The 10th APOCP

General Assembly

Tehran, Iran, 2020

Abstract Book 1

Cancer Epidemiology and Prevention

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The 10th APOCP GA and Scientific Conference, Tehran, Iran, 2020

The Cancer Epidemiology and Prevention Session

As the COVID 19 challenges us all and almost everywhere with no sight of ceasing the grip in coming months, the need to adapt and tailor the new reality to our plan and strategies is a must. For this, the organizing committee of 10th APOCP GA and scientific meeting has decided to reschedule the meeting for late Nov. and early Dec. 2020 as an online event.
The event covers the **three main themes** of "the postponed meeting" PLUS another extra session on "Cancer Control amid the COVID-19 pandemic". The COVID-19 sessions will be announced soon.

The Cancer Epidemiology and Prevention Sessions and the opening ceremony will be held on Nov. 20th, 21st, and 22nd each day starting at 11:00 Tehran times and ending at 13:30**.**
The cancer epidemiology and prevention sessions will cover the following topics.

a. Cancer registry
b. Screening and early diagnosis
c. Life style and cancer
d. Cancer Biology in the context of cancer control
e. Cancer cost and social aspect of cancer
f. Clinical trial and Advances in treatment
g. Cancer nursing, quality of life,
h. Cancer cost and economic burden
i. Social aspect of cancer

Members of scientific committee:

Dr. Elisabete Weiderpass
Director,
The International Agency for Research on Cancer (IARC)

Dr. PARTHA BASU
Head
Screening Group, The International Agency for Research on Cancer (IARC)

DR YOULIN QIAO,

Dept. of Epidemiology, Chinese Academy of Medical Sciences, China

DR ALIREZA MOSAVI JARRAHI,

Shahid Beheshti University of Medical Sciences, Iran

DR KEUN-YOUNG YOO,

Seoul National University College of Medicine Seoul, South Korea

DR LE TRAN NGOAN,

Hanoi Medical University, Vietnam.

DR NOBUYUKI HAMAJIMA,

Nagoya University, Japan.

DR CHENG-HAR VIP,

Ramsay Sime Darby Health Care, Malaysia.

DR ANTON BARCHUK,

Petrov National Research Center of Oncology, Russia.

Dr. Peter van den Hazel
International Network on Children's Health, Environment and Safety (INCHES)

Prof. Hanns Moshammer

Environmental Epidemiology

Prof. Oral Ataniyazova

Environmental Epidemiology

Agenda for

The 10th APOCP General Assembly and Conferences, Tehran, Iran, 2020

The agenda is organized based on themes and side activities

(There are three themes with 12 sessions and two side activities).

Theme 1: Cancer Epidemiology and Prevention

Session	Date	Time (Tehran Time)
Cancer Epidemiology	November 20, 2020	11:00 to 13:30 | Find your time
Cancer Registry	November 24, 2020	11:00 to 13:30 | Find your time
Cancer Screening	November 25, 2020	11:00 to 13:30 | Find your time
Cancer Risk Factors	November 26, 2020	11:00 to 13:30 | Find your time
Cancer Care	November 30, 2020	11:00 to 13:30 | Find your time
Cancer in West Asia	December 6, 2020	11:00 to 13:30 | Find your time

Theme 2: Occupational and Environmental Cancer

Session	Date:	Time (Tehran Times)
Environment and Cancer	Nov. 21, 2020	11:00 to 13:30 | Find your time
Occupational Cancer	Nov. 22, 2020	11:00 to 13:30 | Find your time
Exposure and Risk Management	Nov. 23, 2020	11:00 to 13:30 | Find your time

Theme 3: Cancer Genetics and Molecular Aspect

Session	Date:	Time: (Tehran Times)
Molecular Biomarkers	December 1, 2020	11:00 to 13:30 | Find your time
Cancer Biology	December 2, 2020	11:00 to 13:30 | Find your time
Oncovirology	December 3, 2020	11:00 to 13:30 | Find your time

Side Activities:

Report on the experience of Asia's Cancer Centers' care delivery amidst COVID 19

The Meeting of the Editorial Board Members of APOCP's Journals, COPE assisted meeting

The 10th APOCP General Assembly and Conferences, Tehran, Iran, 2020
Theme: Cancer Epidemiology and Prevention
Session: Cancer Epidemiology
Date: 20- 11-2020, Time: 11:00 to 13:40 (Tehran times)

