

SATISFACTION WITH CARE AMONG PATIENTS
WITH OSTEOPOROSIS OR OSTEOPENIA

James E. Rohrer, Ph.D.
Professor and Chair
Department of Health Services
Research and Management
TTUHSC, School of Medicine
Lubbock, Texas

Marjorie R. Jenkins, M.D.
Assistant Professor
Department of Internal Medicine
TTUHSC, School of Medicine
Amarillo, Texas

Gina Kruse, M.S.
Research Aide
Department of Health Services
Research and Management
TTUHSC, School of Medicine
Lubbock, Texas

ABSTRACT

This study investigated the independent predictors of being diagnosed with osteoporosis or osteopenia and also satisfaction with medical care among a sample of women over age 65 in West Texas. Satisfaction with physician services was assessed to determine whether counseling for bone density disease was adequate. Data were obtained from 2004 women who resided in a 106-county area that ranged from the Panhandle of Texas to El Paso. Women who were in poor health in general were more likely to have been diagnosed with bone density disease. Women who had been diagnosed with bone density disease reported lower satisfaction scores than women with other chronic diseases. Communication with their physicians was the primary reason for dissatisfaction.

Key words: epidemiology, osteoporosis, satisfaction with services. (Texas Journal of Rural Health 2003; 21(2): 51-59)

INTRODUCTION

Osteoporosis is a common problem among the elderly, with serious implications for those who suffer from it. Fractures are common due to the weakened ability of the bone to withstand forces. Once fractures start to

occur, quality of life can be significantly reduced (Begerow, et al., 1999; Cook, et al., 1999). Therefore, early intervention to prevent the progression of osteoporosis is important. Because of increasing life expectancies and numbers of elderly people around the world, the number of hip fractures among persons aged 35 and over is expected to increase from 1.66 million in 1990 to 6.26 million in 2050 (Cooper, 1999). Osteoporosis is becoming a problem of global magnitude.

The rates of illness and death associated with osteoporosis could be significantly reduced by appropriate diagnosis and treatment (Hajcsar, Hawker, & Bogoch, 2000). At the same time, services received by persons who have osteoporosis are highly varied. The effectiveness of different patterns of care has not been fully investigated. The diagnosis of osteoporosis is based on bone mineral density testing; yet many women being treated for the disease have not received such testing. Furthermore, several devices for performing bone mineral testing are on the market, and their precision is variable. Portable machines are less expensive and improve access, but are mainly utilized for screening purposes. Although, Central Dexa scans provide accurate diagnosis, they are larger, more expensive, and are typically located in regional centers, which limits access.

Treatment patterns can vary among patients. Counseling and education are not offered to all patients diagnosed with the condition. Given the limitations of testing and medication therapy for this disease, health education and health promotion counseling become especially important. The purpose of this study was to identify women who might be at risk for bone density disease and to investigate the adequacy of counseling for osteoporosis. To achieve this purpose, a

population sample at risk for bone density disease was questioned about risk factors and satisfaction with medical care for osteoporosis or osteopenia.

METHODS

The Texas Tech 5000 is a longitudinal study on aging among older West Texans. Households were randomly sampled from residential telephone listings and screened for non-cognitively impaired residents over 65. The baseline study included 5,006 elderly and occurred in the fall of 2000. Two subsequent contacts have been completed to obtain additional and ongoing information from participants. This analysis focused on respondents who were still participating in the study in the spring of 2002. Data were obtained from 2004 women who resided in a 106-county area that ranged from the Panhandle of Texas to El Paso.

Consumer satisfaction is an important indicator of health system performance. Ratings of the accessibility and quality of care received by individuals reflect the ease with which consumers can obtain medical services and how well services are being delivered. The Consumer Assessment of Health Plans Survey (CAHPS) is a tool designed to measure satisfaction with accessibility and quality of health care. The instrument is frequently used to measure satisfaction within health plans or hospital systems. We utilized the CAHPS to assess satisfaction among the general population of older persons with the goal of evaluating the performance of the health care system in this region.

