

Introduction

According to the American Academy of Orthopaedic Surgeons, over a quarter of Americans currently have a musculoskeletal condition (1). These conditions are the second leading cause of primary care visits and cost the United States over \$850 billion a year. Some contributing factors to the rising cost are the increasing age and weight of the U.S. population (2,3). It is important that primary care physicians understand the common musculoskeletal conditions and how these factors contribute to them. Our research aims to determine which musculoskeletal problems are most prevalent in our patient population, and the influence of age and obesity on the musculoskeletal system.

Methods

Subjects: Medical students documented 726 outpatient visits from 9 family medicine residency programs across Texas. Eligible patients included all patient-visitors seeing a physician in the study clinics during the study period.

Measurement: A Visit Survey documented elements of each primary care visit, including patient demographics, vital signs, reasons for visit, diagnoses, health education, medications prescribed, diagnostic tests ordered, nonmedical treatments, referrals to specialists and admissions to hospitals.

Procedure: Over a one-month period, students identified half-days for data collection, then randomly selected a physician to shadow. During the physician's clinic session, the student invited all the physician's patients to participate in the study. After informed consent, the students observed the visit and completed the Visit Survey.

Results

Of the 726 outpatient visits recorded, 66.1% were female. The ethnicity of the patient population was 58.3% Hispanic, 25.1% Caucasian, 13% African American, and 3.7% Asian. The average age of the patients was 44.3 with 44.9% of the patients falling in the category of age 40-64. Exactly 1/3 of patients seen in the residency programs complained of a musculoskeletal condition. Figure 1 shows the percentage of patients within our patient population complaining of six different musculoskeletal problems.

Musculoskeletal Complaints within the Patient Sample

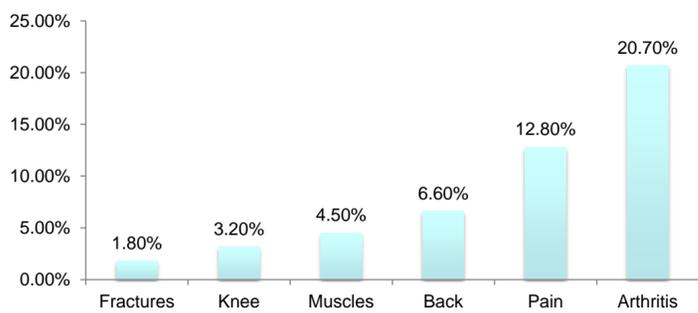


Figure 1 – Arthritis was the leading musculoskeletal complaint, followed by generalized, chronic pain

Figure 2 shows the percentage of each age group that complained of musculoskeletal problems.

Musculoskeletal Complaints by Age

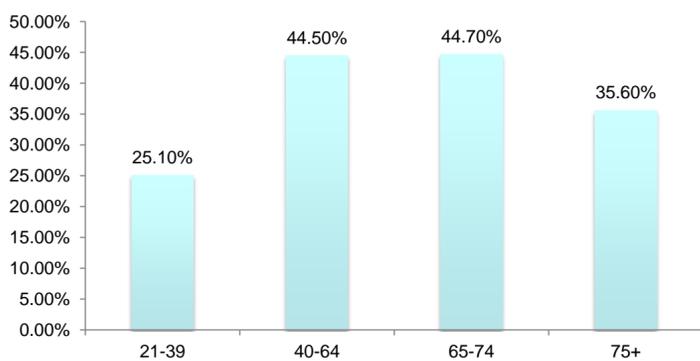


Figure 2 – The groups with the highest prevalence of musculoskeletal complaints were ages 40-74 (p=0.000).

Figure 3 shows the percentage of each age group that complained of pain

Pain Complaints by Age

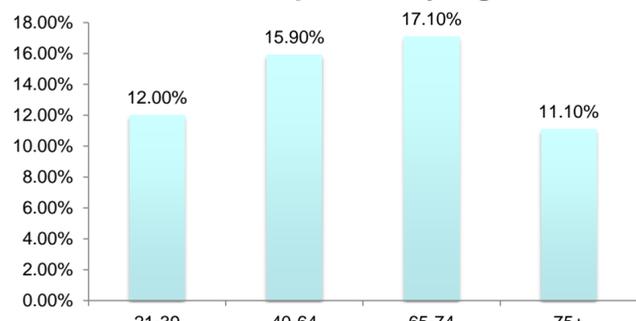


Figure 3 – The oldest and youngest categories were least likely to complain of pain (p=0.538).