Plenaries: Prof. Mohammad Esmaeil Akbari (Iran), Prof. MohammadAli Mohagheghi (Iran), Dr. Maqsood Siddiqi (India)		
Time	**Presenter name**	**Title**
11:00 – 11:10	**Welcome Remarks:** Prof. Mohammad Esmaeil Akbari**,** Representative from Ministry of Health,	Welcome message, from Ministry of health
11:10- 11:20	**Opening Remarks:** Dr. Alireza Mosavi Jarrahi, Medical School, Shahid Behehsti University of Medical Sciences, West Asia Organization for Cancer Prevention, Iran	Opening remarks- welcome message from APOCP –West Asia Chapter
11:20 – 11:50	**Keynote:** Dr. Elisabete Weiderpass Director, The International Agency for Research on Cancer (IARC-WHO)	Global cancer burden and research priorities for cancer prevention
11:50 – 12:20	**Keynote:** Prof. Murat Gultekin Gynecological Oncologist, Turkish Ministry of Health, Hacettepe University, European Society of Gynaecological Oncology, Turkey	WHO Cervical Cancer Elimination Program : Epidemiology, Natural Infection, Vaccination and Screening of HPV
12:20 – 12:40	Dr. Maqsood Siddiqi, Cancer Foundation of India, Kolkata, India	Challenges and Opportunities for Cancer Prevention in India
12:40 – 13:50	Prof. Nurbek Igissinov or Prof. Malcolm Antony Moore Asian Pacific Journal of Cancer Prevention Astana Medical University, Nur-Sultan, Kazakhstan	The role of Eurasian Institute for Cancer Research (EICR) for development and innovative collaboration with APOCP
12:50 – 13:00	Dr Aung Naing Soe, C/Can - City Cancer Challenge Regional Director, Asia	City Cancer Challenge Foundation and the City of Tomorrow Campaign
13:40 – 14:00	**Modulator:**	**Question and answer**

The 10th APOCP General Assembly and Conferences, Tehran, Iran, 2020
Theme: Cancer Epidemiology and Prevention
Session: Cancer Registry
Date: 24- 11-2020, Time: 11:00 to 13:40 (Tehran time)
Modulator: Alireza Mosavi Jarrahi

Plenaries: Prof. David Roder (Australia), Dr. Tomohiro Matsuda (Japan), Dr. Alireza Mosavi Jarrahi (Iran)

Time	Presenter Name	Title
11:00 – 11:20	**Keynote:** David Roder, Professor, Cancer Epidemiology & Population Health, University of South Australia, Adelaide SA, Australia.	Using linked cancer registry and other health-related data in population and all-of-system research and administration in Australia
11:20 – 11:35	Dr. Gholamreza Roshandel, Golestan University of Medical Sciences and health Services, Iran	The initiative to develop a guideline on reporting cancer Registry result
11:35 – 12:00	DR. Nobuyuki Hamajima, Department of Healthcare Administration, Nagoya University Graduate School of Medicine, Nagoya Japan.	Cancer Frequency at a Tertiary Hospital in Lao Pdr
12:00 – 12:15	Dr. Anton Barchuk, NN Petrov Research National Medical Research Center of Oncology and European University at Saint-Petersburg	Quality of Population-Based Cancer Registries in the North-West of Russia
12:15 – 12:30	Dr. Zhakupov S., Astana Medical University, Nur-Sultan, Kazakhstan	Age trend of Malignant Tumors of Eye and Adexain Kazakhstan
12:30 – 12:40	Dr. Evlina Suzanna, Dharmais National Cancer Hospital-National Cancer Center, INDONESIA	Challenges in conducting of Data collecting for Cancer Burden Data in Era Pandemic 2020
12: 40 – 13:00	Dr. Abu Bashar, Community Medicine, MM Institute of Medical Sciences & Research, Mullana, Haryana, India.	Pattern and Trend of Childhood cancers in India: A review of Population based cancer registries data on Childhood cancers
13:00 – 13:10	Dr. Yerkezhan Zhadykova, Astana Medical University, Nur-Sultan, Kazakhstan.	Age-related trends of gastric cancer incidence in Kazakhstan
13:10 – 13:20	Dr. Zhansaya Telmanova, Astana Medical University, Nur-Sultan, Kazakhstan.	Regional Trends of cervical cancer incidence in Kazakhstan

The 10th APOCP General Assembly and Conferences, Tehran, Iran, 2020
Theme: Cancer Epidemiology and Prevention
Session: Cancer Screening
Date: 25- 11-2020, Time: 11:00 to 13:30 (Tehran times)
Modulator: Dr. Alireza Mosavi jarrahi

Plenaries: Dr. Partha Basu (IARC), Prof. Michel Daher (Lebanon), Dr. Esmaeil Akbari (Iran)

