

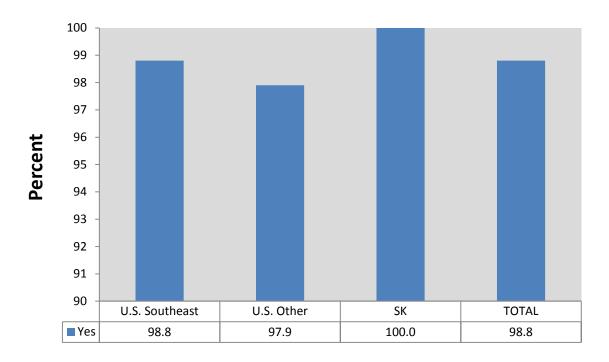
Dental Practice-Based Research Network www.DentalPBRN.org

#### DPBRN 19: CONDOR TMJD Study

**Results: Overall and by Region** 

Date Prepared: March 12, 2012

- 1. Do you believe that doing a study to determine the best initial treatment for your patients with TMJD (temporomandibular muscle and joint disorders) pain would be an important question to study in the PBRNs?
  - Yes No



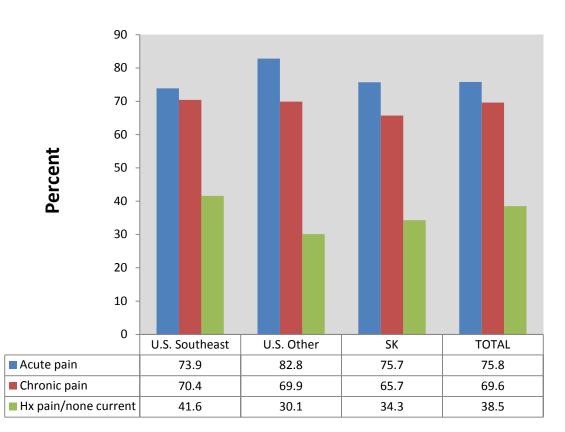
**Question 1: Initial treatment important to study** 

• Most everyone agreed (approximately 99%) that a study to determine the best initial treatment for TMJD patients is important.

2. Do you believe that this study to determine the best initial treatment for your patients with TMJD pain should be limited to patients with

	Yes	No
a) Acute pain (less than 6 months)		
b) Chronic pain (6 months or more)		
c) Currently no pain but history of pain		

Question 2: Study should be limited to specific pains



• More practitioners believed that a study should either be limited to patients with acute pain (76%) or chronic pain (70%). Fewer (38%) thought that a study should be limited to patents with no current pain, only history of pain.

3. What would motivate you to be in this study? (*check all that apply*)
Give back to the profession
Help to generate evidence
Receive monetary payment for your time
Other(s) (*please specify*)

#### 90 80 70 60 Percent 50 40 30 20 10 0 U.S. Southeast U.S. Other SK TOTAL Give back to profession 73.6 67.7 71.4 72.2 Generate evidence 86.5 88.2 87.1 86.9 Receive payment 39.3 38.7 28.6 37.7

# **Question 3: Motivations for participation**

• Helping to generate evidence (87%) and giving back to the profession (72%) were the factors most respondents said would motivate them to be in such a study.

- 4. From your day to day experience, what do you think is the most important thing you need to know about TMJD pain? (*Not included in this report*)
- 5. What frustrates you the most when you see a patient with TMJD pain? (Not included in this report.)

	Yes	No
Refer:		
Treat:		

If you selected **no to both**, then you are done: Thank you!

If you answered **yes** please **continue**.

a. If Refer is yes:

i. In the last month, estimate the number of TMJD pain patients you referred? \_\_\_\_

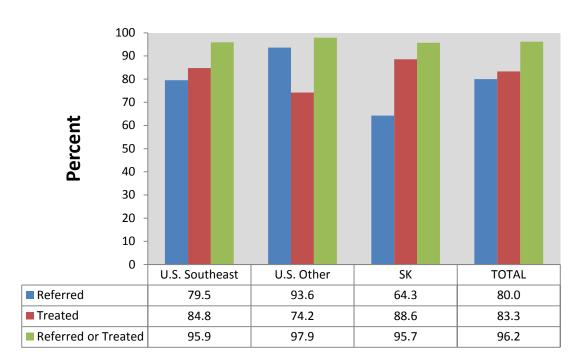
ii. In the last year, on average, estimate the number of TMJD pain patients you have referred per month? \_\_\_\_\_\_ If you only **refer** TMJD pain patients, then you are done: **Thank you**!

If you treat TMJD pain patients, please continue.

b. If Treat is yes:

i. In the last month, estimate the number of TMJD pain patients you treated? \_\_\_\_

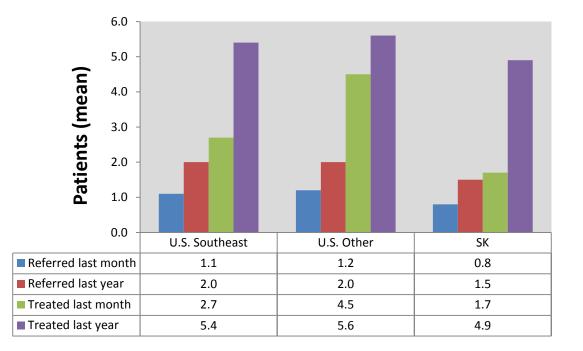
ii. In the last year, on average, estimate the number of TMJD pain patients you have treated per month? \_\_\_\_



#### **Question 6a: Refer or treat TMJD patients**

 Overall, 80% of participants referred TMJD patients, 83% treated TMJD patients; 96% referred or treated TMJD patients.

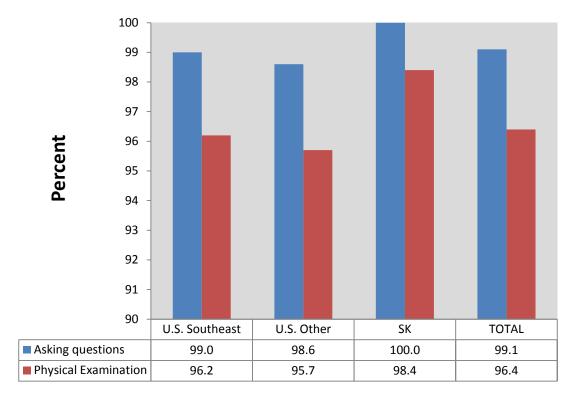
# **Question 6b: Patients referred or treated for TMJD**



- The average numbers of patients referred both last month and average per month for last year were consistent across the regions at about 1 and 2, respectively.
- The number of patients treated last month ranged from about 2 (SK) to 5 (U.S. Other), while the average number of patients treated per month last year was fairly consistent across regions at about 5.

7. How do you diagnose TMJD pain (check all that apply)?

	Yes	No
By asking specific questions		
By physical examination		



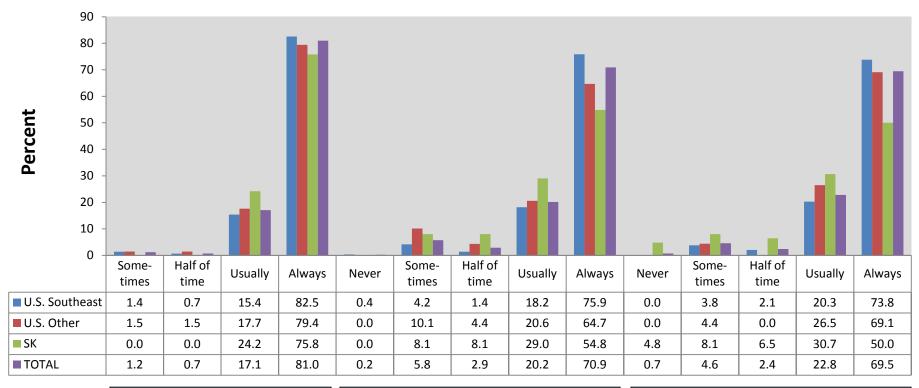
## **Question 7: Methods used to diagnose TMJD**

• To diagnose TMJD pain, 1% of participants used only physical examination (i.e., did not ask questions) and about 4% diagnose solely on responses to specific questions.

