

HEARING LOSS & IMPAIRMENT IN THE REFUGEE POPULATION

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HEALTH IS ALL WE DO

Hearing loss and impairment is a common, yet often under-reported, health issue impacting approximately 15% of adults globally (2011)¹ and 17% of adults (36 million) in the United States (U.S.; 2010).² Further hearing loss contributes to morbidity and mortality and may impact employment, work performance, and significantly impact quality of life.³ Early diagnosis as well as prevention and management interventions can reduce hearing loss.¹

Despite the demonstrated impact of hearing loss and impairment and some exploration of this issue in developing countries,^{4,5,6,7} limited data are available on hearing loss and conditions that may lead to hearing loss in the refugee population. The age standardized prevalence of hearing loss in adults by country and age cut offs consists of the following: Nepal (15.3% in 26+ years; 8.7% in 41+ years),⁵ Myanmar (8.6% in 41+ years),⁵ Thailand (11.6% in 41+ years),⁵ and Iraqi refugees resettled in the U.S. (6.3% non-standardized prevalence in 19+ years).⁸ Moreover, existing studies on hearing loss and impairment are challenging to evaluate since there are differences in definitions, criteria, and age ranges as well as incomplete data.⁵ Notably, however, a higher prevalence of chronic suppurative otitis media and cholesteatoma, which may lead to hearing impairment and loss, was identified in adult refugees than the general Australian population.⁹ A history of torture has also been associated with decreased hearing when methods such as *teléfono* or loud music are used.¹⁰ Specifically in the Nepalese adolescents and young adults, hearing loss was reduced after high dose administration of Vitamin A three times a year during childhood.¹¹ Hearing Project Nepal is a clinic in Nepal that both completes hearing screens and fits people for hearing aids.¹² Despite the great work that Hearing Project Nepal and other organizations are doing, many people, including refugees, are still not assessed for hearing loss or fit for hearing aids when needed.

To better understand the epidemiology of hearing loss and impairment among refugees resettled in the U.S., we identified all adult refugees with a documented diagnosis of hearing loss or hearing impairment among those refugees who received care from providers in the Department of Family and Community Medicine (DFCM) at Thomas Jefferson University (TJU) between 2007 and 2014. This data is stored in the Center for Refugee Health (CRH) Patient Registry, which contains demographic, clinical diagnosis, laboratory, treatment, and utilization data from over 1,000 adult and pediatric refugees. Fifty-seven (57) of the 872 (7%) adult refugees (mean age = 54 years) had documentation of hearing loss. The CRH data most likely represents an undercount of the patients with written documentation of hearing loss as data is still being abstracted. Further, discussions with clinicians revealed that specific evaluation of hearing limitation or loss are not universally conducted or documented. **Table 1** displays the demographics related to the refugees with hearing loss and impairment, including gender, primary language, camp of departure, and year of arrival. **Figure 1** displays the number of refugees with hearing loss and impairment by age range for each primary language; Burmese consists of Chin/Karen languages.

While 57 individuals with hearing loss were identified, a smaller subset would likely benefit from assistive hearing devices. Previous research has shown that about 20% of those with hearing loss in developing countries would benefit from a hearing aid; although only 10% of those that would benefit actually have hearing aids.¹ Unfortunately, the high cost and limited coverage for such devices under most insurance plans accessible to refugees in the U.S. was prohibitive.

Once the barrier to accessing hearing aids was identified, the resettlement agency health liaison working with clinic personnel approached the Starkey Hearing Foundation and

successfully obtained commitments to provide hearing aids for significantly reduced costs. This cooperative model – (1) problem identification, (2) problem evaluation, and (3) collaborative problem solving – may be utilized for other conditions to assist in efforts to advocate for refugees as well as other vulnerable populations.

Case Study

ST arrived in Philadelphia from Nepal in 2012 with his wife and three-year old son. Despite being in his early 30's, ST had significant hearing loss due to chronic infections and lack of medical care in the Bhutanese refugee camps. This provided significant barriers to communication because case managers and physicians had to use telephonic interpretation to communicate with ST's wife, who would then relay the information to ST so that he could lip-read it. This was also problematic in terms of employment. On arrival, ST was excited about pursuing employment in order to provide for his wife and child, but was having trouble securing a position because of his inability to communicate with employers. However, within three months of arrival ST had been evaluated by an otolaryngologist who concluded that he would benefit from a hearing aid. Unfortunately, ST was initially unable to obtain the needed assistive device due to cost (approximately \$1,000), as hearing aids were not covered under his insurance plan. Resettlement case workers assisted ST in applying for a discounted hearing aid through the Hear Now program of the Starkey Hearing Foundation. Six months later, ST received his hearing aid and was able to begin pursuing employment.

