Conference Report Appendix: International Conference on Betel Quid and Areca Nut

Kuala Lumpur, Malaysia April 27-28, 2016

Co-sponsored by:

Taiwan Health Promotion Administration, Ministry of Health and Welfare, Taiwan
The University of Texas at MD Anderson Cancer Center, USA
University of Malaya, Malaysia
US National Cancer Institute (NCI), USA
US National Dental and Craniofacial Research (NIDCR), USA

In partnership with:

Healis- Sekhsaria Institute for Public Health, India
International Agency for Research on Cancer (IARC), Switzerland
Kaohsiung Medical University, Taiwan
King's College London, WHO Collaborating Centre for Oral Cancer, United Kingdom
Ministry of Health Malaysia
National Institute on Drug Abuse, National Institutes of Health, USA
National Health Research Institutes, Taiwan
New York University College of Dentistry, USA
University of Hawaii, USA
University of Florida, USA
University of Minnesota, USA
Public Health Foundation, India
SmileLink Dental Group Malaysia
The University of Malaya, Malaysia
US Centers for Disease Control (CDC), USA

WHO Regional Office for the Western Pacific (WPRO), Philippines

US Department of Defense, USA

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APPENDIX

Appendix I: Concept Note - International Conference on Betel Quid and Areca Nut

Location Kuala Lumpur, Malaysia Date April 27-28, 2016

Context and Rationale

Tobacco and areca nut are used in a variety of forms and with other added ingredients throughout Asia and the Pacific. Common forms of areca nut use include: betel quid, a combination of betel leaf, areca nut, and slaked lime, which may be used with or without tobacco and is typically assembled for the customer; and gutka, a packaged product containing areca nut, slaked lime, and tobacco. Other ingredients and flavorants are often added according to local preferences and customs (e.g., sweeteners; catechu; or spices such as cardamom, saffron, cloves, anise seeds, turmeric, and mustard). While both tobacco and areca nut are known carcinogens, other ingredients may also contribute to the toxic or addictive properties of the product.

Betel quid and areca nut use is common in Asian and Pacific countries. The 2009–2010 Asian Betel–Quid Consortium study found that use of betel quid with tobacco among adults aged 15 and older ranges widely across several countries in the region. For example, prevalence is high in Nepal (males, 43.6%; females, 34.9%) and among women in Indonesia (31.7% among females, compared to 10.4% among males). The CDC Global Adult Tobacco Survey in India (2009–2010) shows that about 6.2% percent of all adults aged 15 years and older (7.5% of males and 4.9% of females) report using betel quid with tobacco. Betel quid, is a risk factor for oral and esophageal cancers, and has shown effects on the cardiovascular, nervous, GI and metabolic, respiratory, and reproductive systems.

The International Agency for Research on Cancer Monograph 85 (2004) examined the carcinogenic effects of betel quid and areca nut chewing and concluded that betel quid, both with and without tobacco, is carcinogenic to humans. However, the relative contribution of specific ingredients to the carcinogenic and addictive properties of betel quid is not well characterized. Additionally, the practice of betel quid use, added ingredients, and cultural role vary widely across the region. Moreover, tobacco control policies and interventions are not necessarily applied to betel quid chewing, even when the product contains tobacco. More research is needed to understand effective prevention and control of betel quid use (alone or in combination with cigarette smoking and/or alcohol), screening and treatment for related cancers, policy and economic impacts, cessation, and basic biology.

This proposed conference will focus on understanding the impact of use of areca nut and betel quid, both with and without tobacco, and all its variants, addiction issues, and the associated cancers and

other oral health issues, specifically cancers of the lip, mouth, tongue, pharynx, and esophagus. Specific agenda topics are outlined below.

Objectives

The goals of this conference are as follows:

- 1. To identify research priorities and unanswered research questions regarding the use of areca nut and betel quid and cancer;
- 2. Identify evidence-based strategies for prevention and control;
- 3. To share relevant research findings from the field and highlight particular country examples of the translation of evidence to policy;
- 4. To build a network of betel quid researchers and stimulate new research in the field;
- 5. To strengthen capacity among researchers in LMICs;
- 6. To explore the potential for e -health/m-health and other technology based interventions for areca nut and betel quid control in these communities.

Anticipated Outputs

The expected results of this conference are:

- 1. Development and publication of recommendations for areca nut and betel-quid control;
- 2. Possible generation of new collaborations in areca nut and betel-quid research and self-sustaining network of researchers.