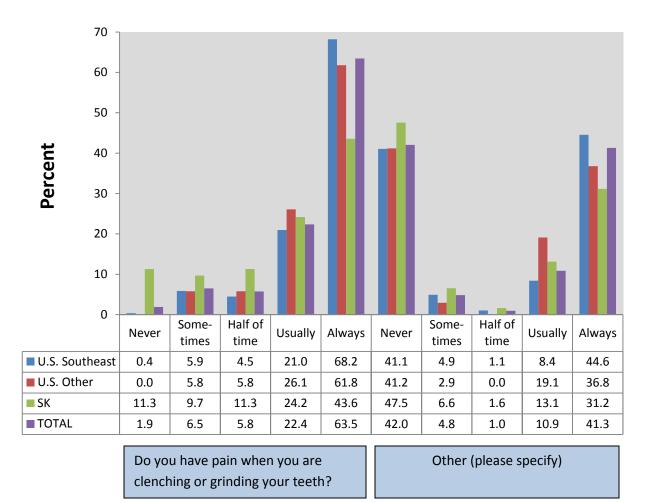
8. *If you diagnose TMJD pain with questions, please indicate* the frequency you use each of these questions:

Questions	Never	Sometimes	Half of time	Usually	Always
Do you have pain in your temples, face, jaw joint, or jaws?					
Do you have pain when you open your mouth wide?					
Do you have pain when you chew?					
Do you have pain when you clench or grind your teeth?					
Other (please specify):					

# **Question 8a: Frequency of specific questions**



Do you have pain in your	Do you have pain when you open your	Do you have pain when you chew?
temples, face, jaw joint, or jaws?	mouth wide?	

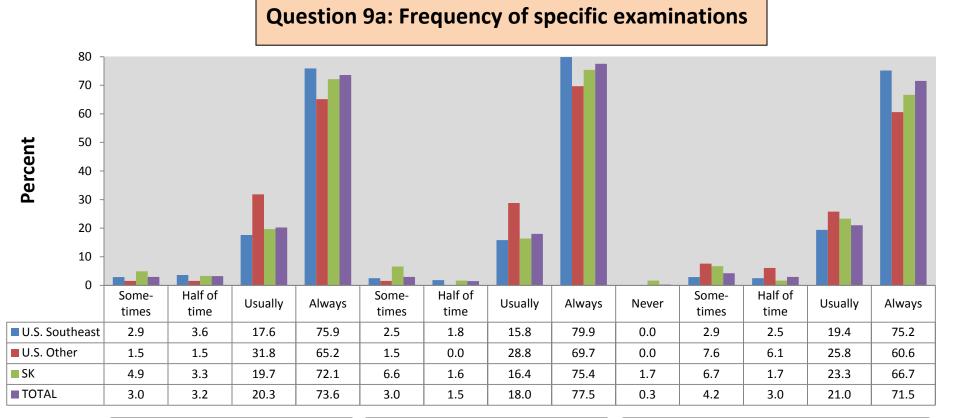


# **Question 8b: Frequency of specific questions**

- The question used most often, combining usually and always results, was "Do you have pain in your temples, face, jaw joint, or jaws?" with an overall total of 98%.
- The question "Do you have pain when you are clenching or grinding your teeth?" was used least often at an overall rate of 86% for usually and always responses.

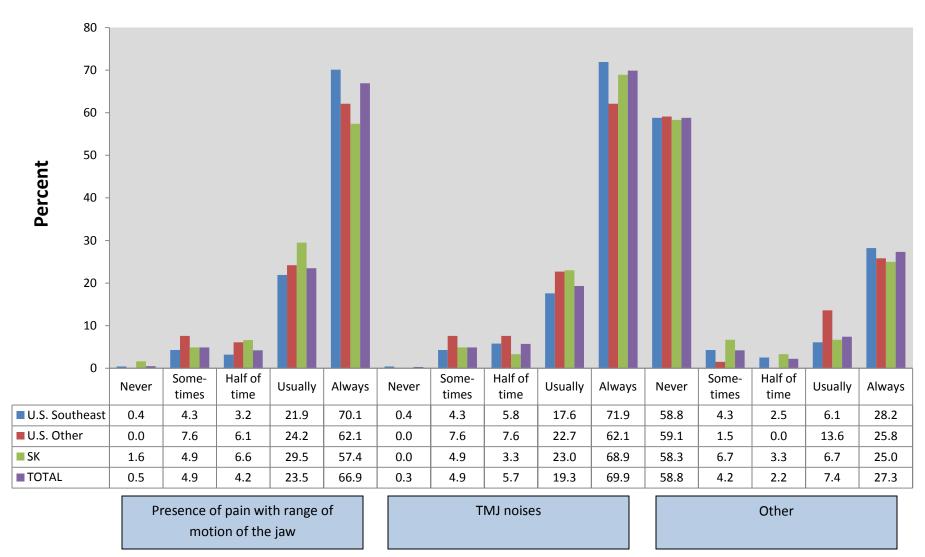
9. *If you diagnose TMJD pain with physical examination, please indicate* the frequency you use each of these exams:

Physical examination	Never	Sometimes	Half of time	Usually	Always
Palpation of jaw muscles					
Palpation of TMJ					
Examining for limited range of motion					
Presence of pain with range of motion of the jaw					
TMJ noises					
Other (please specify):					



	Palpation of jaw muscles		Palpation of TMJ		Examining for limited range of motion
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# **Question 9b: Frequency of specific examinations**



• The most common type of physical examination used was "palpation of TMJ" where participants used this method either usually or always 94% of the time.

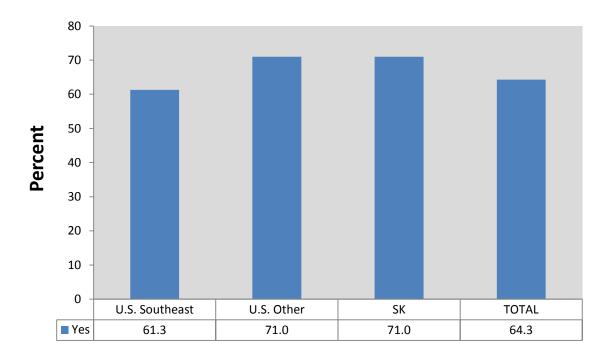
10. In a study of TMJD pain in your practice, would you be willing to use <u>only</u> the following two questions<u>\*</u> to identify patients with TMJD pain?

Do you have pain in your temples, face, temporomandibular joint (TMJ), or jaws once a week or more? Do you have pain when you open your mouth wide or chew once a week or more?

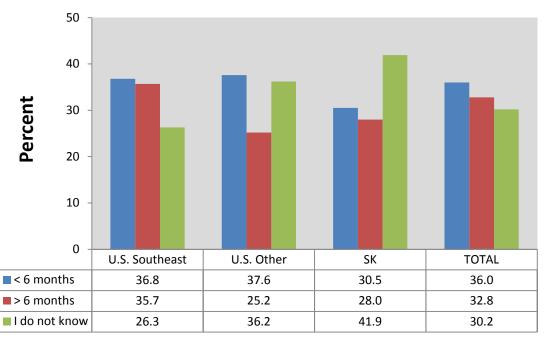
> Yes 🗆 No 🗅

\*These are valid and reliable questions used in diagnosing TMJD pain (Nilsson et al., The reliability and validity of self-reported temporomandibular disorder, pain in adolescents. J Orofac Pain 2006;20(2):138-44.

# Question 10: Willing to use the two provided questions only



• Overall, 64% of participants would be willing to identify TMJD patients using only the two specified questions, with U.S. Southeast being slightly lower than other regions.

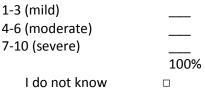


# **Question 11: Time patients experienced pain**

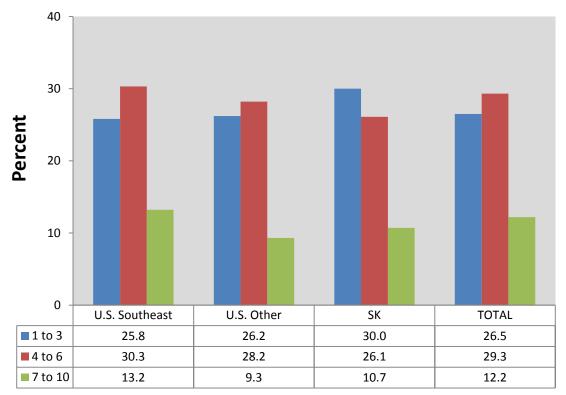
\*Note: Most practitioners estimated percents did NOT sum to 100%.

• Overall, about 70% of practitioners estimated the proportion of their TMJD patients who experienced pain for specified durations: an estimated 36% of patients experience pain for less than six months and about 33% of more than six months.