References

1. World Health Organization (WHO). (2013). Millions of people in the world have hearing loss that can be treated or prevented. <http://www.who.int/pbd/deafness/news/Millionslivewithhearingloss.pdf> Accessed May 9, 2014
2. National Institute on Deafness and Other Communication Disorders. (2010). *Quick Statistics*. Retrieved from <https://www.nidcd.nih.gov/health/statistics/Pages/quick.aspx>
3. McMahon CM, Gopinath B, Schneider J, Reath J, Hickson L, Leeder SR et al. The need for improved detection and management of adult-onset hearing loss in Australia. *Int J Otolaryngol*. 2013:308509
4. World Health Organization (WHO). (2013). Multi-country assessment of national capacity to provide hearing care. Retrieved from http://www.who.int/pbd/publications/WHOReportHearingCare_Englishweb.pdf?ua=1 Accessed May 9, 2014
5. Mathers C, Smith A, Concha M. Global burden of hearing loss in the year 2000. *Global Burden of Disease 2000*. WHO. http://www.who.int/healthinfo/statistics/bod_hearingloss.pdf Published 2000. Accessed May 7, 2008.
6. Elemraïd MA, Brabin BJ, Fraser WD, Harper G, Faragher B, Atef Z, et al. Characteristics of hearing impairment in Yemeni children with chronic suppurative otitis media: a case-control study. *Int J Pediatr Otorhinolaryngol*. 2010 Mar;74(3):283-6.
7. Schmitz J, Pillion JP, LeClerq SC, Khatry SK, Wu LS, Prasad R. Prevalence of hearing loss and ear morbidity among adolescents and young adults in rural southern Nepal. *Int J Audiol*. 2010 May;49(5):388-94.
8. Yun K, Hebrank K, Graber L, Sullivan M, Chen I, Gupta J. High Prevalence of Chronic Non-Communicable Conditions Among Adult Refugees: Implications for Practice and Policy. *J Community Health*. 2012 Oct;37(5):1110-8.
9. Benson J, Mwanri L. Chronic suppurative otitis media and cholesteatoma in Australia's refugee population. *Aust Fam Physician*. 2012; 41(12):978-80.
10. Crosby S, Mohan S, DiLoreto C, Spiegel J. Head and neck sequelae of torture. *Laryngoscope*. 2010 Feb;120(2):414-9.
11. Schmitz J, West KP, Khatry SK, Wu L, LeClerq SC, Karna SL, et al. Vitamin A supplementation in preschool children and risk of hearing loss as adolescents and young adults in rural Nepal: randomised trial cohort follow-up study. *BMJ*. 2012 Jan;344.
12. Hearing Project Nepal. (2010). Overview. Retrieved from <http://www.hearingprojectnepal.org/aboutus.php> Accessed May 12, 2014.

Table 1

Adult refugee patients seen at JFMA between 2007 - 2014 with hearing loss and impairment

	Total (%) (<i>n</i> = 872)	Hearing Loss and Impairment (%) (<i>n</i> = 57)
Male	53	44
Primary Language		
Arabic	29	16
Chin	3	<2
Karen	7	<2
Nepali	36	74
Tigrinya	6	<2
Other	<1	5
Camp of Departure		
IOM Addis Ababa	<1	<2
IOM Kuala Lumpur	10	4
IOM Mae Sot	7	<2
IOM Damak	34	68
IOM Shire	6	9
Not documented or processed through a camp	28	16
Year of Arrival		
2008	4	<2
2009	7	11
2010	15	12
2011	23	12
2012	25	32
2013	26	32

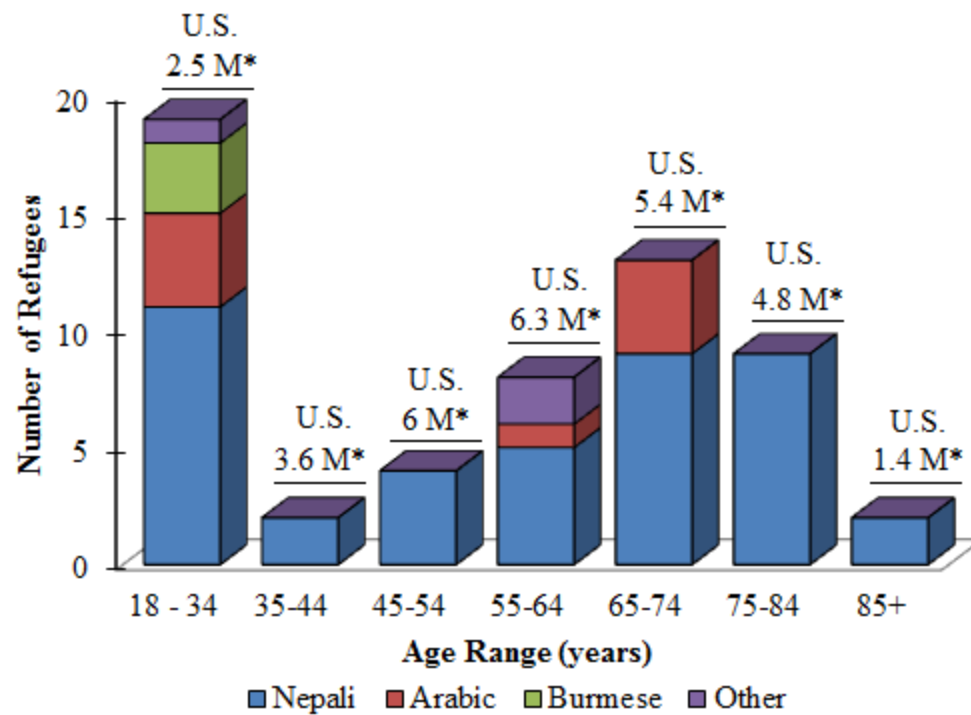


Figure 1. Number of refugees at Jefferson with hearing loss/impairment by age range and primary language ($n = 57$) compared to the U.S. population

*Kochkin S. (2005). Prevalence of hearing loss. *Better Hearing Institute*.
http://old.betterhearing.org/hearing_loss/prevalence_of_hearing_loss/index.cfm Accessed May 12, 2014
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