

Health Disparities in Sleep Medicine: Responses to the American Sleep Medicine Foundation Humanitarian Projects Award Program

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The mission of the American Sleep Medicine Foundation (ASMF) is to enhance sleep health for all through research, education, and humanitarian aid. This mission is accomplished by supporting entry of young physicians and scientists into sleep research and academic sleep medicine, funding strategic research, and educating investigators and the public about the impact of sleep and sleep disorders on the health of individuals as well as public safety. Over recent years, the Foundation has supported these objectives via grants averaging almost one million dollars per year put towards Physician Scientist Training awards, Junior Faculty Research awards, Strategic Research awards, and Strategic Educational Project awards, as well as a High School sleep essay contest.

The ASMF also coordinated over \$65,000 of donations during recent natural disasters, by establishing the Hurricane Katrina Disaster Relief Fund and the Haiti Relief Fund. While donations to help victims of sporadic natural disasters clearly meets the humanitarian mission of the foundation, there is also a need to serve ongoing humanitarian issues surrounding sleep health, in particular as this relates to individuals with poor access to health care. There is a growing awareness that poverty and social disadvantage are associated with "sleep disparity" and that sleep problems have a disproportionate impact on those living in poverty. Sleep disturbance and sleep disorders are thought to be more common among individuals of lower socioeconomic status (SES), or with poor access to health care. Although the literature is not extensive, several studies indicate that children from lower SES backgrounds are particularly at risk for the negative effects of sleep disorders.¹⁻³ Lower SES appears to be a risk factor for obstructive sleep apnea in children.^{2,4} Adults from lower SES experience shorter sleep duration and quality,⁵⁻⁷ a higher prevalence of hypersomnia,⁸ and a higher prevalence of insomnia.⁹ Unemployed individuals or those unable to work are significantly more likely to report unintentional daytime sleep, and those unable to work are also more

likely to obtain less than seven hours of sleep compared with the employed population.¹⁰

Sleep deprivation and chronic sleep disorders are known to cause or represent predisposing or perpetuating influences that contribute to behavioral and performance deficits in children and adolescents. Unfortunately, socially and economically disadvantaged groups often have the greatest barriers to health care access. Our diagnostic and treatment capabilities in sleep medicine have improved greatly, yet many interventions for sleep disorders require economic resources that are out of reach for some patients. With accumulating evidence that sleep problems and disorders are more common in those living in poverty, in less educated groups, and in those with social disadvantage, the Foundation realized that an opportunity exists to provide assistance and support to groups that experience health disparities.

Thus, the ASMF recently created the Humanitarian Projects Award program to support projects that address sleep problems or educational needs in disadvantaged populations. The Foundation was particularly interested in supporting projects that develop or promote novel approaches to address human suffering in underserved populations as it relates to inadequate or non-restorative sleep or sleep disorders in disadvantaged groups, and to support models that could be potentially transferred to and benefit other communities.

The ASMF Board of Directors approved the Humanitarian Projects award program in 2010 with an initial investment of \$60,000. The Foundation received 22 proposals during the inaugural application period. Applications were accepted from individuals, academic institutions, healthcare providers, hospitals, schools, and non-profit community or civic groups. Proposals were creative, responsive to one or more of the objectives of the program, and often showed strong potential for replication in other settings. Most applications involved collaborative projects that integrated the efforts and resources of more than one organization. Proposals included projects focused on

adult and pediatric populations, education, and treatment issues such as provision of refurbished CPAP machines to disadvantaged individuals. The ASMF established a grant review committee to review and rank proposals, and the following four proposals were selected for funding:

Early Childhood Sleep Program, by Sweet Dreamzz, Inc. *Aim:* to improve the health and well-being and subsequent academic performance of low-income preschoolers in urban Detroit, Michigan, through provision of sleep education and nighttime essentials. *Target audiences:* Head Start teachers, preschool students, and parents/guardians.

Improving the Sleep of Children Victimized by Violence, by Case Western Reserve University, Reena Mehra, M.D., and James Spilsbury, Ph.D. *Aim:* to improve the capacity of social work staff to address sleep-related issues of client families and to improve sleep environments of 450 children and parents victimized by violence by providing durable, portable bedding materials. *Target population:* children and parents from low income families who have been victimized by domestic violence who are being served by a community-based mental health agency in Cleveland, Ohio.

Sleeping Children Around the World 2011/2012 Bed Kit Distribution, by Sleeping Children Around the World and Judy Owens, M.D., M.P.H. *Aim:* to provide bed kits and other items needed to facilitate a good night's sleep to help underprivileged children face the challenges of a new day. *Target population:* underprivileged children and youth in developing countries who can benefit from receipt of a bed kit.

Project NIGHTS (Nurturing and Inspiring Good Habits in Teen Sleep), by It's Your Life Foundation and Salim Surani, M.D. *Aim:* to educate teenagers from indigent families about the significance of sleep, sleep hygiene, and risks associated with inadequate sleep by creating a multimedia presentation to explain these concepts. *Target population:* predominantly impoverished Hispanic adolescents in Corpus Christi, Texas.

These awards have proven timely as the importance of sleep health disparities in the US was recently highlighted at a 2011 National Heart Lung and Blood Institute workshop entitled "Reducing Health Disparities: The Role of Sleep Deficiency and Sleep Disorders" with the goals of: a) identifying differences in sleep health associated with ethnicity/race and socioeconomic factors; and b) identifying knowledge gaps needed to improve health disparities. The ASMF expects that proposals will: (1) serve a specific target population; (2) have a measurable impact on sleep, sleep habits, or access to sleep medical services; and (3) represent successful models that can be replicated in other settings. The Foundation is proud to make this initial investment, yet recognizes that these awards are modest given the immense scope of sleep disparities in the community. By coincidence, these initial awards have targeted sleep health in children, whereas there are clearly similar problems in adults that need to be tackled. Careful evaluation of impact and outcomes will be important in refining the objectives of the program in future years. The Foundation is optimistic that the Humanitarian Awards program can be expanded as donations

from individuals and organizations grow. The ASMF is uniquely positioned to leverage contributions to maximize impact in target populations, and the Foundation's overarching objective for the Humanitarian Projects award is to fundamentally alter how sleep medicine addresses human suffering as it relates to sleep, poverty, and other forms of social disadvantage.

The history of sleep medicine is firmly rooted in a holistic model of health and disease, and humanitarian efforts are a natural extension of this perspective. The ASMF Humanitarian Projects Award represents an excellent mechanism to address vital issues regarding sleep health disparities. The ASMF wishes to express our sincere appreciation to those who submitted proposals to this inaugural program, and we encourage our colleagues to join us in supporting this worthy initiative, which we hope will expand in the coming years.

Learn more about the ASMF or make a donation by visiting www.discoversleep.org.

CITATION

Wise MS; Morgenthaler T; Badr S; Gruber R; Redline S; Shea SA. Health disparities in sleep medicine: responses to the American Sleep Medicine Foundation humanitarian projects award program. *J Clin Sleep Med* 2011;7(6):583-584.

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SUBMISSION & CORRESPONDENCE INFORMATION

Submitted for publication November, 2011

Accepted for publication November, 2011

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DISCLOSURE STATEMENT

The authors have indicated no financial conflicts of interest.