12. Indicate what percent of your patients with TMJD pain have reported the following levels of TMJD pain from mild (1) to severe pain (10):



## **Question 12: Levels of pain reported**



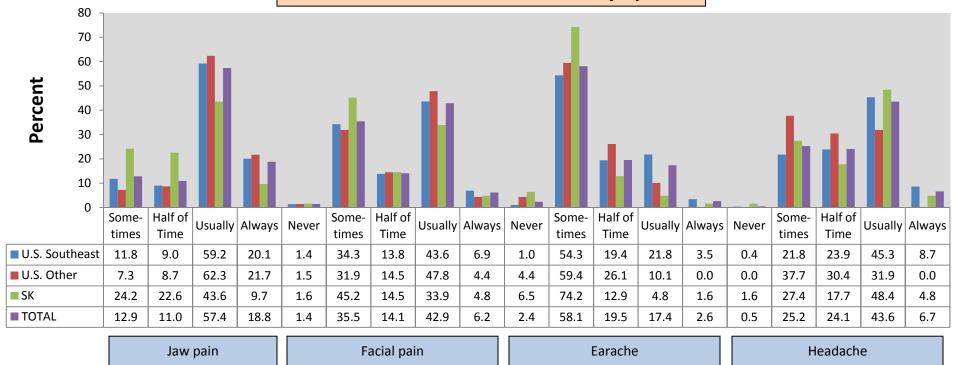
\*Note: Most practitioners estimated percents did NOT sum to 100%.

• Overall, about 68% of practitioners estimated the proportion of their TMJD patients who experienced pain for specified levels of severity: an estimated 26% of patients experience mild pain, 29% moderate, and 12% severe.

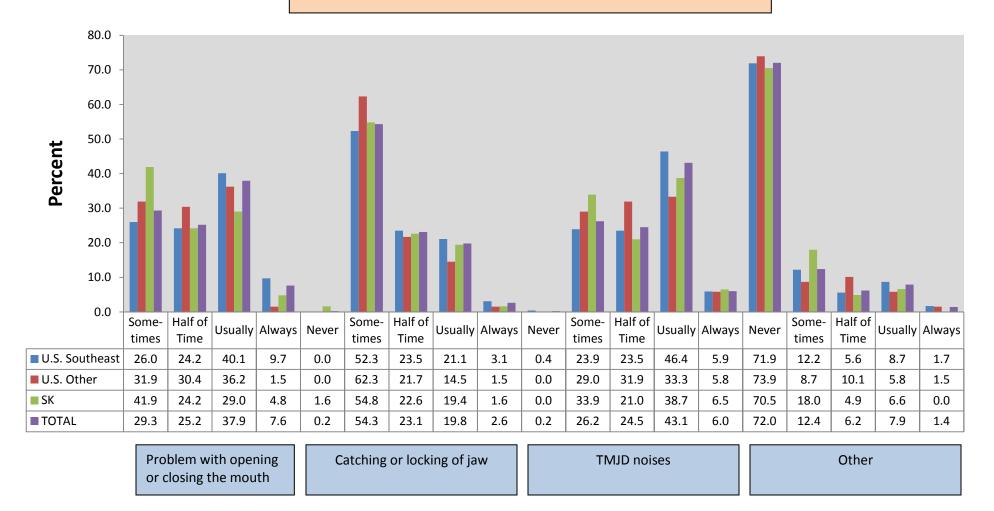
#### 13. How often do your TMJD pain patients report the following symptom(s)?

Sumptome			Half of		
Symptoms	Never	Sometimes	time	Usually	Always
Jaw pain					
Facial pain					
Earache					
Headache					
Problem with opening or closing the mouth					
Catching or locking of the jaw					
TMJ noises					
Other ( <i>please specify</i> ):					

**Question 13a: Occurrence of TMJD symptoms** 



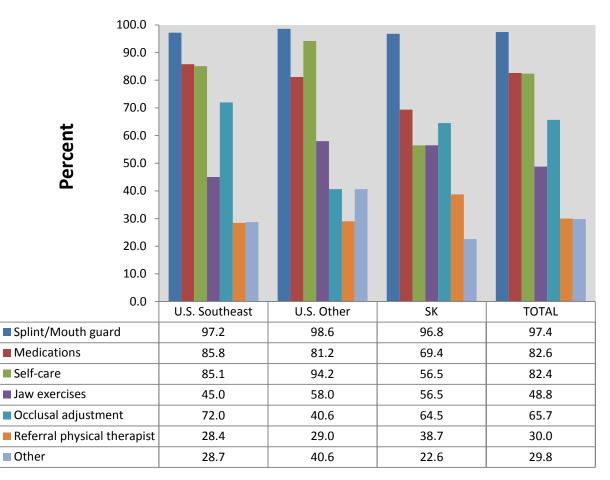
# **Question 13b: Occurrence of TMJD symptoms**



- Jaw pain was reported most frequently (overall 57% usually and 19% always), followed by facial pain, headaches and TMJ noises (each overall 50% for usual and always combined).
- Earache and catching or locking of jaw were least frequent, with 20-22% usually or always reporting.

14. What treatment(s) do you use for TMJD pain? (check all that apply)

Treatment	
Splint/mouth guard	
Over the counter or prescription medications	
Self-care (it includes but is not limited to home based use of	
heat, ice, soft die – see options in question 17)	
Jaw exercises (e.g. stretching exercises)	
Occlusal adjustment	
Referral to physical therapist	
Other ( <i>please specify</i> ):	

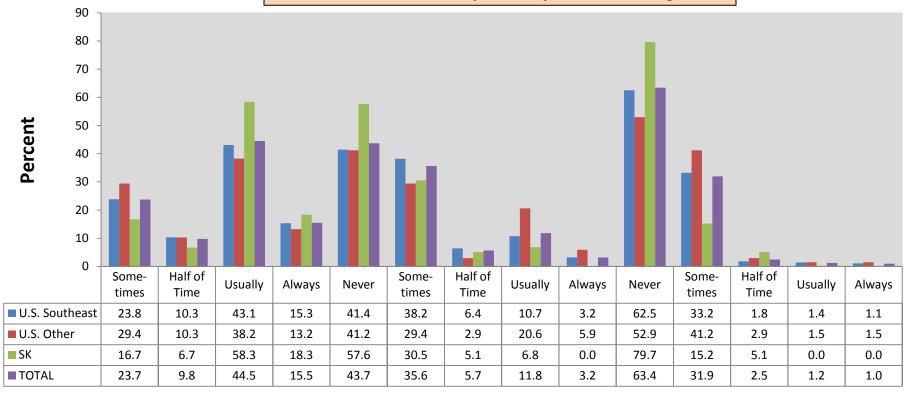


## **Question 14: Treatments used for TMJD pain**

- Overall, the most common treatment used was splint/mouth guard at 97% which was consistent across regions.
- Overall, 82-83% of participants used medications and/or "self-care" to treat TMJD, with SK being lower at 56-69%.
- Referring the patient to a physical therapist was the least common specified treatment protocol at 30% overall.

15. How often do you use the following splints/mouth guards for treating TMJD pain?						
Splint	Never	Sometimes	Half of time	Usually	Always	
Hard custom mouthguard (i.e., Stabilization splint/ occlusal splint)	n 🗆					
Soft custom mouthguard						
Soft over the counter mouthguard						
Anterior repositioning splint						
Nociceptive Trigeminal Inhibition appliance	e 🗆					
Other ( <i>please specify</i> ):						

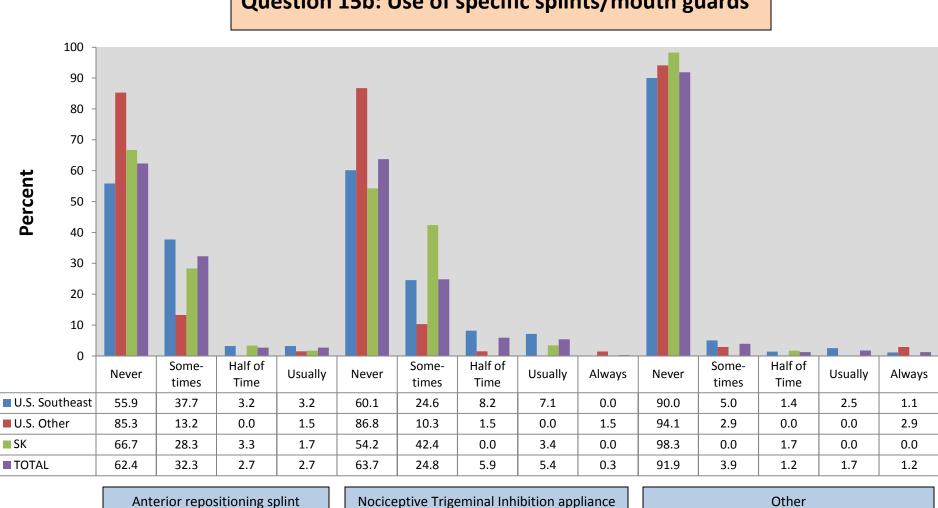
**Question 15a: Use of specific splints/mouth guards** 



