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Bringing to life the germ theory to germ therapy perodyme: An educational decision tree employing therapeutic bacteria (probiotics)

John G Thomas

West Virginia University, USA

WHO reported 30% of global population consumes Pre/Probiotics (P/P) worth \$87.5 Billion/yr. Yet, considerable misunderstanding persists fostered by a plethora of commercial products meeting WHO standards. In 2011, addressing the problem, we established the Center for Probiotic Studies, “Partners-4-Life”, encompassing 3 educational arms: International Surveys (IS), Bac-2-Health (B2H) Library and Translational Research (TR). Here, we focus on Phase I of B2H development, creating a database with graded, searchable library for Health Care Providers (HCP) populated by current literature for evidence based decision support. Results of 1,521-15 question Probiotic Surveys from 2012-2014 and literature review were used to design “need to know” 5 searchable categories. Drop Box was used for archiving, tracking and retrieving 310 manuscripts from 2000- 2014 using Pub Med, EBSCO Host and CINAHL. Probiotics, microbes and effects on 50 clinical conditions were coded for future Phase II data base searching, while all manuscripts were graded to 8 study types and strength of evidence (A-F) using National Standard criteria, emphasizing statistical significance. A multi-tiered informational cascade was designed, recognizing the need for searches by P/P products, microbes, organ systems/conditions, strength of evidence/study type linked to complete text. IS confirmed limited positive knowledge (31%) of use, benefits and limitations of probiotics, helping Phase I B2H database organization. There was a reservoir of reviewed literature (310 manuscripts), 83% international, that described the use, mechanism of action and clinical application with 50 conditions of P/P including multiple RCTs for GIT diseases. 21 P/P products were highlighted with 22 microbial species, ranging from 1-11/product, representing 3 bacteria and one fungal genus. Of the 11 medical/dental target organ systems, GIT (110), Oral (75) and female reproductive (20) had the most intervention articles. Study Types emphasized cross-sectional or *in vitro* and strength of evidence recognized B (Good) or D (Fair). Recent advances in meta-genomics have fostered concepts of “restorative microbiology” and “therapeutic bacteria”. Here, we describe Phase I construction of an evidence based decision support library for HCP, organized to facilitate Phase II, a web based interactive app for probiotics education.

Biography

John G Thomas is recognized as an “International Educator and Global Microbiologist”; being lectured in more than 43 countries while a Clinical Microbiologist in Pathology, Dentistry and Medicine for 51 years. His research emphasizes bio-films and medical devices including endotrachs and the connection between oral diseases, VAP and wound infections (“Intellectual Design”) with the recent integration of micro 3-D- bio printing using bio-plastics and unique prebiotics (Therapeutic Bacteria) for intervention. He has over 50 publications, multiple book chapters, significant grant support, pending patents and over 100 posters/abstracts at national and international meetings. His sabbatical at Cardiff University, Wales, UK (2007) was a driving influence. He has been a member of the ADA Scientific Advisory Committee for the last 8 years. As Faculty at 6 Universities during his career, he has received Alumni and University awards for research and International Student Mentoring; retiring from WVU in 2013 after 23 years as Professor Emeritus, he presently is expanding his research/teaching utilizing the advanced resources of the Allegheny Health Network in Pittsburgh, PA, Carnegie-Mellon University and Mass. Gen. Hospital, Boston, MA.

jgthomas@hsc.wvu

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