Agenda Topics:

Prevention of use

- Behavioral and sociocultural factors that contribute to oral use of tobacco and areca nut
- Developing effective prevention interventions, including the role of health care practitioners and the dental community

Behavioral Factors, Addiction and Dependence

- Biology of addiction: key ingredients/alkaloids in tobacco and betel quid/areca nut
- Dual use of areca nut or betel quid and alcohol/cigarette smoking
- Cessation interventions and dependence treatment, including pharmacotherapy, mHealth and low-cost tech interventions

Patterns of Use/Epidemiology

- Global epidemiology of use
- Changing epidemiology of related neoplasia
- Use among migrant populations
- Surveillance systems

Biology, Carcinogenesis and Diseases Outcomes

- Product Analysis (ingredients and absorbed byproducts), specific carcinogens associated with cancer that are in AN/BQ
- Biological mechanisms of disease
- Disease outcomes for each variant of betel quid and areca nut
- Dual impact of tobacco and areca nut or betel quid use on oral cancers

Screening and Early Detection of oral cancers

- Best practices and case studies in screening in early detection:
 - Taiwan National Screening Program Case Study
 - Malaysian Oral Cancer Screening Programme
 - Methods in assessing screening: A review of a RCT



Policy Interventions and Economics of Betel-leaf and Areca Nut Growing and Industry

- Incorporating areca nut and betel quid control into tobacco control policies/programs
- Policy interventions (taxation, warnings, tobacco- and betel-quid-free spaces, retail environment and marketing)
- Scope and evaluation of existing public health programs (prevention of use, educational and knowledge dissemination)



Appendix II: Conference Agenda

International Conference on Betel Quid and Areca Nut

April 27-28, 2016 Kuala Lumpur, Malaysia Le Meridien Hotel, Kuala Lumpur

With special thanks to the Scientific Steering Committee, including:

Healis- Sekhsaria Institute for Public Health, India

International Agency for Research on Cancer (IARC), Switzerland

Kaohsiung Medical University, Taiwan

King's College London, WHO Collaborating Centre for Oral Cancer, United Kingdom

Ministry of Health Malaysia

National Institute on Drug Abuse, National Institutes of Health, USA

National Health Research Institutes, Taiwan

New York University College of Dentistry, USA

University of Hawaii, USA

University of Florida, USA

University of Minnesota, USA

Public Health Foundation, India

SmileLink Dental Group Malaysia

The University of Malaya, Malaysia

US Centers for Disease Control (CDC), USA

US Department of Defense, USA

WHO Regional Office for the Western Pacific (WPRO), Philippines

Wednesday, April 27

Clark 1 Conference Room, Le Meridien Hotel

8:00 – 9:00 AM Registration and Poster Set-up

9:00 – 9:45 AM Welcome / Overview of Meeting

• Welcome by Dr. Edward Trimble, Director, Center for Global Health, National Cancer Institute, National Institutes of Health

Remarks from Conference Sponsors

- Dr. Shu-Ti Chiou, Director-General, Health Promotion Administration Ministry of Health and Welfare, Taiwan
- Professor Rosnah Binti Mohd Zain, The University of Malaya, Oral Cancer Research and Coordinating Centre (OCRCC), Malaysia
- Dr. Ellen R. Gritz, The University of Texas, MD Anderson Cancer Center, United States

Opening Ceremony

• Opening by Datuk Dr. Noor Hisham Abdullah, the Honorable Director General of Health Malaysia

9:45- 10:15 AM Keynote Address

"Betel Quid, Areca Nut and Cancer - A Silent Killer" – The State of Science

Professor Saman Warnakulasuriya OBE, King's College London and WHO Collaborating Centre for Oral Cancer and Pre-cancer, United Kingdom

10:15 – 10:45 AM Break and Group Picture

10:45 – 12:15 PM Plenary: Biology, Disease and Epidemiology

Introduction by Session Chairs:

- Dr. Prakash C. Gupta, Healis Sekhsaria Institute for Public Health. India
- Professor Saman Warnakulasuriya OBE, WHO Collaborating Centre for Oral Cancer and Pre-cancer/King's College London, United Kingdom

Biology

Plenary Speaker:

Oral consequences of areca nut products: *Dr. A. Ross Kerr DDS*, Department of Oral and Maxillofacial Pathology, Radiology & Medicine, New York University College of Dentistry, United States

Epidemiology

Plenary Speakers:

The carcinogenicity of areca nut and the attributable burden of cancer: Dr. Kurt Straif, Section Head, Section of IARC Monographs, International Agency for Research on Cancer (IARC), France

Characteristics of betel quid users in India and Bangladesh and some less researched health effects: *Dr. Prakash C. Gupta, Healis - Sekhsaria Institute for Public Health, India*

12:15 – 1:45 PM Lunch Break and Poster Session

1:45 – 3:15 PM Plenary: Prevention, Addiction and Dependence

Introduction by Session Chairs:

- Dr. Ellen R. Gritz, Department of Behavioral Science, The University of Texas, MD Anderson Cancer Center, United States
- Professor Dr. Amer Siddiq Bin Amer Nordin, Department of Psychological Medicine, Faculty of Medicine, University of Malaya
- Dr. Mark Parascandola, Tobacco Control Research Branch, National Cancer Institute, National Institutes of Health, United States

Prevention

Plenary Speaker:

Oral Cancer Prevention: Research in the Asia-Pacific Region: *Dr. Thaddeus A. Herzog, Associate Professor, Cancer Prevention and Control Program, University of Hawaii Cancer Center, United States*

Addiction and Dependence

Plenary Speakers:

The Properties of Arecoline Suggest Links Between Betel Quid Use and Nicotine Addiction: *Dr. Roger L. Papke, Professor, Department of*

Pharmacology & Therapeutics College of Medicine, University of Florida, United States

Oral Tobacco and Areca Nut Use- Current and Future Treatments: *Dr. Dorothy Hatsukami, Director of the Tobacco Research Programs at the University of Minnesota Masonic Cancer Center, United States*

3:15 – 3:45 PM Break

3:45 – 5:00 PM Breakout Sessions

Group 1 – Prevention, Addiction and Dependence

Parry 2 Boardroom, Le Meridien Hotel

Group 2 – Biology & Epidemiology

Clark 1 Conference Room, Le Meridien Hotel

Thursday, April 28

Clark 1 Conference Room, Le Meridien Hotel

8:30 – 9:15 AM Welcome and Overview of Day 2

Hedieh Mehrtash, Center for Global Health, National Cancer Institute, National Institutes of Health

Highlights of Day 1 Breakout Sessions

Moderators: Session Chairs from Day 1

- Dr. Prakash C. Gupta, Healis Sekhsaria Institute for Public Health. India
- Professor Saman Warnakulasuriya OBE, WHO Collaborating Centre for Oral Cancer and Pre-cancer/King's College London, United Kingdom
- Dr. Ellen R. Gritz, Department of Behavioral Science, The University of Texas, MD Anderson Cancer Center, United States
- Professor Dr. Amer Siddiq Bin Amer Nordin, Department of Psychological Medicine, Faculty of Medicine, University of Malaya, Malaysia
- Dr. Mark Parascandola, Tobacco Control Research Branch, National Cancer Institute, National Institutes of Health, United States

9:15 -- 10:45 AM Plenary: Screening and Early Diagnosis of Oral Cancers Introduction by Session Chairs:

- Professor Rosnah Binti Mohd Zain, University of Malaya Oral Cancer Research and Coordinating Centre (OCRCC), Malaysia
- Dr. Ravi Mehrotra, Director National Institute of Cancer Prevention and Research, India

Best Practices and Case Studies in Screening in Early Diagnosis Plenary Speakers:

Taiwan National Screening Program Case Study: *Dr. Shu-Ti Chiou*, *Director-General*, *Health Promotion Administration Ministry of Health and Welfare*, *Taiwan*

Prevention and Early Detection Screening of Oral Cancer Programme in Malaysia: *Dr. Noor Aliyah bt Ismail, Principal Director of Oral Health, Ministry of Health, Malaysia*

Methods in assessing screening: A review of a RCT: *Professor Dr Yang Yi-Hsin, Kaohsiung Medical University, Taiwan*

10:45 – 11:15 AM Break and Film Screening

Film Screening "The All-Chewing Truth in Papua New Guinea"

Introduction by Mr. James Rarick, World Health Organization (WHO), Cambodia

Discussion by Ms. Anjelique Giranah and Ms. Renagi Taukarai, U.S. Embassy Port Moresby

11:15– 12:30 PM Nut

Plenary: Policy Interventions and Economics of Betel-Leaf and Areca

Introduction by Session Chairs:

- Dr. Annette David, Senior Partner for health consulting services, Health Partners, LLC, Guam, United States
- Dr. Chi Pang Wen, Professor, National Health Research Institutes, Taiwan