Time	Presenter name	Title
11:00 – 11:25	**Key note:** Dr. PARTHA BASU Head, Screening Group, The International Agency for Research on Cancer (IARC)	The state of cancer screening in Asia
11:25 – 11:50	**Keynote:** Prof. Michel Daher Department of Surgery, Faculty of Medicine and Medical Sciences, University of Balamand- Beirut- Lebanon.	Screening and Surveillance of Colorectal Cancer- Where do we stand now?
11:50 – 12:05	Dr. Ashwini Narasannavar Assistant Professor, Department of Public Health, JNMC, Belagavi, India.	Screening of Potentially Malignant Oral Lesions and Conditions among Rural Population of Belagavi, Karnataka.
12:50 - 12:20	Dr. Binh Thang Tran, Graduate School of Cancer Science and Policy, National Cancer Center, Goyang, Republic of Korea	The estimated cost-effectiveness of screening for colorectal cancer: An example in low-middle income country
12: 20 – 12:35	Dr. Rini Febrianti Health Science High School (STIKES) of Keluarga Bunda, Jambi, Indonesia.	Program of Cervical and Breast Cancer Screening in West Sumatera, Indonesia, 2018
12:35 – 12:45	Dr. Mugi Wahidin National Institute of Health Research and Development, Ministry of Health, Indonesia.	12 Years Implementation of Cervical and Breast Cancer Screening Program in Indonesia
12:45– 12:55	Dr. Roya Dolatkhah Hematology and Oncology Research Center, Tabriz University of Medical Sciences, Tabriz, Iran.	Diagnostic accuracy of novel colorectal cancer screening modalities (Mt-sDNA and FIT test) compared with colonoscopy: A systematic review and meta-analysis
12:55 – 13:10	Dr. Redhwan Ahmed Al-Naggar Faculty of Medical Science, Al-Hikma University, Sanaa, Yemen	Barriers to PAP smear screening among student in Yemen: A qualitative study.
13:10 -13:20	Dr. Xianhui Ran, Office of Cancer Registry, National Cancer Center, Cancer Hospital, Chinese Academy of Medical Sciences and Peking Union Medical College, Beijing, China.	Disparities in stage at diagnosis for five major cancers between urban and rural areas in China
13:20 – 13:30	Dr. Akzhigitova Sabina, Astana Medical University, Nur-Sultan, Kazakhstan	Dynamic of Corpus Uteri Cancer incidence in Kazakhstan

The 10th APOCP General Assembly and Conferences, Tehran, Iran, 2020

Theme: Cancer Epidemiology and Prevention

Session: Risk factors

Date: 26-11-2020, Time: 11:00 to 13:00 (Tehran times)

Modulator: Dr. Saeid Doaei

Plenaries: Dr. Pongdech Sarakarn (Thiland), Dr. Saeid Doaei (Iran), Dr. Tarek Amin (Egypt)

Time	Presenter name	Title
11:00 – 11:20	**Keynote:** Dr. Sue Park, Seoul National University College of Medicine, S. Korea	Challenges and Opportunities for Cancer Prevention in Asia
11:20 – 11:30	Dr. Alvaro Ronco, Unit of Oncology and Radiotherapy, Pereira Rossell Women's Hospital, Bvard. Artigas, Montevideo, Uruguay.	Dietary acid load and colorectal cancer risk: a case-control study
11:30 – 11:40	Dr. Maryam Gholamalizadeh Students`Research Committee, Cancer Research Center, Shahid Beheshti University of Medical Sciences, Tehran, Iran.	Dietary fat affect Colorectal Cancer through ALOX, COX gene polymorphisms; a literature review
11:40 – 11:50	Dr. Nancy Satpathy Department of Community Medicine, Siksha 'O' Anusandhan Deemed to be University, Odisha, India.	Gendered prevalence and access to cigarette by minor: evidence from Global Youth Tobacco Survey, 83 countries, 2013 to 2016
11: 50 – 12:00	Dr. Sauirbay Sakhanov, Astana Medical University, Nur-Sultan, Kazakhstan	Epidemiologic aspects of pancreatic cancer in Kazakhstan
12:00 – 12:10	Dr. Alireza Pasdar Department of Medical Genetics and Molecular Medicine, Faculty of Medicine, Mashhad University of Medical Sciences, Mashhad, Iran.	Body mass index as a risk factor for breast cancer: A case-control study in northeast Iran
12:10 – 12:25	Dr. Lei shaoyuan Office for Cancer Registry, National Cancer Center, Chinese Academy of Medical Science, Beijing, China.	Population attributable risk estimate for female breast cancer in China, 2015
12:25 – 12:35	Dr. Valeriya Nuretdinova, Astana Medical University, Nur-Sultan, Kazakhstan	Thyroid cancer in Kazakhstan: component Analysis of Incidence dynamics.
12:35 – 12:45	Dr. Shahid Pervez, Departments of Pathology, The Aga Khan University, Karachi, Pakistan.	Karachi Cancer Registry (KCR): Age-Standardized Incidence and Report
12:45 – 13:00	Dr. Alnagiev R., Astana Medical University, Nur-Sultan, Kazakhstan	Prostate Cancer in Kazakhstan: age incidence trends
13:00 – 13:15	Dr. Abduov M, Astana Medical University, Nur-Sultan, Kazakhstan	Regional trends of kidney cancer incidence in Kazakhstan
13:15 – 13:25	Dr. Samira Rastgoo, Shahid Beheshti University of Medical Sciences, Tehran, Iran.	Investigating the association between dietary fat intake and breast cancer
13:25 - 1335	Dr. Azadeh hajipoor, Qazvin University of Medical ciences, Qazvin, Iran.	Investigation of the association between TNF-alpha gene polymorphisms and gastric cancer