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Results (continued)

Using a standardized body mass index (BMI), patients were divided into three categories: normal weight (18.5-25), overweight (25-30), and obese (30+). If a patient's BMI could not be calculated, they were not included in these categories. Pregnant women and children were also not included in these categories.

BMI was not correlated with increasing overall musculoskeletal complaints; however, BMI was correlated with increasing complaints of muscle aches (Figure 4), and increasing complaints of knee problems (Figure 5).

Muscle Ache Complaints by BMI

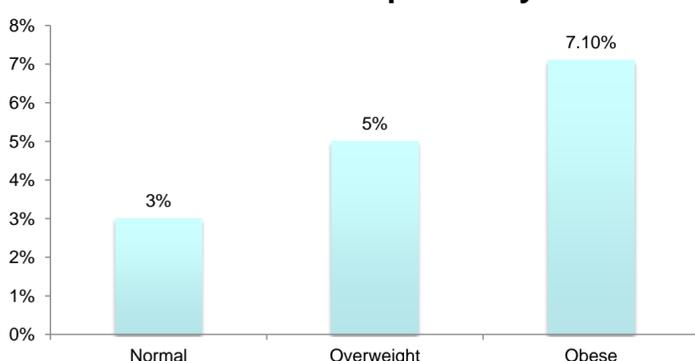


Figure 4 – As BMI increased, patients were more likely to report muscle aches as a complaint (p=0.328).

Knee Complaints by BMI

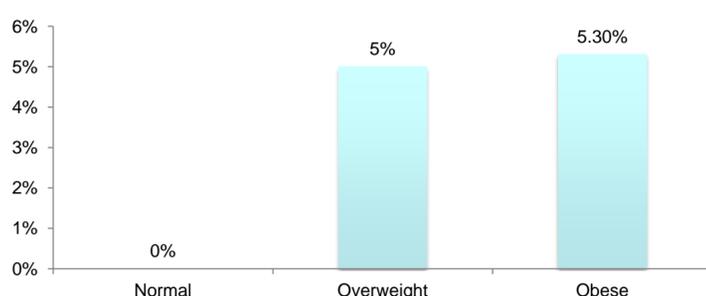


Figure 5 – As BMI increased, patients were more likely to report knee problems; in fact, no patients with normal weight complained of knee problems (p=0.067).

Conclusions

Arthritis and pain were the leading musculoskeletal complaints found in our patient sample. The prevalence of arthritis increased directly with age; interestingly, musculoskeletal complaints and complaints of general pain did not increase directly with age. Figure 3 shows that after age 75 there is a significant decrease in complaints of pain, which may account for the decrease of musculoskeletal complaints seen within the same age group. Some studies found that pain reports peak at age 65 because elderly adults have reduced sensitivity to painful stimuli. (4,5) This reduced sensitivity could explain why the oldest age group (75+) reports less musculoskeletal problems. Another possibility is that people who do not report pain are more likely to live past age 75.

Although BMI was not directly correlated with the number of overall musculoskeletal complaints, there were correlations with more specific problems, especially knee problems and muscle aches. As BMI increased knee complaints became more prevalent, which could be attributed to increasing pressure on the knee joints. One study suggests that obese women are 4 times more likely to have knee problems, while obese men are 5 times more likely to have knee problems (6). Increasing BMI was also correlated with increasing complaints of muscle aches. Unlike knees, however, muscle aches are not generally caused by increased pressure. These muscle aches could be due to overworking of muscles used to move increased weight or the higher chance of developing type 2 diabetes. Diabetes can lead to neuropathy and muscle pains, which could be the reason why increased BMI is correlated with increased chance of muscle aches.

Musculoskeletal problems have been correlated with increased age and increased weight, while costing the United States \$850 billion a year. The American population is becoming increasingly older and more obese, which will lead to an even greater amount of musculoskeletal problems. Because of these factors, it is important that primary care physicians understand the leading musculoskeletal problems and how to treat them effectively.

References

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