Hard custom mouthguard

Soft custom mouthguard

Soft over the counter mouthguard



**Question 15b: Use of specific splints/mouth guards** 

- Among practitioners who used splints or mouth guards to treat TMJD, a hard custom mouth guard was used most frequently; overall 60% ٠ usually or always used it.
- A soft custom mouth guard was next most frequently used, at 15% overall for usually and always used. ٠

16. How often do you use the following medications for treating TMJD pain?

10. How often do you use the following med		ing mile paint	Half of		
Medications	Never	Sometimes	time	Usually	Always
Over the counter acetaminophen					
Over the counter <b>aspirin</b>					
Over the counter <b>ibuprofen</b>					
Over the counter <b>naprosyn</b>					
Prescription aspirin					
Prescription ibuprofen					
Prescription <b>naprosyn</b>					
Low dose tricyclic antidepressants					
Muscle relaxant					
Tramadol (Ultram)					
Other opioids					
Other (please specify):					

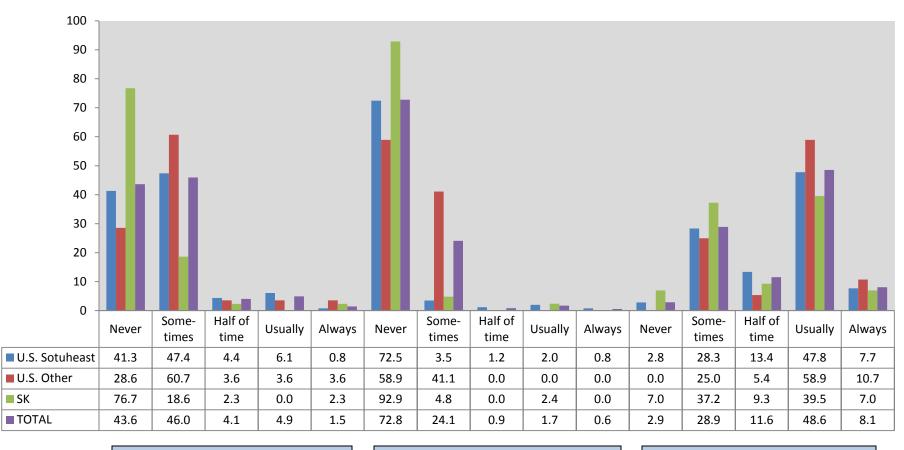
#### The following questions are not included in the report:

If you prescribe NSAID, please list the NSAID(s) you prefer to prescribe: If you prescribe muscle relaxant, please list the muscle relaxant(s) that you prefer to prescribe:

17. How often do you recommend the following self-care for TMJD pain?

Treatment	Never	Sometimes	Half of time	Usually	Always
Application of heat					
Application of ice					
Eat a pain-free diet					
Eat a soft diet					
Chew food on both sides of your back teeth at the same time					
Keep your tongue up gently on your palate					
Keep your teeth apart					
Relax your jaw (muscles)					
Avoid chewing gum					
Avoid clenching or grinding your teeth					
Avoid biting on objects such as pens					
Avoid biting on your tongue, lips or cheeks					
Avoid biting on your fingernails					
Avoid pushing your tongue against your teeth					
Avoid caffeine					
Get a good night's sleep					
Identify events that trigger the pain					
Other ( <i>please specify</i> ):					