The 10th APOCP General Assembly and Conferences, Tehran, Iran, 2020

Theme: Cancer Epidemiology and Prevention

Session: Cancer Care

Date: 30- 11-2020, Time: 11:00 to 13:30 (Tehran times)

Modulator: Dr. Taghizadeh Hesari

Plenaries: Prof. Cheng-Har Yip (Malaysia), Dr. Farzad Taghizadeh-Hesari (Iran), Dr. Abhishek Shankar (India)		
Time	**Presenter name**	**Title**
11:00 – 11:25	**Keynote:** Dr. Sue Park, Seoul National University College of Medicine, S. Korea	Effect-Modifiers For Gastric Cancer Risk: Moleculo-Gemonic Biomarkers
11:25 – 11:50	**Keynote:** Prof. Cheng-Har Yip Emeritus Professor, University of Malaya	The unmet needs of women with metastatic breast cancer in a resource- poor setting
11:50 – 12:00	**Keynote:** Prof. Michel Daher Department of Surgery, Faculty of Medicine and Medical Sciences, University of Balamand- Beirut- Lebanon.	Communicating Bad News in Cancer- An introduction to Communication Skills / Myths and Misconceptions met in Cancer care in Middle Eastern Countries
12:00 – 12:10	Dr. Van Bang Nguyen Center of Endocrinology And Diabetes, Family Hospital, Da Nang, Vietnam, Viet Nam.	Undifferentiated Pleomorphic Sarcoma of The Thyroid: A Case Report and Literature Review
12:10 - 12:20	Dr. Soheil Motamed Department of Otorhinolaryngology, Kerman University of Medical Sciences, Kerman, Iran.	Benign fibrous histiocytoma of larynx: A rare case report
12:20 – 12:30	Dr. Hussun Jezan Pathology Department, Faculty of Medicine and Health Sciences, Aden University.	Pathological Profile of Breast Cancer among Yemeni Patients
12:30 – 12:40	Dr. Fatemeh Mansouri Department of Genetics and Immunology, Faculty of Medicine, Urmia University of Medical Sciences, Urmia, Iran.	The urgent need for multidisciplinary clinical programs by using framework telemedicine, bioinformatics and genomics to management of cancer patients during in the COVID-19 pandemic
12:40 – 13:00	Dr. Abu Bashar, Community Medicine, MM Institute of Medical Sciences & Research, Mullana, Haryana, India.	Pattern and Trend of Childhood cancers in India: A review of Population based cancer registries data on Childhood cancers
13:00 – 13:15	Dr. Zohreh Ghezelsefli Assitant prof., Dept. of Health Education, Tarbiat Modares University, Iran.	Developing Clinical Guidelines for End-of-Life Care in Patients with Cancer
13:15 – 13:30	Dr. Farzad Taghizadeh-Hesari, Dept. Radition Oncology, Shahid Behehsti University of Medical Sciences, Tehran, Iran	Oncology practices amidst COVID -19

The 10th APOCP General Assembly and Conferences, Tehran, Iran, 2020
Theme: Cancer Genetics and Molecular Aspect
Session: Molecular Biomarkers
Date: 01- 12-2020 Time: 11:00 to 13:00 (Tehran times)
Modulator: Dr. A. Alizadeh

