Hearing Loss among Farmworkers: Perspectives and Prospects

Martha Soledad Vela Acosta, MD, MS, Ph.D.

Abstract 208947, Session 2072.0, OHS Posters - Hazardous Occupations, Sunday, November 8, 2009, APHA.

References

- (1) NIOSH Safety and Health Topic: Noise and Hearing Loss Prevention. National Institute for Occupational Safety and Health 2006; Available from: URL: http://www.cdc.gov/niosh/topics/noise/default.html
- (2) Leikin JB, Davis A, Klodd DA, Thunder T, Kelafant GA, Paquette DL, et al. Selected topics related to occupational exposures Dis Mon 2000 Apr;46(4):240-322.
- (3) Rabinowitz P, Taiwo O, Sircar K, Aliyu O, Slade M. Physician hearing loss. Am J Otolaryngol 2006 Jan;27(1):18-23.
- (4) Nelson DI, Nelson RY, Concha-Barrientos M, Fingerhut M. The global burden of occupational noise-induced hearing loss. Am J Ind Med 2005 Dec; 48(6):446-58.
- (5) McReynolds MC. Noise-induced hearing loss. Air Med J 2005 Mar; 24(2):73-8.
- (6) Morata TC. Chemical exposure as a risk factor for hearing loss. J Occup Environ Med 2003 Jul; 45(7):676-82.
- (7) Boyle D, Larson C, Parker D, Pessoa-Brandao L. Medical, personal, and occupational outcomes for work-related amputations in Minnesota 1. Am J Ind Med 2000 May; 37(5):551-7.
- (8) Boyle D, Parker D, Larson C, Pessoa-Brandao L. Nature, incidence, and cause of work-related amputations in Minnesota
 2. Am J Ind Med 2000 May;37(5):542-50.
- (9) Calvert GM, Plate DK, Das R, Rosales R, Shafey O, Thomsen C, et al. Acute occupational pesticide-related illness in the US, 1998-1999: surveillance findings from the SENSOR-pesticides program. Am J Ind Med 2004 Jan; 45(1):14-23.
- (10) Crandall CS, Fullerton L, Olson L, Sklar DP, Zumwalt R. Farm-related injury mortality in New Mexico, 1980-91. Accid Anal Prev 1997 Mar;29(2):257-61.
- (11) Gerberich SG, Robertson LS, Gibson RW, Renier C. An epidemiological study of roadway fatalities related to farm vehicles: United States, 1988 to 1993. J Occup Environ Med 1996 Nov;38(11):1135-40.
- (12) Jenkins PL, Earle-Richardson G, Bell EM, May JJ, Green A. Chronic disease risk in central New York dairy farmers: results from a large health survey 1989-1999. Am J Ind Med 2005 Jan;47(1):20-6.

Martha Soledad Vela Acosta, MD, MS, Ph.D.

- (13) Kirkhorn S, Greenlee RT, Reeser JC. The epidemiology of agriculture-related osteoarthritis and its impact on occupational disability. WMJ 2003;102(7):38-44.
- (14) Perry MJ. Children's agricultural health: traumatic injuries and hazardous inorganic exposures. J Rural Health 2003;19(3):269-78.
- (15) Beckett WS, Chamberlain D, Hallman E, May J, Hwang SA, Gomez M, et al. Hearing conservation for farmers: source apportionment of occupational and environmental factors contributing to hearing loss. J Occup Environ Med 2000 Aug;42(8):806-13.
- (16) Broste SK, Hansen DA, Strand RL, Stueland DT. Hearing loss among high school farm students. Am J Public Health 1989 May;79(5):619-22.
- (17) Holt JJ, Broste SK, Hansen DA. Noise exposure in the rural setting. Laryngoscope 1993 Mar;103(3):258-62.
- (18) Hwang SA, Gomez MI, Sobotova L, Stark AD, May JJ, Hallman EM. Predictors of hearing loss in New York farmers. Am J Ind Med 2001 Jul;40(1):23-31.
- (19) Karlovich RS, Wiley TL, Tweed T, Jensen DV. Hearing sensitivity in farmers. Public Health Rep 1988 Jan;103(1):61-71.
- (20) Kirkhorn SR, Schenker MB. Current health effects of agricultural work: respiratory disease, cancer, reproductive effects, musculoskeletal injuries, and pesticide-related illnesses. J Agric Saf Health 2002 May;8(2):199-214.
- (21) Perry MJ, May JJ. Noise and chemical induced hearing loss: special considerations for farm youth. J Agromedicine 2005;10(2):49-55.
- (22) Plakke BL, Dare E. Occupational hearing loss in farmers. Public Health Rep 1992 Mar;107(2):188-92.
- (23) Rautiainen RH, Reynolds SJ. Mortality and morbidity in agriculture in the United States. J Agric Saf Health 2002 Aug;8(3):259-76.
- (24) Rautiainen RH, Lange JL, Hodne CJ, Schneiders S, Donham KJ. Injuries in the lowa Certified Safe Farm Study. J Agric Saf Health 2004 Jan;10(1):51-63.
- (25) Schenker MB, Orenstein MR, Samuels SJ. Use of protective equipment among California farmers. Am J Ind Med 2002 Nov;42(5):455-64.
- (26) Thelin JW, Joseph DJ, Davis WE, Baker DE, Hosokawa MC. High-frequency hearing loss in male farmers of Missouri. Public Health Rep 1983 May;98(3):268-73.