# Question 16a: Frequency using medications for treating TMJD

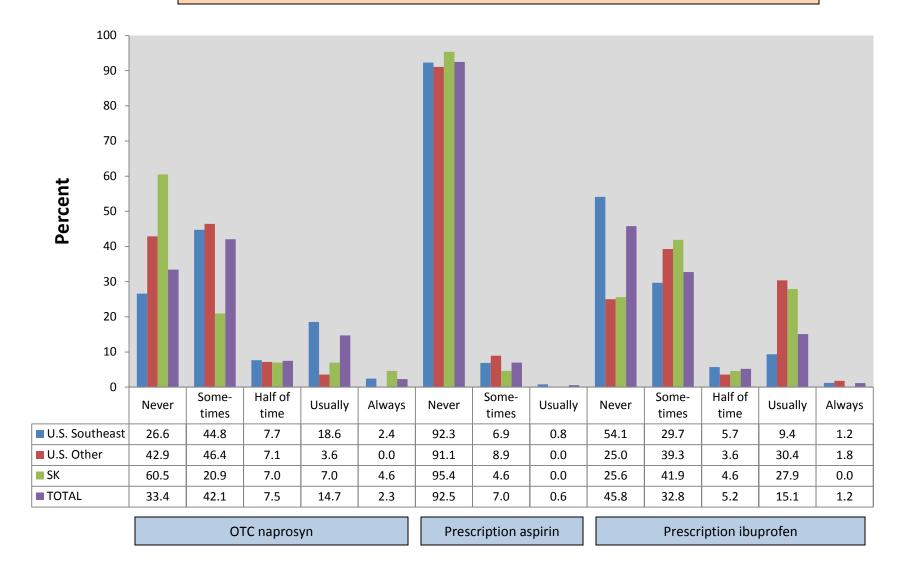


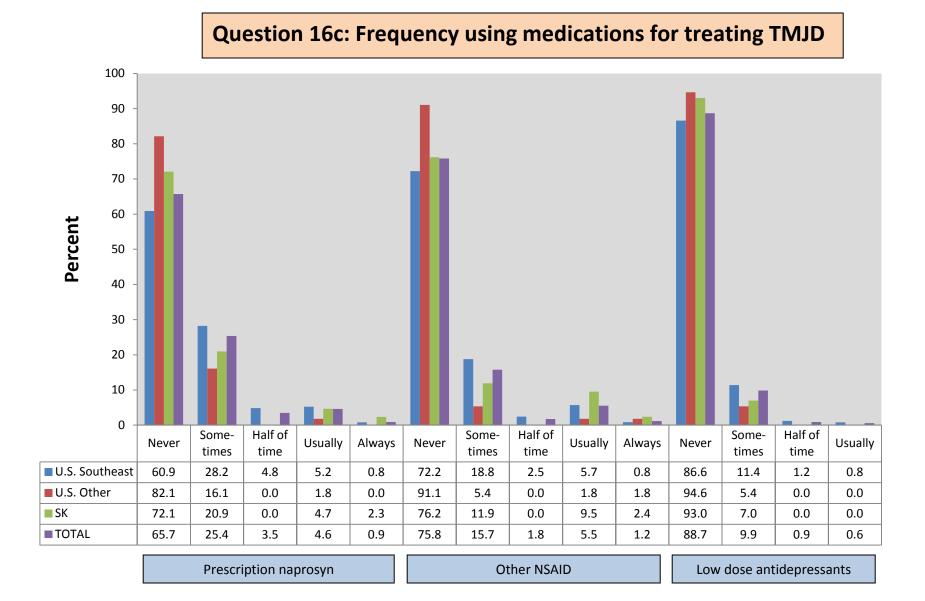
OTC acetaminophen OTC

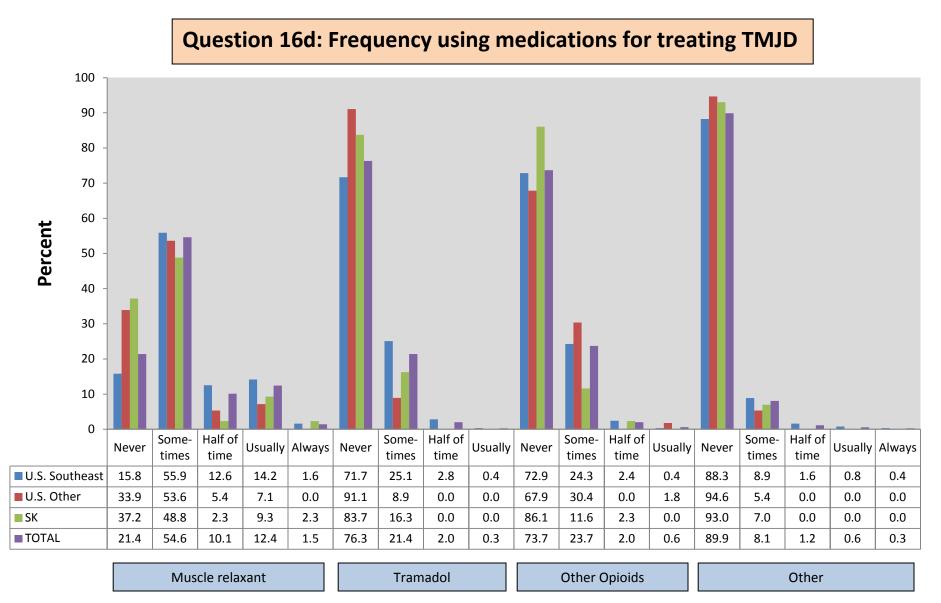
OTC aspirin

**OTC** ibuprofen

# **Question 16b: Frequency using medications for treating TMJD**



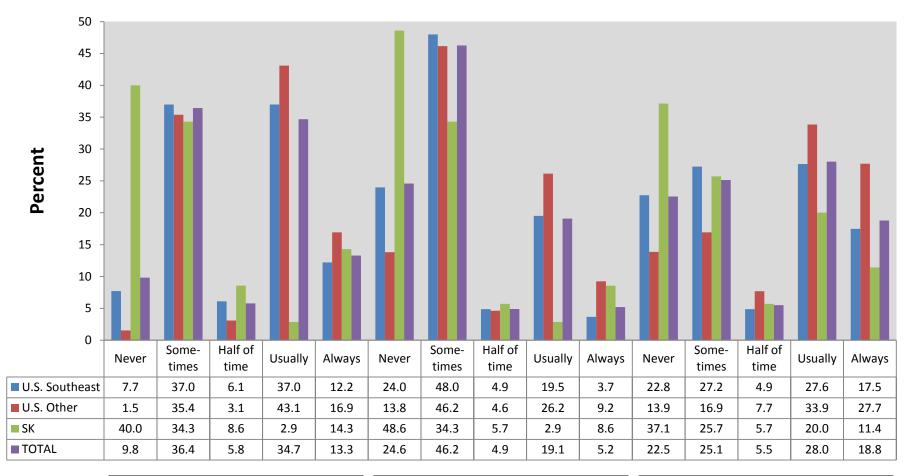




<sup>•</sup> The most common medication used was over the counter (OTC) ibuprofen with overall "any use" about 95%; about 70% using half of the time or more. This was fairly consistent across regions, though use in SK was less with about 56% using half of the time or more.

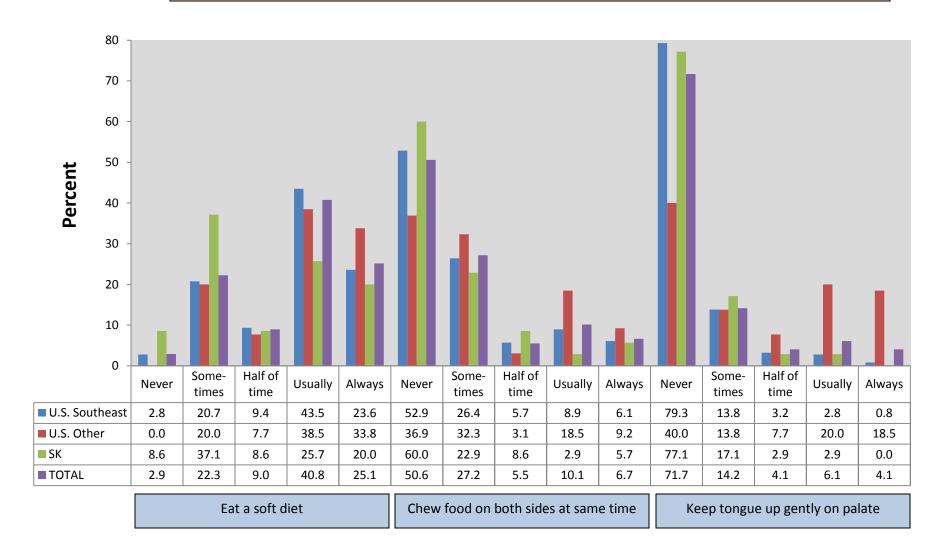
<sup>•</sup> The only other types of medications used half of the time or more by than 20% of practitioners were (all percent estimates for half of the time or more): OTC naprosyn (24%), prescription ibuprofen (21%) and muscle relaxants (24%). These varied across regions with OTC naprosyn (about 29%) and muscle relaxants (28%) being used more in the southeast US and prescription ibuprofen being used more in SK (32%).

# **Question 17a: Frequency using self-care techniques for treating TMJD**

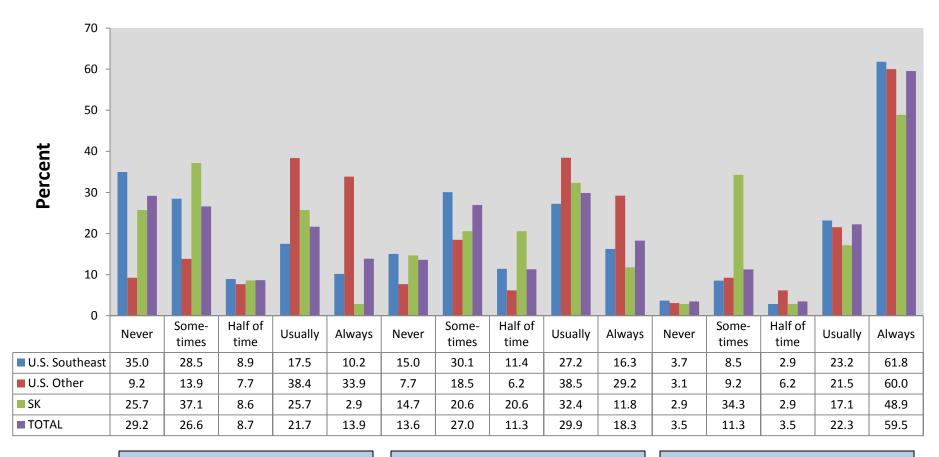


Application of heat	Application of ice	Eat a pain-free diet
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# **Question 17b: Frequency using self-care techniques for treating TMJD**



# **Question 17c: Frequency using self-care techniques for treating TMJD**

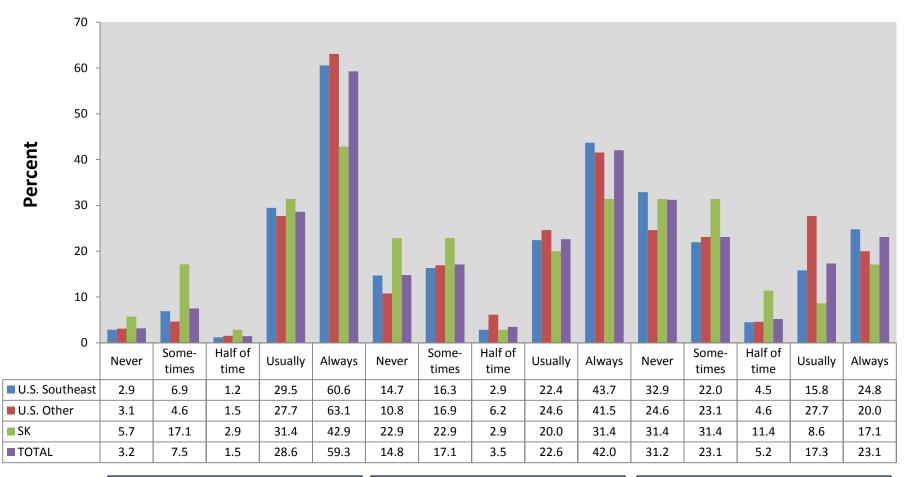


Keep teeth apart

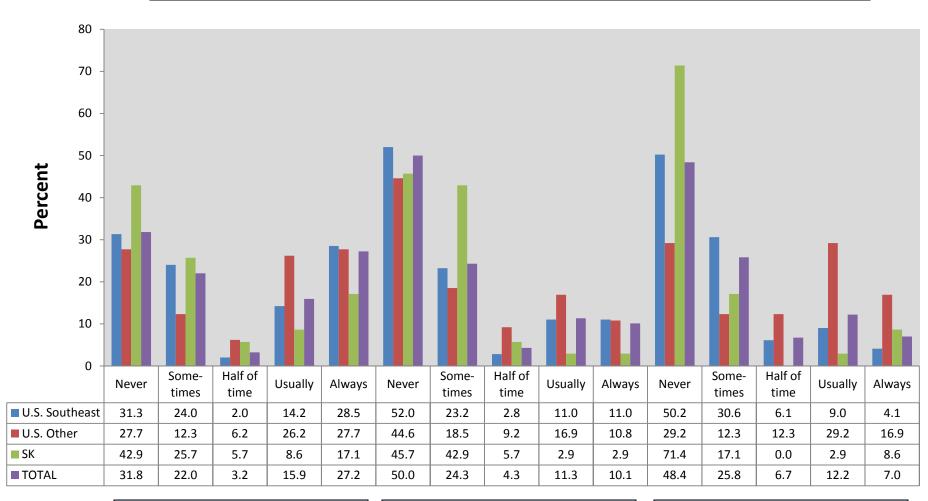
Relax jaw (muscles)