Plenaries: Dr. Simak Salami (Iran), Dr. Pravin Kesarwani (USA), Dr. Dewi Endarti (Indonesia)		
Time	**Presenter name**	**Title**
11:00 – 11:25	**Keynote:** Dr. Constance Lay Lay Saw, Department of Pharmaceutics Ernest Mario School of Pharmacy Rutgers, The State University of New Jersey, USA	Cancer Chemoprevention and pharmacodynamics of gene expression
11:25 – 11:40	Dr. Maryam Shahdoust School of Biological Sciences, Institute for research in fundamental Sciences, Tehran, Iran.	Hints to assess the Differentially Expressed Genes of Epithelial Airway Cells between various Statuses of Smoking
11:40 – 11:50	Dr. Gurushantappa Kadakol Human Genetics Laboratory Dept. of Anatomy, BLDE (DU) Shri B M Patil Medical College, Hospital & RC Vijayapur, Karnataka, India.	Molecular Detection of Association of Vascular Endothelial Growth Factor (VEGF) Gene in Oral Sub mucosal Fibrosis (OSF) Cancer
11:50 - 12:00	Dr. Maria Jawed Ph.D. Scholar Oral Pathology Department Liaquat University of Medical and Health Sciences Jamshoro, Pakistan.	The prognostic relevance of NANOG, Ki-67, HPV, CD44 and p53 in Oral Squamous Cell Carcinoma
12:00 – 12:10	Dr. Kalyani Raju Institution: Departments of Pathology , Obstetrics and Gynaecology , Cell Biology	Association of IHC p16INK4a expression and ELISA plasma p16INK4a protein in squamous cell carcinoma of uterine cervix: A concept of liquid biopsy
12:10 – 12:20	Dr. Kasuni Akalanka Department of Biochemistry, Faculty of Medical Sciences, University of Sri Jayewardenepura.	Thyroid and sex hormones in predicting breast cancer risk
12: 10 – 12:20	Dr. Enam Alhagh Charkhat Gorgich Department of Histology, School of Medicine, Zahedan University of Medical Sciences, Zahedan, Iran.	Immunohistochemical Expression of Ki67 and HER2 in Colorectal Cancer Compared to Adenomatous and Normal Samples
12:20 – 12:30	Dr. Shajedul Islam Division of Disease Control and Molecular Epidemiology, Department of Oral Growth and Development, School of Dentistry, Health Sciences University of Hokkaido, Hokkaid, Japan.	DNA hypermethylation of *sirtuin 1* may be a predictive biomarker for malignant transformation of oral mucosa
12:30 – 12:40	Dr. Zainab Siddiqui Department of Pathology, Era's Lucknow Medical College and Hospital, Era University, Lucknow, India.	Systemic inflammation and cancer stem cell marker evaluation in bladder cancer prognosis

The 10th APOCP General Assembly and Conferences, Tehran, Iran, 2020
Theme: Cancer Genetics and Molecular Aspect
Session: Cancer biology
Date: 02- 12-2020 Time: 11:00 to 13:20 (Tehran times)
Modulator: Dr. A. Alizadeh

