



Prevalence of Femoroacetabular Impingement among Chinese Living in Vancouver, Canada:

A Population-Based Study

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Background

- Femoroacetabular Impingement (FAI) is one source of hip pain in young adults and has been suggested as a major cause of hip osteoarthritis (OA).
- The prevalence of FAI was estimated to be over 50% in populations with established OA¹⁻³ and 45% in a primarily Caucasian population in Denmark⁴
- Radiographic hip OA is extremely rare in Chinese, but the prevalence of radiographic FAI in the Chinese population is unknown.

Purpose

- To estimate the prevalence of hip pain and FAI among Chinese living in Vancouver, Canada.

Methods

- This study was conducted within IMPAKT-HiP, a large multi-faceted study on the role of FAI and physical activity in cartilage damage and hip pain.
- Chinese participants were recruited in a cross-sectional telephone survey of a random sample of residents in Vancouver (population=2.3 million, 2011 Census. 19% of the population are ethnic Chinese. Over 25% of new immigrants to Vancouver in the past 5 years were from mainland China).
- Eligibility:** 1) age 20-49 years; 2) both parents were Chinese descent; 3) were available for an onsite assessment and x-ray session; 4) not have had joint replacement surgery in both hips; 5) not pregnant.
- All calls were initiated in English. Non-English-speaking Chinese respondents received a second call by an interviewer fluent in Mandarin and Cantonese to assess eligibility.
- They are asked the **hip pain question**: "At any time in the past 12 months, have you experienced any pain, stiffness or discomfort in your groin or the front of your upper thigh?"

Results

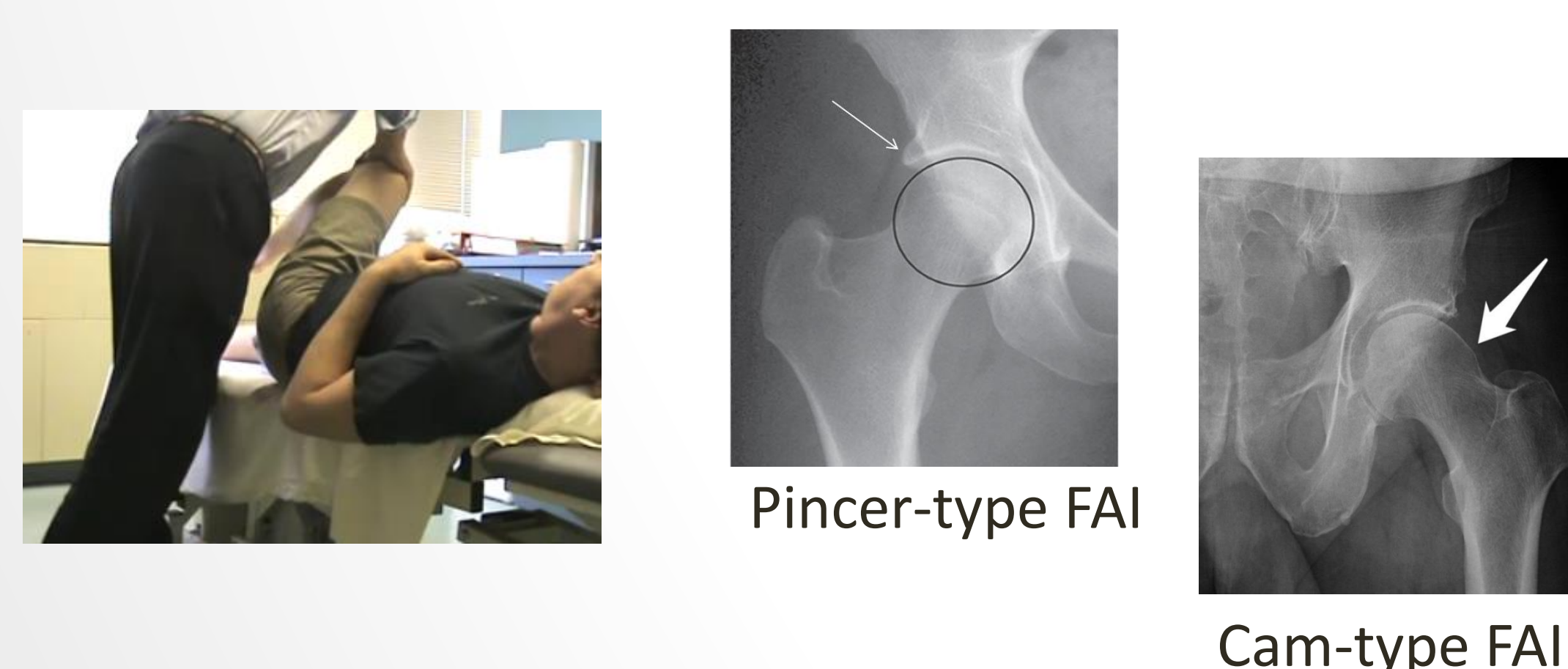
- 201 participants were recruited in April 2012-January 2013 (Figure 1, Table 1).
- 8 participants (4.0%) had been told they had hip OA by a health professional.
- Based on the hip pain question, 59 (29.4%; women=41, men=18) self-reported having hip pain (Figure 2).
- FAI was found in 76 individuals (37.8%; bilateral=55, 27.4%; unilateral=21, 10.4%).
- FAI was present in 44/134 women and 32/67 men.
- 58 participants (28.9%) had pincer FAI, 13 (6.5%) had cam FAI and 5 (2.5%) had mixed FAI. (Figure 3)