Health was measured using the Short Form-12 (SF-12) survey in addition to a series of questions about several conditions common among this age cohort. The SF-12

Table 1. Description of Women with Bone Density Disease (Osteoporosis or Osteopenia)

	Women with BDD (Pct)	Without BDD (Pct)	p
Age (Mean (SD))	76.4 (6.2)	75.9 (6.6)	0.099
White	606 (88.3)	1553 (83.8)	0.016
Hispanic	55 (8.0)	215 (11.6)	
Other Ethnicities	25 (3.6)	85 (4.6)	
Education			0.06
Less than high school	152 (22.2)	501 (27.1)	
High school graduate	251 (36.7)	654 (35.4)	
Some college	165 (24.1)	427 (23.1)	
College graduate	116 (17.0)	264 (14.3)	
Insurance			0.017
Medicaid	57 (8.3)	203 (11.0)	
Medicare only	89 (13.0)	287 (15.5)	
Medicare plus other coverage (not Medicaid)	459 (66.9)	1104 (59.6)	
Other government or private insurance only	63 (9.2)	193 (10.4)	
No insurance	18 (2.6)	66 (3.6)	
Number of Doctor Visits			<0.0001
0	80 (11.8)	372 (20.3)	
1	129 (18.9)	398 (21.7)	
2-4	300 (44.1)	720 (39.3)	
>5	171 (25.2)	340 (18.6)	
Have a Usual Place for Preventive Care	654 (95.6)	1728 (93.7)	0.05
Rural (non-MSA)	271 (39.5)	862 (46.5)	0.002
Require Help with Daily Activities, IADLs	235 (34.3)	457 (24.7)	0.005
Diagnoses			
Arthritis	525 (76.5)	1162 (62.7)	<0.0001
Asthma	90 (15.2)	150 (9.6)	0.0002
Emphysema	49 (8.3)	71 (4.6)	0.0007
Chronic bronchitis	85 (14.4)	181 (11.6)	0.08
Diabetes	80 (11.7)	308 (16.6)	0.002
Heart attack	83 (12.1)	163 (8.8)	0.013
Stroke	72 (10.5)	120 (6.5)	0.0007
Hormone Replacement Therapy	285 (41.6)	621 (33.5)	0.0002
SF-12 Physical Component (Mean(SD))	37.00 (11.9)	41.58 (11.2)	<0.0001

was included in the baseline interview and the third contact. The change in health status between these interviews was calculated. To obtain lifetime prevalence rates, women were asked if they had ever been diagnosed with the following conditions: arthritis, diabetes, hypertension, heart attack, stroke, coronary heart disease, osteoporosis, asthma, emphysema, or chronic bronchitis.

Satisfaction measures from the CAHPS were included to obtain information about the ability to get appointments with a primary care provider, the ability to get appointments with specialists, the ability to obtain help on the phone, waiting times before appointments, courteousness of the office staff, knowledge and courteousness of the health provider, provider communication, and consumer involvement in health care decisions. Satisfaction with these events was measured by asking respondents to report the frequency of the experience using a four-item “Never” to “Always” scale. In addition to these specific health care experiences, there were two global measures of satisfaction: quality of all health care received in the preceding six months, and quality of personal provider. For these items, elders were asked to rate the quality of care on a scale of 0 (worst possible) to 10 (best possible).

The percentage of female respondents reporting the most positive response to the CAHPS items is displayed in Table 1 by diagnosis. The diagnoses are not exclusive and represent women who report being diagnosed with the condition alone or in addition to co-morbid conditions. The first two items are the global ratings of all health care received and personal providers. The percentages are the proportion of women who ranked their overall quality of care or their personal provider as a 10. The next items refer to specific health care experiences. The

percentages are the proportion of women who reported the event to “Always” occur or “Never” occur if the event referred to was negative (e.g., had to see someone other than your personal provider, had a long wait when calling for help, and had to wait over 30 minutes past the appointment time).