Plenary Speakers:

Policy Response to Address Betel Quid for Success of Tobacco Control:

Experience from India: Dr. Monika Arora, Public Health Foundation India (PHFI)

Advocacy for Policy Development on Betel Nut and Tobacco Control in the Western Pacific Region: *Mr. James Rarick, World Health Organization (WHO), Cambodia*

12:30 –2:00 PM Lunch and Poster Session 2

2:00 – 3:15 PM Breakout Sessions 2

Group 1- Screening and Early Diagnosis of Oral Cancers

Clark 1 Conference Room, Le Meridien Hotel

Group 2 - Policy Interventions and Economics of Betel-Leaf and Areca Nut

Parry 2 Boardroom, Le Meridien Hotel

3:15 -- 3:30 PM Break

3:30 -- 4:15 PM Highlights of Day 2 Breakout Sessions

Moderators: Session Chairs from Day 2

- Professor Rosnah Binti Mohd Zain, University of Malaya Oral Cancer Research and Coordinating Centre (OCRCC), Malaysia
- Dr. Ravi Mehrotra, Director, National Institute of Cancer Prevention and Research, India
- Dr. Annette David, Senior Partner for health consulting services, Health Partners, LLC, Guam, United States
- Dr. Chi Pang Wen, Professor, National Health Research Institutes, Taiwan

4:15 PM Closing Remarks



Appendix III: Participant List by Country

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Prof. Saman Warnakulasuriya KIng's College London, UK S.warne@kcl.ac.uk Dr. Yuka Jinnai London School of Hygiene and Tropical Medicine, UK USA Dr. Adrian Franke University of Hawaii, USA Prof. Alexander Ross Kerr New York University, USA Mr. Bon Fleming US Embassy Malaysia Dr. Brenda Hernandez University of Hawaii Cancer Center, USA Candice McMullan- Dental Practice Dr. McMullan-Vogel, cvogel@cc.hawaii.edu	Dr.	Yann-Yuh Jou		
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Appendix IV: Poster Presentations

Poster number	Name of Presenter	Abstract Title	Topic
1	Apeksha Mainali, College of Dental Sciences Nepal Medical College Nepal	Detection of micronuclei in the buccal mucosa of areca nut and gutka chewers	Biology, Disease and Epidemiology
2	Apurva Garg, Tata Memorial Hospital Mumbai, India	Correlation between oral submucous fibrosis and various clinicopathological and biochemical parameters in oral cancer	Biology, Disease and Epidemiology
3	Brenda Hernandez, University of Hawaii Cancer Center, USA	The influence of areca (betel nut) chewing on the oral microbiome	Biology, Disease and Epidemiology
4	Dhirendra Narain Sinha, Institute of Cytology & Preventive Oncology, India	Areca nut use in India: Findings from Global Adult Tobacco Survey	Biology, Disease and Epidemiology
5	Irina Stepanov, University of Minnesota, USA	Alkaloid profiles of commercial areca nut- containing products: Implications for addiction and carcinogenic potential	Biology, Disease and Epidemiology
6	Reinhold Penner, University of Hawaii Cancer Center, USA	Identification of pro-inflammatory molecules involved in Areca nut-mediated carcinogenesis	Biology, Disease and Epidemiology
7	THET THET MAR, Department of Medical Research Ministry of Health, Myanmar	Notification to betel quid chewers for aflatoxin B1 contamination in areca nuts (Areca catechu Linn.)	Biology, Disease and Epidemiology
8	Yuka Jinnai, London School of Hygiene and Tropical Medicine, UK	The impact of betel quid chewing during pregnancy on pregnancy outcomes in Bhutan	Biology, Disease and Epidemiology
9	Yvette C. Paulino, University of Guam	Areca (betel) nut chewing and oral health in the Mariana Islands	Biology, Disease and Epidemiology
10	Priyamvada Todankar, Narotam Sekhsaria Foundation, India	Prevalence of Areca nut usage among school students in Mumbai	Biology, Disease and Epidemiology