Martha Soledad Vela Acosta, MD, MS, Ph.D.

- (27) Economic costs associated with mental retardation, cerebral palsy, hearing loss, and vision impairment--United States, 2003. MMWR Morb Mortal Wkly Rep 2004 Jan 30;53(3):57-9.
- (28) Morata TC, Franks JR, Dunn DE. Unmet needs in occupational hearing conservation. Lancet 1994 Aug 13;344(8920):479.
- (29) Dalton DS, Cruickshanks KJ, Klein BE, Klein R, Wiley TL, Nondahl DM. The impact of hearing loss on quality of life in older adults. Gerontologist 2003 Oct;43(5):661-8.
- (30) Holt JJ, Broste SK, Hansen DA. Noise exposure in the rural setting. Laryngoscope 1993 Mar;103(3):258-62.
- (31) Rabinowitz PM, Sircar KD, Tarabar S, Galusha D, Slade MD. Hearing loss in migrant agricultural workers. J Agromedicine 2005;10(4):9-17.
- (32) Solecki L. [Assessment of annual exposure to noise and risk of occupational hearing loss among private farmers specializing in plant production]. Med Pr 2004;55(2):175-82.
- (33) Morata T. Chemical exposure as a risk factor for hearing loss: implications for occupational health. American Industrial Hygiene Conference, 2004.
- (34) Morata TC, Dunn DE, Sieber WK. Occupational exposure to noise and ototoxic organic solvents. Arch Environ Health 1994 Sep;49(5):359-65.
- (35) Morata TC, Engel T, Durao A, Costa TR, Krieg EF, Dunn DE, et al. Hearing loss from combined exposures among petroleum refinery workers. Scand Audiol 1997;26(3):141-9.
- (36) Carroll D. Findings from the National Agricultural Workers Survey (NAWS) 2001 -2002. A Demographic and Employment Profile of United States Farm Workers. 5 A.D. Mar. Report No.9.
- (37) Villarejo D. The health of U.S. hired farm workers. Annu Rev Public Health 2003;24:175-93.
- (38) Prince MM, Gilbert SJ, Smith RJ, Stayner LT. Evaluation of the risk of noise-induced hearing loss among unscreened male industrial workers. J Acoust Soc Am 2003 Feb;113(2):871-80.
- (39) Nelson DI, Nelson RY, Concha-Barrientos M, Fingerhut M. The global burden of occupational noise-induced hearing loss. Am J Ind Med 2005 Dec;48(6):446-58.
- (40) National Center for Health Statistics. Development and Evaluation of an Expanded Hearing Loss Scale Questionnaire. 1970 Apr. Report No.: Public Health Service Publication No. 1000. Series 2-No, 37.

Martha Soledad Vela Acosta, MD, MS, Ph.D.

- (41) National Health and Nutrition Examination Survey. U S Department of Health and Human Services(DHHS) National Center for Health Statistics Centers for Disease Control and Prevention 2003
- (42) Larson A. Migrant and Seasonal Farmworkers Enumeration Profile Study. Texas. 2002.
- (43) United States Census Bureau. United States Census Bureau 2004 Available from: URL: http://www.census.gov
- (44) Migrant and Seasonal Agricultural Worker Protection Act of 1983. United States Department of Agriculture, (1983).
- (45) American National Standard Institute. ANSI S3.21-2004 American National Standard Methods for Manual Pure-Tone Threshold Audiometry. Revision of ANSI S3.21-1978. 2004.
- (46) American National Standard Institute. Maximum Permissible Ambient Noise Levels for Audiometric Test Rooms. ANSI S3.1-1999 (R2003). 2003.
- (47) Krueger R, Morgan D. The Focus Group Kit: The focus group guidebook; Planning Focus Groups; Developing Questions for focus groups; Moderating focus groups; Involving community members in focus groups, and Analyzing and reporting focus group results. Sage Publications, Inc; 1998.
- (48) Flores G, Fuentes-Afflick E, Barbot O, Carter-Pokras O, Claudio L, Lara M, et al. The health of Latino children: urgent priorities, unanswered questions, and a research agenda. JAMA 2002 Jul 3;288(1):82-90.
- (49) Vela Acosta MS, Lee B. Migrant and Seasonal Hired Adolescent Farmworkers: A Plan to Improve Working Conditions. National Farm Medicine Center; 2001 Nov.
- (50) Morata TC, Themann CL, Randolph RF, Verbsky BL, Byrne DC, Reeves ER. Working in noise with a hearing loss: perceptions from workers, supervisors, and hearing conservation program managers. Ear Hear 2005 Dec;26(6):529-45.
- (51) Choi SW, Peek-Asa C, Sprince NL, Rautiainen RH, Donham KJ, Flamme GA, et al. Hearing loss as a risk factor for agricultural injuries. Am J Ind Med 2005 Oct;48(4):293-301.
- (52) Sprince NL, Park H, Zwerling C, Lynch CF, Whitten PS, Thu K, et al. Risk factors for animal-related injury among lowa large-livestock farmers: a case-control study nested in the Agricultural Health Study. J Rural Health 2003;19(2):165-73.