Table 1: Participant Characteristics	
	N = 201
Age	38.7 years (SD=9.0)
Women	134 (66.7%)
Post-secondary school (incl. trade school)	148 (73.6%)
Married/common-law	119 (59.2%)
Mandarin/Cantonese-speaking	112 (55.7%)
Annual family income ≥ CAN\$40,000	101 (50.2%)
HAGOS (0-100; higher=better)	
Symptom/stiffness	89.1 (SD=14.3)
Pain	93.3 (SD=13.1)
Physical function in daily living	93.3 (SD=15.5)
Sports and recreation	91.2 (SD=16.5)
Physical activity	73.0 (SD=24.1)
Quality of life	88.6 (SD=18.3)



Types of FAI

- Pincer-type FAI** was defined by: 1) presence of focal acetabular retroversion or 2) a lateral center edge angle >40°.
- Cam-type FAI** was defined by an alpha angle >55°.



Stafford & Witt. Br J Hosp Med 2009 Feb;70(2):72-73.

Figure 1: Participant recruitment

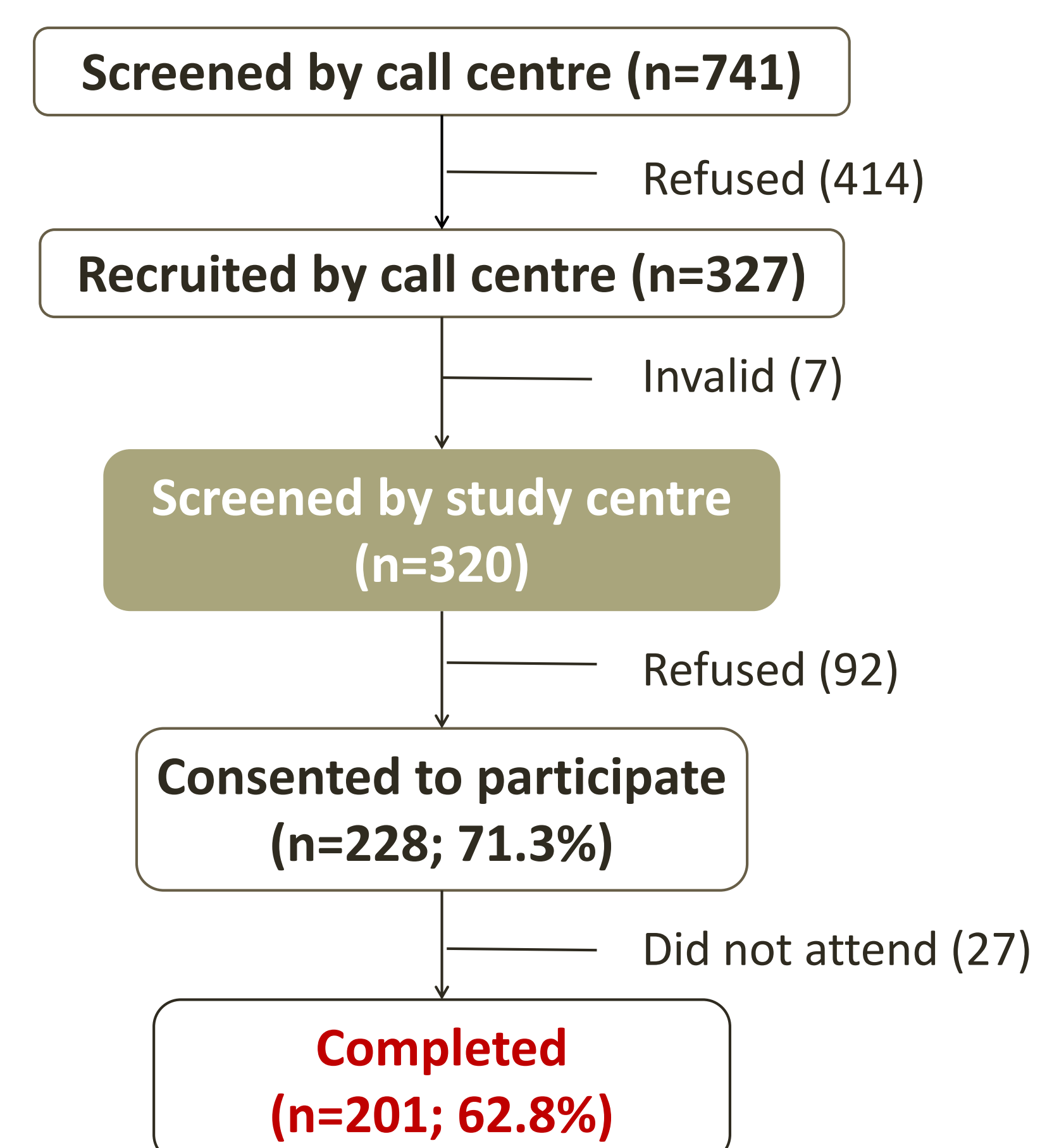


Figure 2: Presence of hip pain in 3 age groups

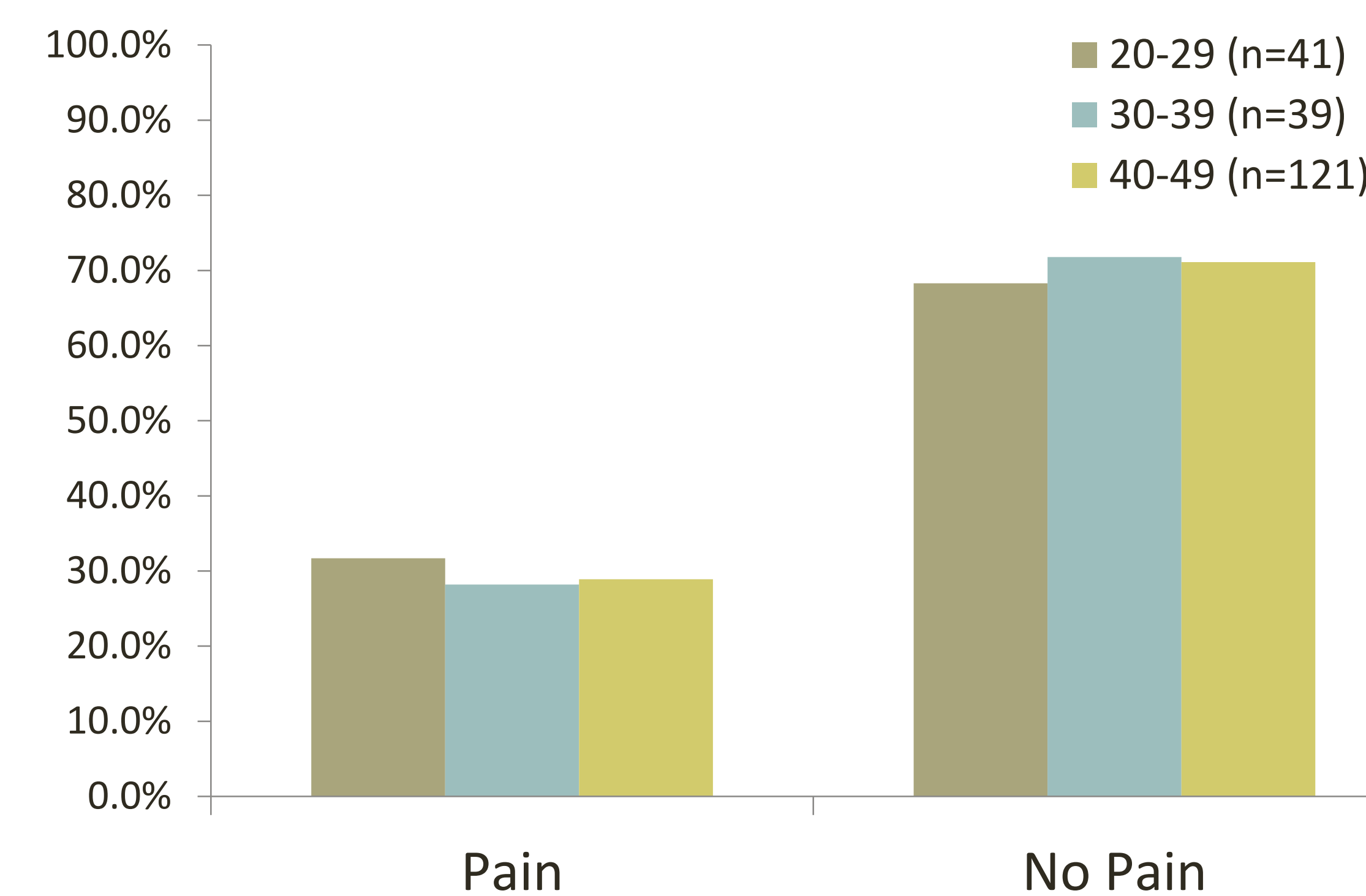
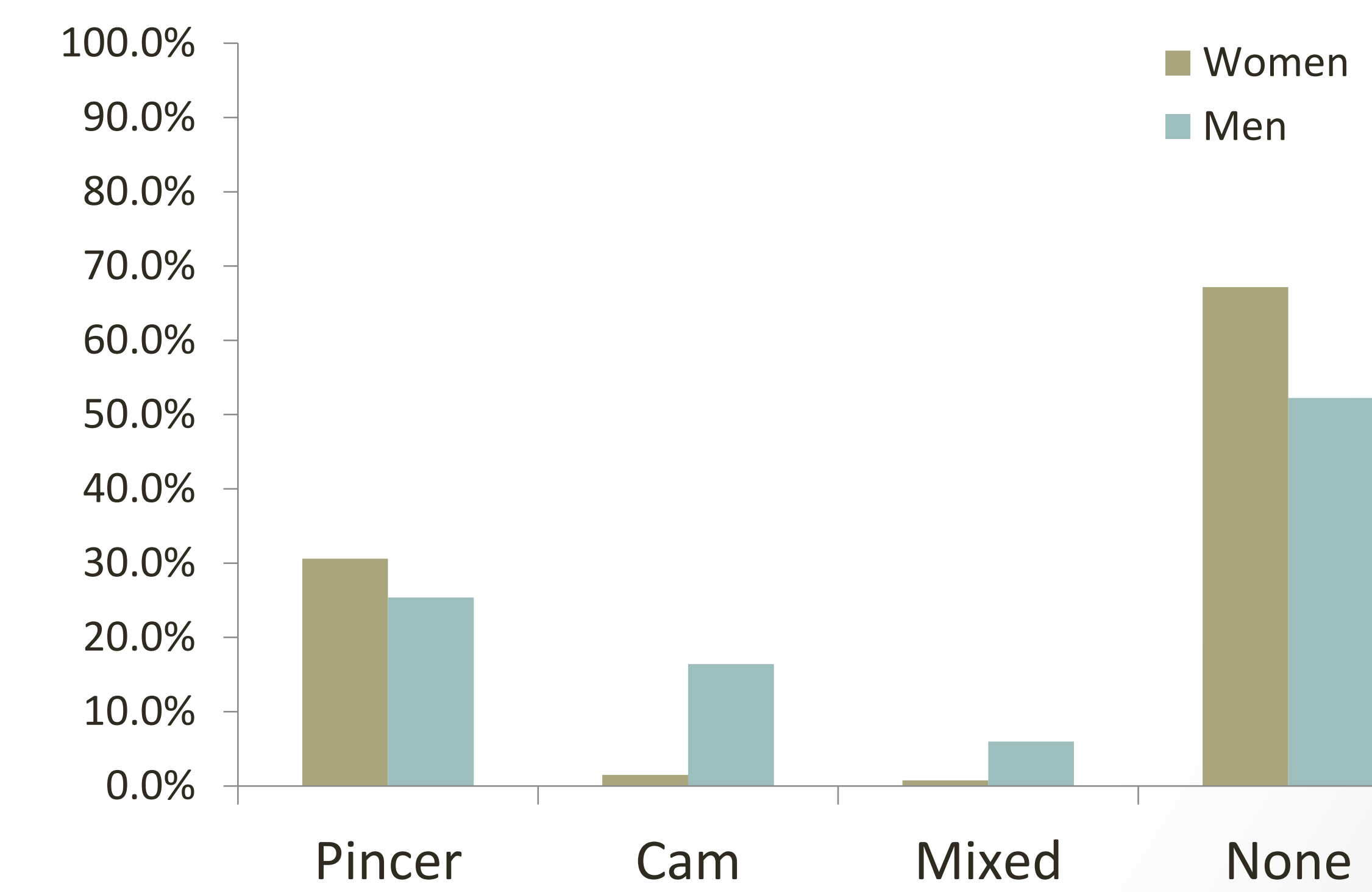


Figure 3: FAI types in men and women



Conclusion:

- Our findings contribute new information on the prevalence of FAI among Chinese living in North America.
- Further research to examine prevalence of FAI, using standardized methodologies, in populations with high (e.g., Aboriginal populations) vs. low hip OA prevalence may provide further insight into the cause of hip OA.

References:

- Lung et al., The prevalence of radiographic femoroacetabular impingement in younger individuals undergoing total hip replacement for OA. Clin Rheumatol, 31:1239-42;2012.
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