Objective: The Dietary Guidelines (Guidelines) provides food-based guidance to help promote health and prevent chronic disease. Like nutrition science, dietary guidance continues to evolve.

Target Audience: The target audience is health professionals who implement the recommendations to reach consumers through programs, policies, and educational initiatives of Federal and other public health programs and services. The Guidelines has traditionally addressed Americans two years of age and older.

Description: By statute, every five years the U.S. Departments of Health and Human Services and of Agriculture jointly publish the Guidelines. While the core of the Guidelines has remained relatively consistent over time, it has evolved with the science from a focus on nutrients to foods and, more recently, to overall eating patterns. Additionally, the range of topics addressed has grown over time.

Rationale: The Guidelines evolves as a result of changes in the science, advancements in the process to review the science, and consideration of topics of public health importance current at the time. Future editions will continue to evolve. For example, beginning with the 9th edition, the Guidelines will address pregnancy and children from birth on.

Evaluation: Each edition of the Guidelines builds on the previous, with the scientific justifications for revisions informed by an in-depth review of the science.

Conclusions and Implications: The Guidelines serves as the evidence-based foundation and a critical tool for health professionals. Federal food programs and educational outreach rely on the Guidelines and its scientific underpinnings. Nutrition educators remain essential as communicators of the Guidelines through the sectors and settings where Americans make food choices.

Funding: None

Objective: The purpose of this study was to examine the factors that contributed to the attainment of Millennium Development Goal (MDG) 4 and 5, and determine the level of their intervention based on Maternal and Child Health (MCH) conceptual framework.

Study Design, Setting, Participants: A prospective study was carried out in 135 women of reproductive age (15-49 y) known to practice geophagia. Baseline data was collected and evaluated knowledge, attitudes and practices (24-hour recall) regarding diet and geophagia. This was followed by a half-day educational intervention primarily based on the health-belief model.

Outcome Measures and Analysis: Descriptive statistics were used along with analyses of pre and post data using the Wilcoxon signed-rank test.

Results: Geophagia cut across all ages with 91(67.4%) consuming ≥100 g/day. Strong cravings were reported by 81.5% as the primary reason for geophagic practices. The most common negative effect reported by participants was constipation (16.3%). Nutrition education focusing on the dangers of geophagia elicited a decrease in amount of geophagic material consumed per day in 82 (77%) of participants (Z = -7.914, p < .001). Following the intervention, the proportion of participants who achieved their target for either MDG 4 or 5 intervened at three levels namely basic or societal level, underlying causes or community level, and direct causes levels. For example, Ethiopia, succeeded in the achievement of MDG 4 by improving basic services at the societal level, increasing healthcare services and providing specialized nutrition intervention to malnourished children. On the contrary, the countries that did not succeed did not address the basic causes, or did not implement their policies. Cameroon only worked at the direct causes, ignoring societal level and underlying causes. Botswana and Zimbabwe worked at the direct and underlying causes, and developed policies but failed to implement them.

Conclusions and Implications: It is critical that policymakers work on societal level problems, address the cause of the problems by addressing the underlying causes and focus on capacity building. Health professionals need to consider the motivations and limitations of the target population, including nutrition education. Targeting behavior change has the potential to result in sustainable MCH.

Funding: None

Objective: Geophagia, the deliberate consumption of earth or stones is widespread in sub-Saharan Africa. This practice is associated with exposure to heavy metals and parasites, micro-nutrient deficiencies and poor pregnancy outcomes. Our study aimed to characterize and reduce the practice of geophagia in Nakuru, Kenya and implement a nutrition education program to improve dietary intake.

Study Design, Setting, Participants: A prospective study was carried out in 135 women of reproductive age (15-49 y) known to practice geophagia. Baseline data was collected and evaluated knowledge, attitudes and practices (24-hour recall) regarding diet and geophagia. This was followed by a half-day educational intervention primarily based on the health-belief model.

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designed half their plate with vegetables using the healthy plate model increased from 12% to 76.4%. A significant increase in dietary diversity was also documented ($Z = -3.058, p < .002$).

**Conclusions and Implications:** Nutrition education was shown to be an effective approach for reducing geo-phagic practices in rural Kenya and improving overall dietary intake.

**Practical Importance:** This pilot intervention showed that it is imperative to identify women at risk and provide nutrition education to combat this disordered eating.

**Funding:** Pears Foundation, UK

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**O51 Assessing the Self-Efficacy and Barriers of Nutrition Counselors in Providing Nutrition Education in Cameroon, Africa**

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**Objective:** To qualitatively assess the self-efficacy and perceived barriers of nutrition counselors after a 6-week training course.

**Study Design, Setting, Participants:** Most counseling in sub-Saharan Africa is conducted by mid-level nurses or community volunteers, and little is done to develop capacity for nutrition at the professional, organizational, or systemic levels. Since 2007, the Cameroon Baptist Convention Health Services (CBCHS) Nutrition Improvement Program has trained and integrated nutrition counselors into prevention of mother-to-child transmission of HIV programs, infant welfare clinics, and antenatal clinics to improve infant and young child feeding practices. At the beginning, middle, and end of the six-week training, nutrition counselors were asked to journal about their perceived barriers and self-efficacy to provide nutrition counseling. Thirty-nine nutrition counselors (1 male, 38 females) enrolled in a training at CBCHS.

**Outcome Measures and Analysis:** Using qualitative inductive content analysis, journals were coded, categorized for themes regarding perceived barriers and self-efficacy, and checked for inter-consistency.

**Results:** Nutrition counselors stated that role-playing, learning songs and dramas about young child feeding, and group discussions improved their self-efficacy. The perceived barriers included finances, concerns about communicating with clients, lack of cooperation with other health care providers, and transportation.

**Conclusions and Implications:** Training a cadre of nutrition counselors is one approach towards increasing human resources to implement nutrition interventions. Trainings should include active teaching methods such as role-playing, dramas, songs and reflective journaling while attending to barriers such as transportation, interpersonal communication, and finances.

**Funding:** University of Northern Colorado Provost Research Dissemination and Faculty Development Grant

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**O52 Factors Associated with Stunting Among 0-23 Months-Old Children in Rural Bangladesh**

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**Objective:** To examine associations between household food insecurity and nutritional status of 0-23 month's old children.

**Study Design, Setting, Participants:** A total of 400 low income rural households from 16 villages from Kuri-gram District, Bangladesh, participated this cross-sectional study.

**Outcome Measures and Analysis:** Household food security and the associated coping strategies, nutritional status and children feeding practices were assessed. Chi-square test and logistic regression were performed to determine the factors associated with food insecurity and stunting.

**Results:** Approximately, 70% of the households were categorized as food insecure. Common coping strategies included: eating low quality food (53.9%), eating less items of foods (51.4%), and borrowing foods from neighbors or family (51.9%). Father's with college level education and per capita monthly income greater than $37.5 and / or more earning members in the households were preventive of food insecurity. Prevalence of stunting was significantly high among severely food insecure households (46.2%) as compared to food secure households (28.6 %) ($p = 0.003$). In addition, severe food insecurity significantly affected stunting in children aged 12-23 months (OR 2.87 CI, 1.47-5.62; $P = 0.002$), while low birth weight (LBW) significantly affected stunting in under 6 months' infants ($p = 0.009$). However, minimum dietary diversity and exclusive breastfeeding were not associated with stunting in this population.

**Conclusions and Implications:** Low birth weight and severe food insecurity significantly affected stunting in children in the study area. Therefore, establishment of safety nets during pregnancy as well as long term interventions that would increase availability and accessibility of foods are recommended in an effort to reduce stunting in low income rural households.

**Funding:** None