Figure. Prevalence of physical symptoms in the study and comparison groups at first assessment and at the end of the palliative care episode.*$P<.05$ for χ^2 test.

referral to palliative care services can be encouraged at any stage of the disease to optimize symptom control outcomes.

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1. Whittaker SJ, Marsden JR, Spittle M, et al. Joint British Association of Dermatologists and UK Cutaneous Lymphoma Group guidelines for the management of primary cutaneous T-cell lymphomas. *Br J Dermatol.* 2003;149: 1095-1107.
2. Doyle D, Hanks G, Cherny N, Calman K, eds. *Oxford Textbook of Palliative Medicine.* 3rd ed. Oxford, England: Oxford University Press; 2004:619.
3. Demierre M-F, Tien A, Miller D. Health-related quality of life assessment in patients with cutaneous T-cell lymphoma. *Arch Dermatol.* 2005;141: 325-330.
4. World Health Organization. *Cancer Pain Relief.* 2nd ed. Geneva, Switzerland: World Health Organization; 1996.

Prevalence of Self-diagnosed Melasma Among Premenopausal Latino Women in Dallas and Fort Worth, Tex

Studies reporting the prevalence of melasma have been performed on patients presenting to dermatology and general medical clinics[1-4]; however, prevalence in the general population is unknown. The present article reports a new, validated instrument to determine the presence of melasma by self-diagnosis that was used to determine the prevalence of melasma in premenopausal Latino women in the Dallas–Fort Worth, Tex area.

Methods. The validation study, approved by the University of Texas Southwestern Medical Center institutional review board, was performed on 30 Latino women with melasma and 30 without melasma recruited from visitors to a general outpatient clinic in a predominantly Latino neighborhood in Dallas, Tex. The patients were examined for the presence or absence of melasma during a blood pressure and pulse measurement, but there was no discussion regarding their skin during this visit. The same patients were then contacted by telephone 2 to 3 weeks later by an independent investigator and asked a series of questions to determine their ability to self-diagnose melasma (**Table**). Of the 28 patients with melasma who could be reached by telephone, 26 stated at the conclusion of the interview that they did have melasma (93% sensitivity) and 23 of 28 patients without melasma stated that they did not have melasma (82% specificity).

After completing validation, the questionnaire was administered to a population of Latino women in the Dallas–Fort Worth area. The potential subject pool was generated by random selection of telephone numbers of households associated with Spanish surnames in the Dallas–Fort Worth area. To collect data from typically affected women, inclusion criteria included self-identification as Hispanic or Latino, age 18 years or older, and still menstruating. A general description of the term "melasma" was provided at the beginning of the interview. We used the term "paño" at the beginning of the telephone interview so that patients would understand what the questionnaire was about. "Paño" is a common word for melasma among Mexican and Central American women and is almost universally understood. By adding the phrase "mask of pregnancy," we found that all patients understood which disease state was being studied. Cross tables and Mantel-Haenszel analyses were performed with the Frequency procedure of SAS software version 9.1 for Windows (SAS Institute, Cary, NC). *P* values are 2-tailed with significance defined at the .05 level.

Results. Of the 4607 telephone numbers called, the response rate was 42.1%. Of the 500 qualified subjects interviewed by telephone, mean age was 31 years; 84.6% preferred to be interviewed in Spanish; and 94.8% identified their ethnicity as Mexican. The prevalence rate of

Table. Telephone Questionnaire Questions

English

1. First, would you like to continue this interview in English or Spanish?
2. Would you consider yourself white, African American, Hispanic or Latino, Asian, or some other racial or ethnic origin?
3. More specifically, would you consider yourself Mexican, Guatemalan, Salvadoran, Honduran, or some other Hispanic origin group?
4. What is your age?
5. Have you been through menopause?
6. Do you have melasma right now, also known as mask of pregnancy?
7. Have you ever had melasma?
8. Are you sure that you don't have freckles, age spots, or spots left over from acne?
9. If someone were to see you from a few feet away without makeup, would they say you had melasma?