Plenaries: Dr. A. Alizadeh (Iran), Dr. M. Asif Qureshi (Pakistan), Dr. Ajaz Bhat (Qatar), Dr. Pratheeshkumar Poyil (Saudi Arabia)		
Time	**Presenter name**	**Title**
11:00 – 11:20	**Keynote:** Dr. Shahab Uddin Translational Research Institute, Hamad Medical Corporation, Qatar	Sanguinarine Induces Apoptosis in Papillary Thyroid Cancer Cells via Generation of Reactive Oxygen Species
11:20 – 11:30	Dr. Samad MuhammadNejad, Cancer Research Center, Tehran University of Medical Sciences	The preliminary report of a tool to help appraise structured manuscripts reporting the *in vitro* anti-cancer activity of natural products.
11:30 – 11:40	Dr. Sadegh Rajabi Traditional Medicine and Materia Medica Research Center (TMRC), Shahid Beheshti University of Medical Sciences, Tehran, Iran.	Papillary Thyroid Cancer-Promoting Activities of Combined Oral Contraceptive
11:40 - 11:50	**Dr. J** Nigel P Murray Professor Hematology, Facultad de Medicina, Universidad Finis Terrae, Av. Pedro de Valdivia 1509, Providencia, Santiago, 7501015, Chile.	Immune dysfunction as measured by lymphocytopenia is associated with the sub-type of minimal residual disease and outcome in Stage II colon cancer treated with surgery alone.
11:50 – 12:00	Dr. Jamal Ansari Department of Chemistry, Shibli National College, Azamgarh 276 001, U.P, India.	Anticancer potential of ethno-medical plants from Indian Sub-continent against breast cancer
12:00 – 12:10	Dr. Maliheh Moradzadeh Golestan Rheumatology Research Center, Golestan University of Medical Sciences, Gorgan, Iran.	Crocetin promotes apoptosis in human leukemic HL-60 cells via intrinsic pathway
12: 10 – 12:20	Dr. Ismail Adebayo Integrative Medicine Cluster, Advanced Medical and Dental Institute, Universiti Sains Malaysia, Bertam, Kepala Batas, Pulau Pinang, Malaysia.	Methyl elaidate rich lipophilic fraction of Moringa oleifera seed extract induces apoptosis in MCF7 breast cancer cells through intrinsic, extrinsic, and p53 mediated pathways' proteins
12:20 – 12:30	Dr. Atish Barua Department of Cancer Chemoprevention, CNCI. 37, S.P Mukherjee Road, Kolkata	TMX- a novel xanthone from *Swertia chirata* could restrict the process of carcinogenesis by targeting β-catenin, one of the main regulators of Cancer Stem Cell (CSC)
12:30 – 12:40	Dr. Pritha Choudhury Chittaranjan National Cancer Institute, 37, S.P Mukherjee Road, Kolkata-700026, West Bengal, India.	Eugenol, the elixir of lung carcinogenesis model by targeting β-catenin the central Cancer Stem Cell regulator- an in vivo and in vitro experimental validation
12:40 – 12:50	Dr. Nilanjana Basu M. Luthra Guptasarma Amity Institute of Molecular Medicine & Stem Cell Research, Amity University, NOIDA.	Synergistic Effects of Arnica Montana and Cisplatin on Mcf7 Human Breast Cancer Cell Line

The 10th APOCP General Assembly and Conferences, Tehran, Iran, 2020
Theme: Cancer Genetics and Molecular Aspect
Session: Oncovirology
Date: 3- 12-2020, Time 11:00 to 13:30 (Tehran Time)
Modulator: Dr. Reza Shirkohi

Plenaries: Dr. Reza Shirkohi (Iran), Dr. Maha El-Demellawy (Egypt), Dr. Zhoo Ming (China)		
Time	**Presenter name**	**Title**
11:00 – 11:25	**Keynote:** Prof. Muhammad Asif Qureshi, Professor of Pathology at Dow University of Health Sciences, Islamabad, Pakistan	Inflammatory circuitry and breast carcinogenesis: novel players of therapeutic significance
11:25 – 11:40	Dr. Naeem Bukhari M. Phil Research Scholar Centre For Human Genetics, Hazara University Mansehra, Pakistan.	Prevalence of Human Papilloma Virus Sub Genotypes following Head and Neck Squamous Cell Carcinomas in Asian continent, A Systematic Review Article
11:40 – 12:00	Dr. Minjuan Li, National Cancer Center/National Clinical Research Center for Cancer/Cancer Hospital, Chinese Academy of Medical Sciences and Peking Union Medical College	Esophageal microbiota in swab specimen of esophageal squamous cell carcinoma and precancerous lesions from a high-risk region of China
12:00 - 12:15	Dr. Llija Barukčić Internist, Horandstrasse, DE-26441 Jever, Germany.	Parvovirus B19 is the cause of acute myeloid leukemia
12:15 – 12:30	Dr. Drage Dabeski Assist Prof MD PhD, University Clinic for Gynecology and Obstetrics in Skopje, Republic of North Macedonia.	Expression of Viral Oncoproteins E6 And E7 in Women with Squamous Cell Abnormalities of the Uterine Cervix
12:30 – 12:45	Dr. Cornelius Ogu Department of Medical Laboratory Sciences, Faculty of Health Sciences and Technology, College of Medicine, University of Nigeria Enugu Campus	Prevalence and Risk Factors of Cervical Dysplasia among Human Immunodeficiency Virus Sero-Positive Females on Highly Active Antiretroviral Therapy in Enugu, Nigeria
12:45 – 13:00	Dr. Saeid Doaei, Assistant Prof. of Nutrition, Gilan Uinversity of madeical sciences, Iran	Investigation of interactions between FTO gene, anthropometric indices, and breast cancer: a case-control study
13:00 – 13:15	Dr. Abu Bashar, Community Medicine, MM Institute of Medical Sciences & Research, Mullana, Haryana, India.	Pattern and Trend of Childhood cancers in India: A review of Population based cancer registries data on Childhood cancers