Avoid chewing gum

# **Question 17d: Frequency using self-care techniques for treating TMJD**



	Avoid clenching or grinding	Avoid biting on objects such as pens	Avoid biting on lips, tongue or cheeks
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# **Question 17e: Frequency using self-care techniques for treating TMJD**

Avoid biting on fingernailsAvoid pushing tongue against teethAvoid caffeine

#### 90 80 70 60 Percent 50 40 30 20 10 0 Half of Some-Half of Some-Half of Some-Never Usually Always Never Usually Always Usually Always Never times time times time times time U.S. Southeast 19.5 10.2 13.0 8.5 2.9 24.8 23.2 22.4 4.5 32.5 41.5 80.8 0.8 9.0 6.5 U.S. Other 17.2 18.8 9.4 29.7 25.0 6.2 10.8 9.2 40.0 33.8 83.1 4.6 4.6 3.1 4.6 SK 34.3 40.0 0.0 14.3 11.4 5.7 22.9 5.7 17.1 48.6 70.6 8.8 0.0 14.7 5.9 TOTAL 21.7 24.4 21.4 9.0 23.5 4.9 13.6 8.4 32.4 40.8 80.2 3.8 1.4 8.4 6.1

#### **Question 17f: Frequency using self-care techniques for treating TMJD**

Get a good night's sleep Identify events that trigger pain

Other

- Overall, self-care techniques recommended most often, combining usually and always responses, were avoid clenching or grinding (88%), avoid chewing gum (82%), and identifying events that trigger pain (73%).
- These were used most commonly in all regions but their use was less frequent in SK (ranged 66% to 74%) than U.S. regions (ranged 74% to 91%).
- Responses for SK region, for half of time or more frequently, were lower than U.S. regions for all specified treatment options.

18. Which **initial treatment(s)** do you **prefer** to provide for TMJD pain? (*check all that apply*)

Self-care (listed on question 17)	
Jaw exercises (e.g., stretching exercises)	
Jaw massage	
Over the counter (OTC) medications	
Prescription medications	
Splints/mouthguards (any type)	
Other ( <i>please specify</i> ):	
No preference	

#### 100 90 80 70 60 Percent 50 40 30 20 10 0 U.S. Southeast U.S. Other TOTAL SK Self-care 75.1 94.2 67.7 77.1 24.6 39.1 45.2 30.0 Jaw exercises Jaw massage 27.7 26.1 27.4 27.4 OTC medications 81.2 38.7 63.8 65.1 Prescription medications 37.0 21.7 35.5 34.3 Splints/mouth guards 66.4 59.4 75.8 66.7 Other 10.7 5.8 11.3 10.0 0.0 1.6 1.2 No preference 1.4

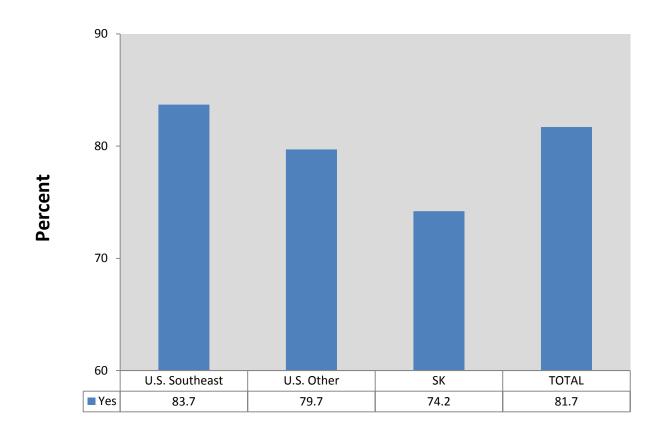
## **Question 18: Preference of initial treatment**

- Overall, the most common preferred initial treatment was self-care at 77%, followed by splints/mouth guards (67%) and OTC medications (64%).
- The next most common group of treatment options were prescription medications (34%), jaw exercises (30%) and jaw massage (27%).
- Less than 2% of practitioners did not have a preference regarding initial treatment choice.
- In general, the grouping of the 3 more common and the 3 less common options were consistent across regions; SK differed in that jaw exercises were in the top 3 group and OTC medications were in the second grouping.

 19. Would you be willing to participate in a randomized controlled trial (RCT) to assess the best initial treatment for TMJD pain?

 Yes
 □



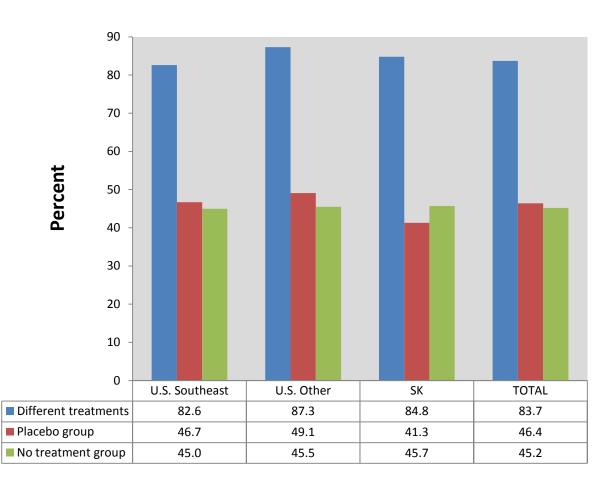


• Approximately 82% of all practitioners would be willing to participate in a randomized control trial to assess the best initial treatment for TMJD pain.

20. If no, why would you not be willing to participate? Describe the conditions, if any, that would need to exist for you to participate? (*Not included in this report.*)

21. If yes, would you be willing to assign your patients to (check all that apply):

	Yes	No
a. Different treatments?		
b. Placebo group (inactive pill)?		
c. "No treatment" group?		



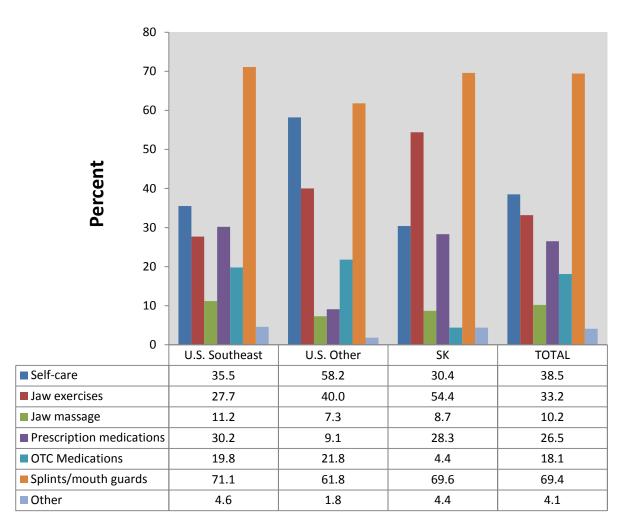
# **Question 21: Treatment types or groups**

• Overall, willingness to use different treatments was acceptable to most practitioners, about 84% overall; however, less than half would be willing to randomize to either a placebo or "No treatment" group.

22.	Select two initial treatments for	TMJD pain that you would like to test in the RCT:

Self-care without exercise	
Jaw exercises (e.g. stretching exercises)	
Jaw massage	
Prescription medications	
Over the counter medications	
Splint/mouth guard	
Other ( <i>please specify</i> ):	

#### **Question 22: Two initial treatments**



- The most common choice was "splints/mouth guards" at 69% overall, which was consistent across regions.
- The least common specified choice as "jaw massage" at 10% overall; also consistent across regions.

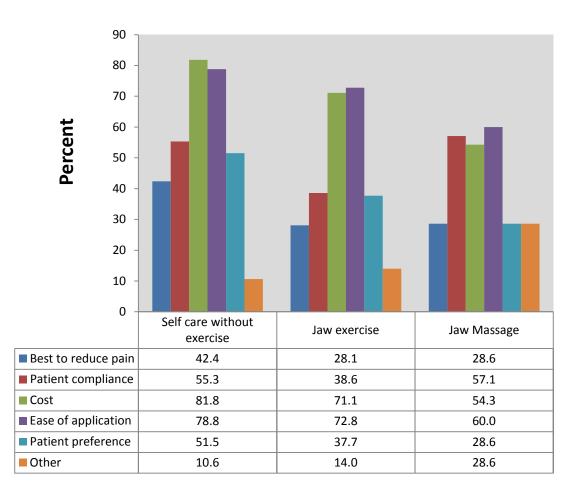
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Due to small numbers, only overall numbers are presented for questions 23-28.

