

## What do healthcare providers know about human papillomavirus (HPV) and cervical cancer? a cross-sectional knowledge assessment in Debre Markos, Ethiopia

S. Raboteau<sup>1</sup>, Y. Magan<sup>1</sup>, A. Sisay<sup>2</sup>, E. Mahmoud<sup>1</sup>, S. Burrowes<sup>1</sup>;  
<sup>1</sup>Touro University California, Vallejo, CA, USA, <sup>2</sup>Debre Markos Referral Hospital, Debre Markos, Ethiopia

**Background:** Cervical cancer is the most common cancer among women living in sub-Saharan Africa. Ethiopia has a high incidence of cervical cancer (35.9 per 100,000 women), with 7,095 women diagnosed annually and 4,732 dying every year from the disease. Low provider awareness and poor understanding of appropriate prevention, treatment, and screening interventions pose challenges to addressing this problem. To gauge the extent of this information gap, the study explores variation in healthcare providers' knowledge about HPV and cervical cancer at Debre Markos Referral Hospital, a tertiary public facility located in Ethiopia's Amhara region.

**Methods:** We conducted a survey of 140 randomly selected healthcare providers stratified by professional group. The verbal, in-person survey was conducted in English after participants gave verbal informed consent. The survey contained demographic questions and questions about cervical cancer and HPV infection risk factors, symptoms, treatment options, transmission routes, screening techniques, and prevention methods. A total knowledge scale (alpha = 0.85) and several sub-scales were generated by summing correct responses. The data were analyzed using bivariate tests of association and multivariate linear regression.

**Findings:** Our respondents were 40% female. Approximately 36% were nurses, 22% students, 19% physicians, 12% midwives and 11% health officers. The vast majority (98%) had heard about cervical cancer and 70% stated that it was a major health issue in Ethiopia. Knowledge of symptoms, screening methods, treatments, and risk factors were all relatively weak, e.g., 45% of respondents were unaware that either early sexual intercourse or smoking were cervical cancer risk factors. A third of respondents gave incorrect responses to questions about the protective effect of HPV vaccination.

Nurses and health officers scored significantly lower than physicians on overall knowledge. Younger respondents were significantly more likely than older providers to be aware that cervical cancer was a major health problem; to know the risk factors associated with it; and to know how it is treated. There was no significant difference in overall knowledge by gender.

**Interpretation:** Our findings suggest the need for refresher in-service training on cervical cancer risk factors and screening methods targeted at older healthcare providers, particularly nurses and health officers.

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## Social business impacting health and development in Israel's negev desert: a case study of Al sanabel women's catering cooperative

K.M. Hadley, V.F. Byron; Ben-Gurion University of the Negev, Medical School for International Health

**Program/Project Purpose:** The emergence of the social business model as a framework for economic and social empowerment has given rise to creative new methods to tackle community development. Through the lens of an organizational case study, we explore the model of a particular business and its suitability to address multifaceted social issues. Al Sanabel, otherwise known as the Hura Women's Catering Enterprise, is a socially minded business based in the Bedouin township of Hura in Israel's Negev Desert. As a business, it prepares and distributes fresh meals to thousands of school-children daily. As a social organization, it empowers women through employment and education, reinvests in community projects, and promotes healthy diets for Bedouin children.

**Method:** We employ several methods to explore the factors that underlie the long-term feasibility and impact of Al Sanabel's model. Interviews with employees of Al Sanabel and community leaders provide a range of perspectives from both inside and outside of the organization. Field observations and photography of the catering facility and the schools provide cultural and physical context for our analysis.

**Outcome & Evaluation:** Al Sanabel produces and delivers 7,000 fresh meals daily to Bedouin school children. Since 2011, it has been producing profits that have been inserted back into the community. One major factor in its success is the organization's ability to embrace the inherent tension between social and business objectives. Al Sanabel often faces situations in which it must choose between immediate social impact and long-term financial solvency. This choice is only made possible due to its mantra that successful business is necessary for a successful social mission. The organization's clear founding principles and long term goals provide a space in which this necessary interplay can occur.

**Going Forward:** This case study sheds understanding on why Al Sanabel is successful as a social business and preliminary findings suggest that it is meeting its social goals. However, its applicability as a general model in the field of sustainable development needs to be further explored by assessing the outcomes of its social missions and the particulars of the specific context in which it operates.

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## Spreading the health: international public health academic and community partnerships in Panama

Arlene Calvo, Arturo Rebolon, Humberto Lopez, Morgan Hess-Holtz; University of South Florida, Panama Program at the City of Knowledge

**Program Purpose:** The main program purpose is to develop regional partnerships in Latin America, with Panama as a hub, for academic and research activities in global health. For the past decade a major Florida institution of higher learning has developed a program in Panama, Central America and has offered international interdisciplinary academic and practice training at Panamanian schools. Reaching the Americas through partnerships of the