The 10th APOCP General Assembly and Conferences, Tehran, Iran, 2020
Theme: Cancer Epidemiology and Prevention

Session: Cancer in West Asia
Date: 6- 12-2020, Time 11:00 to 13:00 (Tehran Time)
Modulator: Dr. Alireza Mosavi jarrahi

Plenaries: Dr. Munir Abu-Helalah (Jordan), Dr. Maqsood Siddiqi (India), Dr. Farhana Badar (Pakistan)		
Time	**Presenter name**	**Title**
10:00 – 10:25	**Keynote:** To be announced	Cancer Control in West Asia
10:25 – 10:40	Dr. Maqsood Siddiqi CANCER FOUNDATION OF INDIA, INDIA	Cancer Prevention and control in India
10:40 – 10:55	Dr. Prof. Omran S. Habib Social Medicine, Department of Community Medicine, College of Medicine, University of Basrah, Basrah, Iraq	Cancer Prevention and control in Iraq
10:55 - 11:10	Prof. Niveen Abu-Rmeileh Associate prof. of Community Medicine Institute of Community and Public Health, Birzeit University, Birzeit – Palestine	Cancer Prevention and control in Palestine
11:10 – 11:25	Dr. Khuseynov Zafardzhon Director of the Republic Oncological Scientific Center, Ministry of public health, Republic of Tajikistan	Cancer Prevention and control in Tajikistan
11:25 – 11:40	Dr. Farhana Badar *Cancer Registration and Epidemiology Sr.* *Shaukat Khanum Memorial Cancer Hospital & Research Center, Lahore, Pakistan*	Cancer Prevention and control in Pakistan
11:40 – 11:55	Dr. *Nurbek Igissinov* Astana Medical University, Nur-Sultan, Kazakhstan	Cancer Prevention and control in Kazakhstan
11:55 – 12:10	Dr. Munir Abu-Helalah *Epidemiology Regional Director Middle East, North Africa and Central Asia* *Global Academy for Health Sciences, Oman, Jordan*	Cancer Prevention and control in Jordan
12:10 – 12:25	Maihan Abdullah, MD, MPH Head, National Cancer Control Program MoPH, Kabul, Afghanistan	Cancer Prevention and control in Afghanistan
12:25 – 12:40	Gevorg Tamamyan, MD, MSc, PhD Chairman of the Department of Pediatric Oncology and Hematology, Yerevan State Medical University, Yerevan, Armenia	Cancer control and prevention in Armenia

The 10th APOCP General Assembly and Conferences, Tehran, Iran, 2020
Theme: Occupational and Environmental Cancer
Session: Environment and Cancer
Date: 21- 11-2020, Time 11:00 AM to 01:30 PM (Tehran Time)
Modulator: Saeed Yari

Plenaries: Prof. Hanns Moshammer (Austria) , Prof. Narges Khanjani (Iran)		
Time	**Presenter name**	**Title**
11:00 – 11:10	Saeed Yari	Opening Remarks
11:10 – 11:40	**Keynote:** Prof. Hanns Moshammer Medical University of Vienna, Austria	Buccal cells cytology as a valuable early indicator of cancer risk
11:40 - 12:00	**Keynote**: Prof. Narges Khanjani Prof. of Environmental epidemiology, Kerman University of Medical Sciences, Iran	Air pollution and cancer
12:00 – 12:20	Dr. Mahlagha Dehghan Assiatnt Prof., Medical school, Kerman University of Medical Sciences	Cosmetic products don't increase the risk of breast cancer: a retrospective case-control study in southeast Iran
12:20 – 12:40	Dr. Fatemeh Bourbour Department of Clinical Nutrition and Dietetic, Shahid Beheshti University of Medical Sciences, Iran	The effect of dietary components on gene expression related to breast cancer
12:40 – 13:00	Dr. Tayeb Ramim, Epidemiology and Biostatistics Department, School of Public Health, Tehran University of Medical Sciences, Tehran, Iran	Outcomes of tuberculosis treatment in patients with and without bronchial anthracosis
13:00 – 13:15		Anti-inflammatory effect of probiotic Saccharomyces boulardii supernatant on gastric cancer cells

The 10th APOCP General Assembly and Conferences, Tehran, Iran, 2020
Theme: Occupational and Environmental Cancer
Session: Occupational Cancer
Date: 22- 11-2020, Time 11:00 AM to 01:30 PM (Tehran Time)
Modulator: Saeed Yari