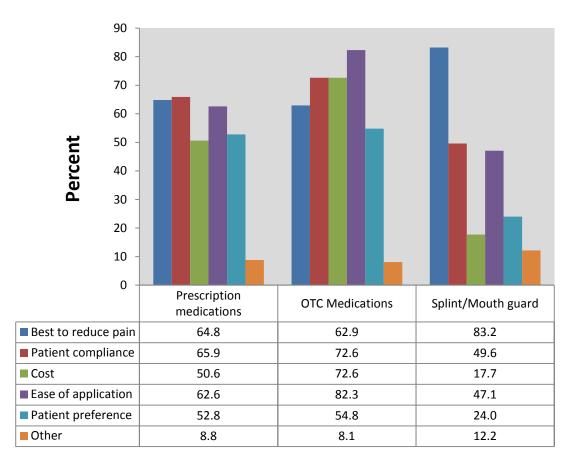
For each of the 2 treatments selected in question 22, Indicate:

23. Indicate why you selected (check all that apply)			
	Choice #1	Choice #2	
Best to reduce pain			
Patient compliance			
Cost			
Ease of application			
Patient preference			
Other			

# **Question 23a: Reason for selecting treatments**



Summary statement is on the next page.



#### **Question 23b: Reason for selecting treatments**

• This varied with treatment: for self-care and jaw exercise, cost and ease of application were most common reasons (range from 71% to 82%); for OTC medications, ease of application (82%), patient compliance and cost (each about 73%) were most common; for splint/mouth guard, best to reduce pain (83%) was most common reason.

24. Have you already used the treatment?

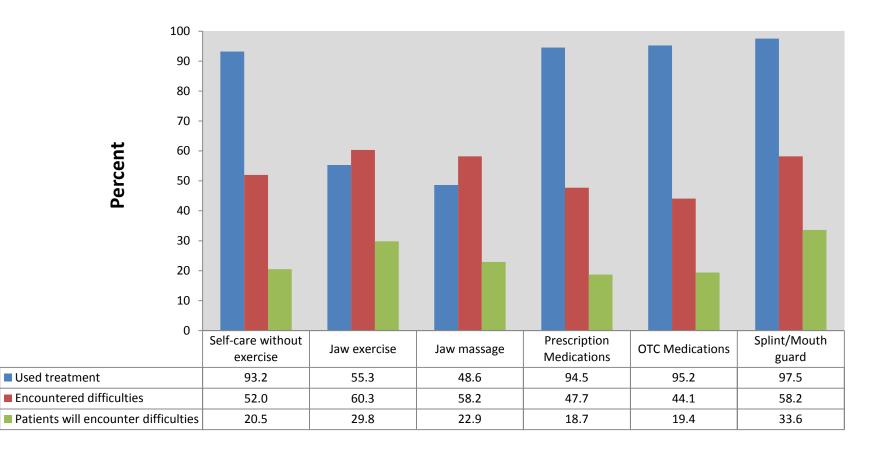
Choice #1	Choice #2				
25. IF yes have used, have you encountered any difficulties					
Choice #1	Choice #2				
	any difficulties Choice #1				

27. **IF yes** have used, do you believe <u>your patients</u> will have any difficulty(ies) accepting or complying with the treatments?

	Choice #1	Choice #2
Yes		
No		

NOTE: The previous three questions were combined into one graph, indicating the percentage of yes responses for each question. The graph is on the next page.

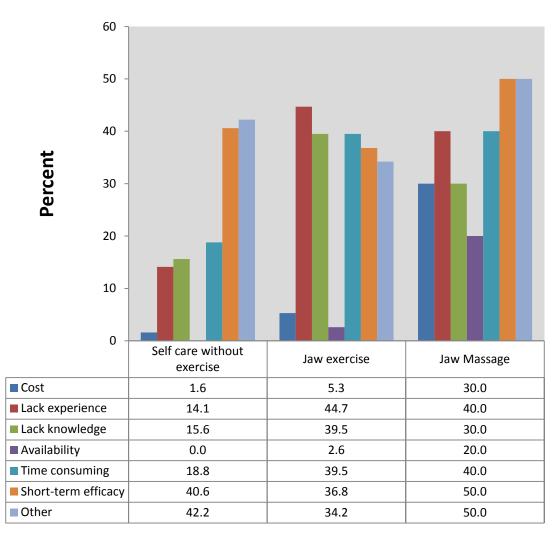
Questions 24, 25, 27: Use and difficulties of treatments



- Virtually all practitioners (93-98%) had used self-care treatments, prescription and OTC medications, and splint/mouth guard, around half had used jaw exercise (55%) and jaw massage (49%).
- Between 44% (OTC medications) and 60% (jaw exercise) of practitioners had problems/difficulties with specified treatment.
- Patients experiencing problems: The treatment for which the highest percent of practitioners indicated that patients had problems with was use of splint/mouth guard at 34%, this was followed by jaw exercise at 30%. The remaining varied from 19% to 23%.

26. IF yes, reason for difficulties (check all that apply for each)

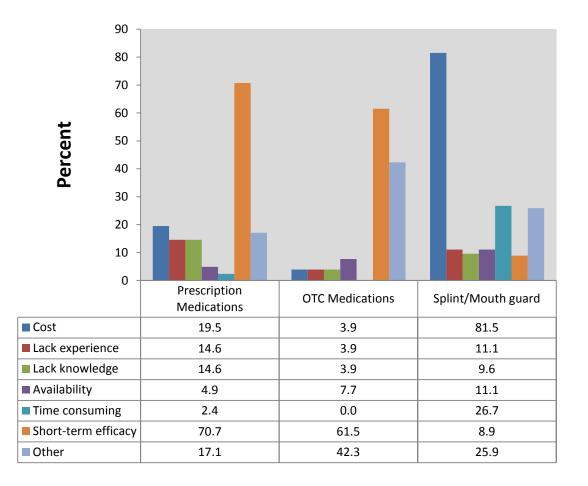
Choice #1	Choice #2



## **Question 26a: Reason for difficulties**

Summary statement is on the next page.

## **Question 26b: Reason for difficulties**



• Specific problems varied with treatment, cost was a problem for preponderance (about 82%) of practitioners who used splint/mouth guard, short-term efficacy was problem for 71% who used prescription medications and for about 62% who used OTC medications.

28. **IF yes**, do believe <u>your patients</u> will have difficulty(ies) with the treatments, reason for difficulties (*check all that apply for each*)

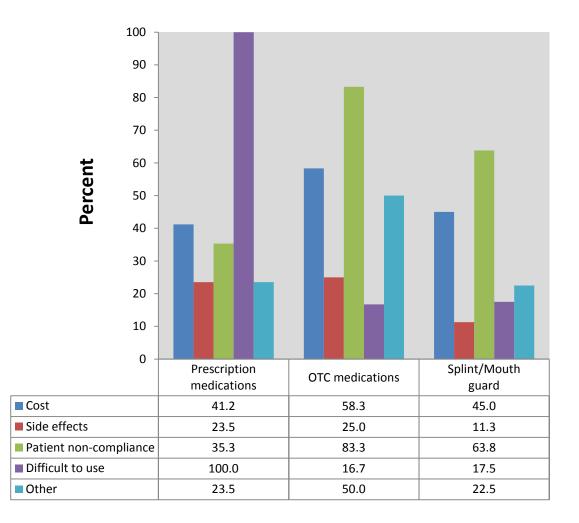
	Choice #1	Choice #2
Cost		
Side effects		
Patient non-compliance		
Difficult to use		
Other		
Other		

#### 100 90 80 70 60 Percent 50 40 30 20 10 0 Self care without Jaw exercise Jaw Massage exercise Cost 7.4 44.1 12.5 Side effects 3.7 5.9 12.5 Patient non-compliance 81.5 100.0 87.5 Difficult to use 3.7 11.8 12.5 Other 37.0 29.4 50.0

#### **Question 28a: Reasons for patient difficulties**

Summary statement is on the next page.