Women diagnosed with emphysema were the most satisfied with all the care they have received, followed by those diagnosed with heart attack, diabetes, and hypertension. The least satisfied groups were stroke and asthma sufferers. The women most satisfied with their personal provider were those diagnosed with heart attack, diabetes, and stroke. *The women least satisfied with their personal providers were those with osteoporosis or osteopenia and chronic bronchitis.*

The first eight specific health care events listed refer to accessibility and timeliness of care. Groups that appear to be the most satisfied with this component of medical care quality are those who suffer from emphysema and heart attack. Women with stroke, chronic bronchitis, asthma, and/or diabetes are usually the least satisfied with this area. Women with osteoporosis or osteopenia do not differ from the average.

Communication with providers encompasses the next five specific medical care experiences described. The groups that appear most satisfied with issues related to provider communication are those who have had a heart attack or diabetes. *Women diagnosed with osteoporosis/osteopenia are the least satisfied with communication and least frequently report the doctor or other health professional always explains things in a way they can understand and always treats them with respect.*

DISCUSSION

The foregoing analysis provides useful information, from a population perspective. It is limited in that clinical detail regarding testing, such as bone mineral density testing, is missing. The relationships found in the population studied may not be typical of findings from other populations. Future work should collect data prospectively from patients in treatment and use an osteoporosis quality of life scale as an outcome measure.

Despite the limitations of the data, this study provides useful information. We can safely conclude that the satisfaction of our respondents with their medical care was not as great if they had bone density disease, in comparison with women who had other chronic diseases. Communication with physicians was a particular source of dissatisfaction. Given the importance of counseling to the prevention of disease progression, the dissatisfaction with their doctor's explanations is especially concerning.

Many women with osteoporosis or osteopenia may have comorbidities such as asthma, emphysema, or arthritis. Their physical health scores are below average and they are likely to be high users of medical care. In short, this is a relatively complex group of patients requiring careful diagnosis and treatment.

Diagnosis and treatment of osteoporosis and osteopenia are important. However, simple explanations of prevention, diagnosis and treatment are not available for women who suffer from bone density disease. A recent study indicated that Calcaneal broadband ultrasound attenuation is not a significant predictor of hip fractures among women over 70, casting doubt on whether it is an adequate tool for women suspected of suffering from this disease (McGrother,

Donaldson, Clayton, Abrams, & Clarke, 2002).

Treatment for osteoporosis is fraught with controversy, strict dosing regimens, side effects, expense, or a combination of the above. Benefits of hormone replacement therapy (HRT) remain a controversy. Hormone replacement therapy (HRT) has been implicated in breast cancer, heart attacks, declining physical function, and loss of energy (Chen, Weiss, Newcomb, Barlow, & White, 2002; Hlatky, Boothroyd, Vittinghoff, Sharp, & Whooley, 2002). Hlatky and colleagues (2002) also found that most of the change in quality of life over three years was explained by baseline physical symptoms rather than HRT among women with heart disease, thus casting doubt upon HRT as a means of secondary prevention. Patients may want to know if the benefit of HRT in osteoporosis treatment outweighs the perceived increased risk of coronary events and increased risk of breast cancer (Hulley et al., 1998; Chen et al., 2002). Others may fear thromboembolic events, a risk with both hormone replacement, or a selective estrogen receptor modulator (SERM). Patients may opt against the use or will be non-compliant with the bisphosphonates due to the strict guidelines of administration or perceived upper gastrointestinal side effects (Miller, Bonnick, & Rosen, 1996).

The cost of these medications can range from approximately \$0.50/day for generic HRT to \$2.00/day for a bisphosphonate, SERM therapy, or calcitonin nasal spray. Other chronic diseases requiring treatment and expense also affect the population diagnosed with osteoporosis, compounding their medical expenditures. Clinical experience indicates lack of funding may be a contributor to patient compliance.