Spanish

1. ¿Primero, le gustaría continuar la entrevista en ingles o español?
2. ¿Usted es Caucásica, Negra, Hispana, Latina, Asiática, o de otro grupo racial?
3. ¿Específicamente, usted es mexicana, guatemalteca, salvadoreña, hondureña u otro grupo de origen hispano?
4. ¿Cuál es su edad?
5. ¿Ha pasado por la menopausia?
6. ¿Usted tiene melasma ahora, también conocido como máscara de embarazo?
7. ¿Usted alguna vez ha tenido melasma?
8. ¿Usted esta segura que no tiene pecas, manchas de la edad o manchas a consecuencia del acne?
9. ¿Si alguien podría verla a ciertos pies de distancia sin maquillaje, podría la persona decir que usted tiene melasma?

melasma was 8.8%, which included subjects who stated that they had melasma at the time of the telephone interview, were certain that they had melasma vs another skin disorder, and felt that the melasma was visible to others. An additional 4% reported having melasma in the past. The prevalence of melasma was higher in subjects older than 30 years ($P<.01$).

Respondents were more likely to report having melasma if they lived in Dallas ($P<.001$) and chose to conduct the interview in Spanish ($P<.001$). Dallas residents were significantly more likely to choose Spanish as the preferred language for the telephone interview ($P<.001$). Among Spanish speakers, Dallas subjects had 2.49 times greater risk of reporting melasma than Fort Worth subjects ($P<.001$); among English speakers, Dallas residents had 4.00 times greater risk of melasma than Fort Worth subjects ($P=.31$). The Mantel-Haenszel summary relative risks (RRs) indicate that Spanish-speaking preference confers much greater risk of reporting melasma (RR, 4.56; 95% confidence interval, 1.76-11.79) than city of residence (RR, 2.35; 95% confidence interval, 1.54-3.59).

Comment. Reports of melasma prevalence vary widely, from 1.5% to 33.0%.[1-4] Most of these studies were performed in general or dermatology clinics, which may not reflect the prevalence in the overall population of the studied region. We found that 8.8% of the 500 subjects in our study reported that they had melasma at the time of the interview, and an additional 4% stated that they had

melasma in the past, which supports the general belief by dermatologists that melasma is a common disorder among Latino women.[5]

An interesting and unexpected finding was the higher risk of self-diagnosed melasma in Dallas, where subjects were also more likely to prefer speaking in Spanish. According to 2004 census data, Dallas has more Hispanics than Fort Worth (42.0% vs 33.5%), more foreign-born residents (26.6% vs 16.7%), and more residents who speak a language other than English in the home (43.7% vs 30.2%).[6] Moreover, Dallas has a greater population of recent immigrants who entered the United States after 2000 (28.6% vs 18.4%). The observation that Dallas Latino residents (who are more likely to be recent, Spanish-speaking immigrants) are more likely to report having melasma than Fort Worth Latino residents suggests that external factors may play a role in the development and course of this disease: greater sun exposure in Mexico than in the United States might lead to more visible melasma in recent immigrants, or greater sunscreen use in the United States than in Mexico might result in less melasma after a longer residence in the United States. Since most Latinos in the United States are of Mexican origin (59%), our sample population is quite representative of a large number of states in the United States where Mexicans are prevalent, including Arizona, California, Colorado, Florida, Georgia, Illinois, and Texas.[7]

In summary, melasma is common among premenopausal Latino women in the Dallas–Fort Worth area, especially among Spanish speakers. A validated instrument has been developed, which can be used to determine the prevalence of melasma in other regions of the world.

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1. Sivayathorn A. Melasma in Orientals. *Clin Drug Investig.* 1995;10:34-40.
2. Hiletework M. Skin diseases seen in Kazanchis health center. *Ethiop Med J.* 1998;36:245-254.
3. Estrada Castanon R, Andersson N, Hay R. Community dermatology and the management of skin diseases in developing countries. *Trop Doct.* 1992;22 (suppl 1):3-6.
4. Sanchez MR. Cutaneous diseases in Latinos. *Dermatol Clin.* 2003;21:689-697.
5. Grimes PE. Melasma: etiologic and therapeutic considerations. *Arch Dermatol.* 1995;131:1453-1457.
6. US Census Bureau. American Fact Finder. http://factfinder.census.gov/home /saff/main.html?_lang=en. Accessed February 22, 2006.
7. US Census Bureau. Census 2000. http://www.census.gov/prod/2001pubs /c2kbr01-3.pdf. Accessed May 23, 2006.