11	Chen-Yi Lee, Kaohsiung Medical University, Taiwan	Qualitative study for betel quid cessation among oral cancer patients in Taiwan	Prevention, Addiction and Dependence
12	Chia-Ing Li, China Medical University Hospital, Taiwan	Barriers to quitting betel quid for Taiwanese chewers	Prevention, Addiction and Dependence
13	Chia-Ing Li, China Medical University Hospital, Taiwan	A symbol of connection between self and tribal home- Betel quid for Taiwanese aboriginal people	Prevention, Addiction and Dependence
14	Irene M Tami, MD Anderson Cancer Center, USA	"When you have a toothache, you just chew betel quid": A qualitative study exploring attitudes and perceptions of betel quid consumption and its oral health implications in Taiwan	Prevention, Addiction and Dependence
15	Keam Ou SOR, University of Puthisastra, Cambodia	Knowledge and beliefs of medical and dental students in Cambodia about betel quid chewing	Prevention, Addiction and Dependence
16	Madhu Shrestha, Chitwan Medical College (currently Hiroshima University), Nepal	Pattern of selling practices and awareness among vendors selling betel quid and areca in five districts of central Nepal	Prevention, Addiction and Dependence
17	Mira B. Aghi, Healis Sekhsaria Institute of Public Health, India	An approach to group cessation of betel nut and tobacco chewing—a case of eleven disadvantaged women in India	Prevention, Addiction and Dependence
18	Saritha Nair, National Institute of Medical Statistics Indian Council of Medical Research New Delhi India	Use of betel quid (paan), arecanut and tobacco among women in a slum community in Mumbai, India	Prevention, Addiction and Dependence
19	Gauravi Mishra, Tata Memorial Hospital, India	Community Based Tobacco Cessation Programme among Women in Mumbai, India	Prevention, Addiction and Dependence
21	Adrian Franke, University of Hawaii, USA	Pilot study on identification and pharmacokinetics of salivary biomarkers for betel nut and betel quid chewing	Screening and Early Diagnosis of Oral

			Cancers
22	Choki Pema, Jigme Dorji wangchuk national referral hospital Thimphu Bhutan	Screening and early detection for Areca nut and betel quid related oral cancers	Screening and Early Diagnosis of Oral Cancers
23	Elizabeth Fitriana Sari, Faculty of Medicine, Dentistry, and Health Science Melbourne Dental School The University of Melbourne Australia	Oral Potential Malignant Lesions Screening Among Administrative Staff in Faculty of Dentistry, Universities Padjadjaran, Indonesia	Screening and Early Diagnosis of Oral Cancers
24	GANANANDA NANAYAKKARA, FACULTY OF MEDICINE UNIVERSITY OF RUHUNA GALLE SRI LANKA	Screening studies on oral cancer and potentially malignant disorders in Sri Lanka	Screening and Early Diagnosis of Oral Cancers
25	Myo Min Thane, Department of Medical Research, Myanmar	Oral Cancer Screening among Tobacco users in Hpa-An, Kayin State, Myanmar	Screening and Early Diagnosis of Oral Cancers
26	Nandu Meshram, Society for Oral Cancer and Health, India	Cross sectional study of smokeless tobacco addictions and its effects on oral health in tribal population and comparison with non tribal control population	Screening and Early Diagnosis of Oral Cancers
27	Chi Pang Wen, National Health Research Institutes, Taiwan	Epidemiology of betel quid chewing in Taiwan and its policy implications	Policy Interventions and Economics of Betel-leaf and Areca Nut
28	Francesca Gany, Memorial Sloan Kettering Cancer Center, USA	A Community-Engaged Approach to develop a South Asian Smokeless Tobacco Product Research and Policy Blueprint for the U.S.	Policy Interventions and Economics of Betel-leaf and Areca Nut
29	Gaurav Kumar, Mamta Health Institute for Mother and Child, India	Community Based Tobacco Cessation Programme among Women in Mumbai, India	Policy Interventions and Economics of Betel-leaf and Areca Nut
30	Carl-Wilhelm Vogel, University of Hawaii Cancer Center, USA	Research Focus on Betel Nut by the University of Hawaii Cancer Center/University of Guam Partnership: An Overview	Policy Interventions and Economics of Betel-leaf and Areca Nut

31	James Rarick, World Health Organization, Cambodia	Countering a lethal combination: Mobilizing communities in Solomon Islands for betel nut and tobacco control	Policy Interventions and Economics of Betel-leaf and Areca Nut
32	Yagya Bahadur Karki, Population Health and Development (PHD) Group, Nepal	Policy and Economic Impacts of Betel Quid and Areca Nut Use in Nepal – An Exploratory Study	Policy Interventions and Economics of Betel-leaf and Areca Nut
33	Chi Pang Wen, National Health Research Institutes, Taiwan	The role of physical activity in harm reduction among betel quid chewers from a prospective cohort of 419,378 individuals	Biology, Disease and Epidemiology