the 12-month period. The comparison of reported falls with falls documented in the chart was also made during a 1-year period. Chi-square and Fisher exact analyses of statistical association were made where appropriate, using an alpha of 0.05.

Results

One hundred twenty of 133 eligible patients agreed to participate in the study. Ninety-six (80 percent) of the participants were women, 113 (94 percent) were white, and their mean age was 74.7 years. Most of the 120 participants lived in private residences with only 21 (17.5 percent) residing in retirement communities (none occupying skilled nursing beds). Of these, 102 participated for the entire year and regularly returned fall report postcards. Fifteen of the subjects dropped out because of noncompliance and 3 because of death. Two of the dropouts had fallen before they stopped returning postcards. There were no significant differences in age, sex, or mobility score between the subjects who completed the study and those who dropped out. The final fall and injury recall postcard data were available for 100 subjects.

Subjects' recall of any fall was first compared with their report of any fall for the three periods studied. The proportion of those reported fallers recalling falls increased from 31 percent for the last 3 months of the study to 44 percent for the last 6 months and to 89 percent for the total year. A comparison of subjects' recall of fall status for the 12-month period with their reported fall status is shown in Table 1. This association was significant for the 12-month period (Fisher exact test, $P < 0.001$), although not for the 6- and 3-month periods. Three subjects recalled falls who had reported none. The 1-year rate of reported falls was 37 percent.

Comparison of fall injuries recalled with those reported was examined for only the entire 12-month period. All 19 of the patients who had reported an injury during the year recalled having fallen in the course of that year, but only 13 of the 19 recalled having been injured in one of those falls. Table 2 shows the cross-tabulation of recall of any fall injury by report of any fall injury for the 12-month period ($\chi^2 = 35.29$, $P < 0.01$).

Recall of individual falls was then compared with each reported fall. For the 12-month period 48 of 56 (86 percent) reported falls were recalled and 3 unreported falls were recalled. For the 6-month period 14 of 32 (44 percent) reported falls were recalled and 3 unreported falls were recalled. For the 3-month period, 7 of 17

Table 1. Association of Recalled Falls with Reported Falls during a 1-Year Period.*

	Report of Falls		
Recall of Falls	Yes	No	Total
Yes	33	3	36
No	4	60	64
Total	37	63	100

*Sensitivity = 89%, specificity = 95%, positive predictive value = 92%, Fisher exact test $P < 0.001$.

Table 2. Association of Recalled Injuries with Reported Injuries during a 1-Year Period.*

	Report of Injury		
Recall of Injury	Yes	No	Total
Yes	13	5	18
No	6	76	82
Total	19	81	100

*Sensitivity = 68%, specificity = 94%, positive predictive value = 72%, $\chi^2 = 35.29$, $P < 0.001$.

(41 percent) reported falls were recalled and 2 unreported falls were recalled.

Only 10 of the 56 reported falls were documented in the chart, and 3 other falls were recorded in the chart that the subjects had not reported. The three most serious injuries (fractures of a rib, metatarsal, and scaphoid) were all noted in the chart.

Discussion

In this study of elderly patients visiting a private family practice office, 89 percent of subjects who had reported falling at least once during the year recalled having fallen at year's end. This proportion is very similar to the results of a previous prospective study of community-dwelling elderly.[2] We found even poorer sensitivity of recall for fall status during the final 3- and 6-month periods compared with that study's findings. In our study, individual falls were recalled with a sensitivity comparable with that for recall of fall status. That is, the sensitivity of subjects' recall of the number of falls sustained in a particular study interval was equivalent to that for their recall of whether they had fallen. Only two-thirds of the reported fall injuries were recalled at year's end, perhaps because most of these injuries were minor.

These findings are contrary to reasoning that suggests that more recent falls should be better recalled than those that happened remotely. As suggested by Cummings, et al.,[3] this apparent paradox could be because being enrolled in the study served as a marker for a period in which recalled falls could accurately be placed. Alternatively, the odds of placing a recalled fall within the correct period by chance must increase as the length of the period increases. Also, the tendency to forget falls, and thereby to conceal an indication of frailty, could be stronger when the fall is more recent.

Comparisons with the study by Cummings, et al.[3] are limited in that their sample was made up of subjects as young as 60 years old who reported falling in the previous year and who were recruited from community centers as well as from outpatient medical clinics. In their study falls were confirmed on home visits by nurse researchers, which may have reinforced recall of more recent falls.

That fewer than one-fifth of reported falls were noted in the patient's chart confirms that physicians either are not aware of most of their patients' falls or do not document them all. Possible explanations for this phenomenon include denial or the belief that the fall was insignificant by the patient or the physician. Also, charting of patient information outside regular office hours is frequently incomplete.

Application of these findings to office practice is limited by the possibility that a reply made by postcard is not equivalent to an oral response to a physician. Interpretation of body language or intonation cues from the patient or family member might lead to a more accurate assessment of fall status. Alternatively, social pressures could cause patients to underreport falls during direct interviews.

Conclusions

Falls in geriatric patients frequently have significant adverse consequences. Clinicians should be aware that patients recall falls within the last 6 months poorly, but are able to recall most of their falls and fall injuries during the preceding year. Only a small proportion of falls are documented by the physician. Physician awareness of falls should be improved by directly asking patients whether they have fallen in the last year and by carefully documenting all reported falls. Recognizing that a patient is susceptible to falls will enable the physician to pursue strategies to decrease future falls and injuries while preserving mobility.

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