#### **Question 28b: Reasons for patient difficulties**

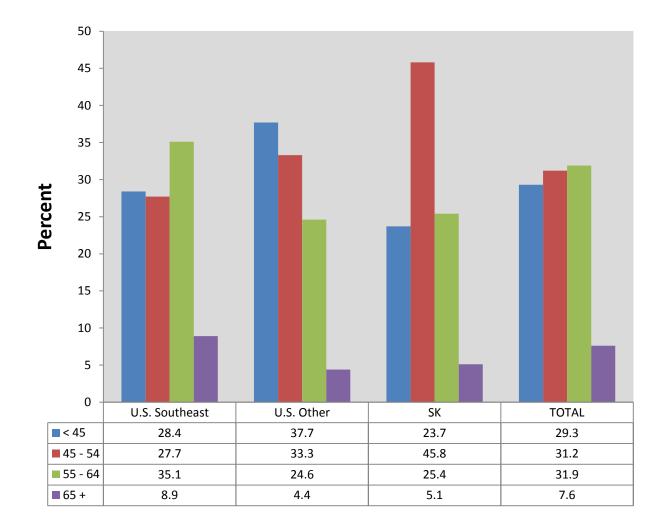


• The treatment for which the highest percent of practitioners indicated that patients had problems with was use of splint/mouth guard at 34%, this was followed by jaw exercise at 30%. The remaining varied from 19% to 23%.

Date of birth	mm/yyyy	
Gender	Male	
	Female	
Race	American Indian/Alaska Native	
	Asian	
	Black/African American	
	Native Hawaiian/Pacific Islander	
	White	
	Other	
	Not reported	
Ethnicity	Hispanic or Latino	
	Not Hispanic or Latino	
	Unknown	
	Not reported	
For how many years have	5 or fewer	
you practiced dentistry?	6-10	
	11-15	
	16-20	
	21-25	
	26+	
Specialty	None	
	Orthodontics	
	Endodontics	
	Pediatrics	
	Periodontics	
	Prosthodontics	
	Oral Surgery	
	Oral Medicine	
	Oral Radiology	
	Other	

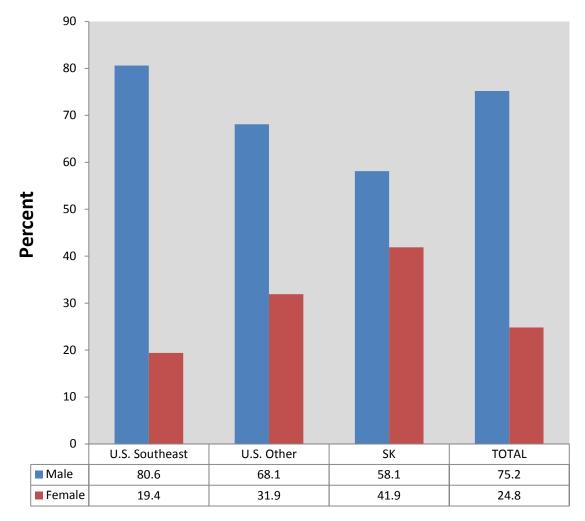
#### Practitioner Demographics (among 420 who treated TMJD)

## **Demographics: Age**



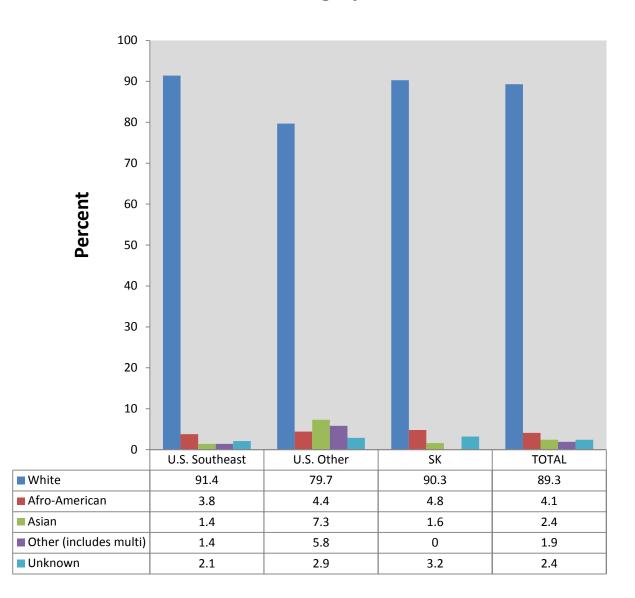
• Overall, 29% to 32% were in each of the age intervals (<45, 45 – 54, and 55 – 64 years) and about 8% were 65 years or older. These were similar across regions.

# **Demographics: Gender**



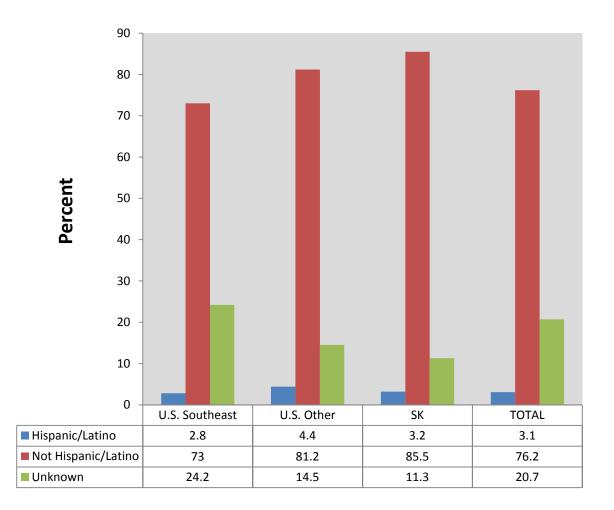
• The majority of practitioners were male, 75% overall; higher in the southeast U.S. (81%) and lower in SK (58%).

# **Demographics: Race**

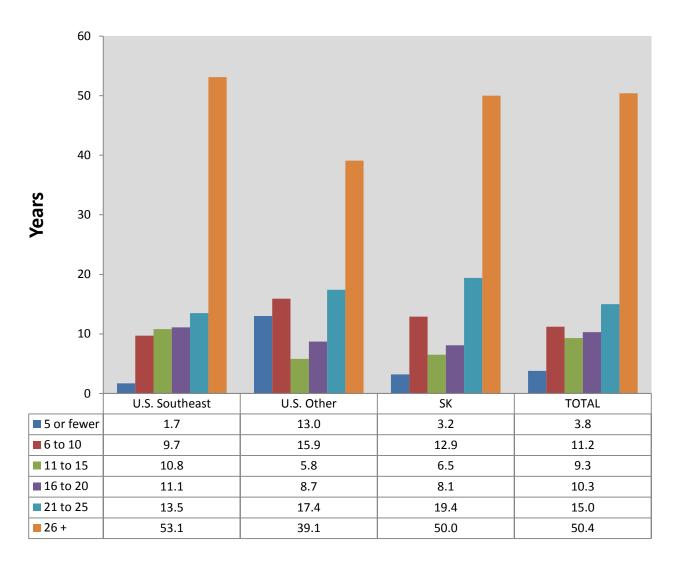


• Most practitioners were White at 89% overall; U.S. Other was slightly lower at about 80%.

# **Demographics: Ethnicity**

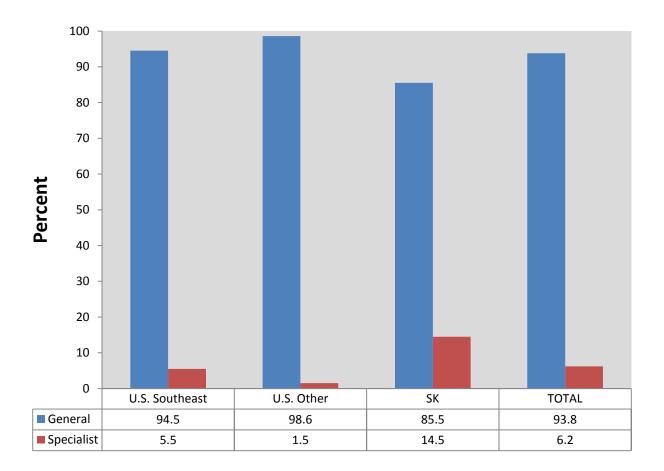


• Overall, 3% of practitioners were Hispanic/Latino.



#### **Demographics: Number of years in practice**

- Overall, less than 4% of practitioners had practiced dentistry for 5 or fewer years, 9-11% were in the 3 categories (6-10, 11-15, 16-20 years practiced dentistry), 15% had practiced 21-25 years, and half of practitioners (50%) have been in practice for 26 years or more.
- There was considerable variation by region, notably, the U.S. Other region had more practitioners who had practiced for fewer years.



## **Demographics: Type of Dentistry**

- Overall, most practitioners were in the field of General Dentistry at about 94%.
- A higher proportion of practitioners from SK were specialists (about 15%) than U.S. Southeast (about 6%) or U.S. Other (about 2%).