Many women may be resistant to taking hormone replacements. However, a recent

fracture when combined with education, screening and treatment can change these attitudes (Brennan & Caplan, 1999). Additionally, elderly patient non-compliance is associated with satisfaction with provider interactions implying that low satisfaction among osteoporotic women could compromise their adherence to recommended treatments (Winefield, Murrell & Clifford, 1995; Safran et al., 1998). This is important, because avoidance of treatment on the part of the person who has osteoporosis can have serious consequences. The likelihood that a physician will appropriately investigate and counsel patients about HRT may be related to specialty (Gallagher, Geling, & Comite, 2001).

Quantitative ultrasound measurements are known to be predictive of osteoporotic fractures in elderly people (Pluijm, Graafmans, Bouter, & Lips, 1999). However, bone density ultrasound testing is not indicated in every person over 65. Instead, the risk of osteoporosis can be calculated using questionnaires such as the SCORE. The Simple Calculated Osteoporosis Risk Estimation (SCORE) questionnaire is designed to classify women into one of two groups: likely or unlikely to have low bone mass. Its validity has been tested and it misclassifies 13% of the women who are rated as not requiring bone mineral density (BMD) testing (Von Muhlen, Visby Lunde, Barret-Connor, & Bettencort, 1999). Another validation study also concluded that the SCORE was not sufficiently accurate for clinical use (Cadarette, Jaglal, & Murray, 1999). However, no other instrument is available. Liberal use of bone mass measurements is becoming standard (Miller et al., 1996). At present, the most reasonable interpretation of the data available is that the risk factors reflected in the SCORE can suggest that the subject be tested, but a low score does not preclude

BMD testing. BMD test results indicating osteoporosis are more strongly related to the initiation of drug therapy than any other patient or physician characteristic (Pressman, Forsyth, Ettinger, & Tosteson, 2001).

Given the importance of preventing fractures, early (and accurate) diagnosis and appropriate treatment including patient education and counseling should occur. However, this is often not the case. Juby and Davis (2001) studied a cohort of 145 seniors attending a senior's clinic and day program in Canada. A questionnaire was used to assess awareness, knowledge, risk factors, and current treatment of osteoporosis. Diet was a known risk factor to 84% of subjects. Most risk factors occurred in less than 20% of respondents but some were more frequent. Approximately 50% of the women were taking calcium supplements and multivitamins. Hormone replacements were taken by 29% and Vitamin D was taken by 23.6%. The authors concluded that specific therapy for prevention or treatment of osteoporosis was inappropriately low. They recommended encouragement of increased physician involvement in patient education and proactive treatment requests from patients.

Providers' recommendation of appropriate treatment for bone density disease is also a concern. Investigators found that less than 20% of persons presenting at an urban clinic with fragility-type fractures had undergone investigation and adequate treatment for osteoporosis at the one-year follow-up (Hajcsar et al., 2000). Yet, the risk of a new fracture in the year following a fracture is substantial (Lindsay et al., 2001).

A recent study indicated that a physician's perspective on cost and side effect profile might affect treatment offered to patients admitted after a low impact fracture (Simonelli, Killeen, Mehle, & Swanson, 2002).

These data were obtained from the medical records of patients who by definition are at an extremely high risk of repeat fracture. There is a need for better primary care physician education on diagnosis, management, and treatment options for osteoporosis. Better educated physicians could impact osteoporosis patient outcomes.

Future research should evaluate the impact of perceived side effects and medication cost with relation to compliance of osteoporosis treatment. Future research is needed on the impact of physician education on the outcome of osteoporosis treatments.

CONCLUSION

The absence of a cure for all patients who have osteoporosis underscores the importance of prevention and management using traditional public health approaches. Women should be educated about the importance of diet and exercise, particularly if they have risk factors. Counseling for those who are showing signs of the disease or who have already suffered from a fracture becomes particularly critical. This is why the level of dissatisfaction evinced by our subjects regarding communication with their physicians is particularly concerning.

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