MPlenaries: Prof. Oral Ataniyazova (Uzbekistan) , Prof. Tran Ngoan Le (Viet Nam)		
Time	**Presenter name**	**Title**
11:00 – 11:30	Keynote: Prof. Oral Ataniyazova Center for Reproductive Health and Environment Medical University of Karakalpakstan, Uzbekistan	Environmental Challenges of the shrinking Aral Sea
11:30 - 12:00	KeyNote: Prof. Tran Ngoan Le International University of Health and Welfare, Japan and Hanoi Medical University, Viet Nam	Meat Mutagens and Pancreas Cancer
12:00 – 12:20	Dr. Mohammad Nourmohammadi, School of Public Health, Ghazvin University of Medical Sciences, Iran	Asbestos and lung cancer, the experience of Iran
12:20 – 12:40	Samaneh Allahyari, MS Department of Food Hygiene and Safety, School of Health, Qazvin University of Medical sciences, Qazvin, Iran	Anti-inflammatory properties of probiotic Saccharomyces boulardii supernatant on breast cancer cells; an in-vitro study
12:40 – 13:10	Dr. Somayeh Rahimi Moghadam Dept. of Safety and Hygiene, Nishabor Univer4sity of medical sciences, Tran	Changes in Spirometric indices in casting and welding workers exposed to Metal fumes
13:10 – 13:30	Dr. Abdou ZOURE Laboratory of Molecular Biology and Genetics (LABIOGENE), UFR/SVT, University Joseph Ki-Zerbo, Burkina Faso.	Oxidative stress and malignancy transformation: *GSTM1*/*GSTT1* variants and Breast Cancer in Burkina Faso

The 10th APOCP General Assembly and Conferences, Tehran, Iran, 202
Theme: Occupational and Environmental Cancer
Session: Exposure and Risk Management
Date: 23- 11-2020, Time 11:00 AM to 01:30 PM (Tehran Time)
Modulator: Saeed Yari

Plenaries: Prof. Peter van den Hazel (Netherland), Saeed Yari, (Iran)		
Time	**Presenter name**	**Title**
11:00 – 11:30	**Keynote Speaker:** Prof. Peter van den Hazel International Coordinator of International Network for Children's Health, Environment and Safety (INCHES), Netherland	Children and Environmental and Cancer
11:30 - 12:00	Saeed Yari, MS School of Public health m Shahid beheshti University of medical Sciences, Iran	CARcinogen Exposure: CAREX
12:00 – 12:20	Dr. Restuning Widiasih *Faculty of Nursing, Universitas Padjadjaran, Indonesia*	Breast self-examination practice and peer support amongst young women: A correlative study
12:20 – 12:35	Dr. Kasuni Akalanka Department of Basic Sciences, Faculty of Allied Health Sciences, University of Sri Jayewardenepura, Sri Lanka	Thyroid and sex hormones in predicting breast cancer risk
12:35 – 12:50	Dr. Zohreh Ghezelsefli Assistan prof. Tarbait Moddaras University, Tehran, Iran	Developing Clinical Guidelines for End-of-Life Care in Patients with Cancer
12:50 – 13:00	Hamzeh Saeedabadi, MS Master of Environmental Management (HSE), Islamic Azad, University, West Tehran Branch, Tehran, Iran	Semi-quantitative risk assessment of exposure to carcinogens

Theme 1, 3: Cancer Epidemiology and Prevention and Cancer Genetics and Molecular Aspect

Code: O-1

Title: Cancer Frequency at a Tertiary Hospital in Lao Pdr

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Abstract Body

Purpose: In Lao People's Democratic Republic (Lao PDR), the underlying cause of death is not specified in death reports. Although cancer incidence in Lao PDR was reported in GLOBOCAN by International Association of Cancer Registry, the incidence is an estimation based on the neighboring regions. Therefore, cancer frequency in Lao PDR is not available at present. Previously we reported that the proportion of cancer death was 4.8% at Mitthphab Hospital, a tertiary hospital in Vientiane Capital. This study aimed to report the cancer frequency among inpatients at the same hospital.
Methods: Mittaphab hospital is a governmental teaching hospital with 300 beds for inpatient services specialized in orthopedics, neurology, and hemodialysis. HIV-positive cases and sputum positive tuberculosis are also transferred to the other specialized hospitals. Subjects were patients admitted between January 3 and February 2, 2017 at Mittaphab Hospital. Paper-based medical charts were examined by a medical doctor and staff from the medical records division.
Results: During the period, 1,201 patients (637 males and 564 females) were admitted. The most frequent cause was injury and poisoning (ICD-10 S00-T98, 49.8% in males and 25.2% in females) including bone fracture and head injury mainly due to traffic accidents, followed by chronic kidney disease (ICD-10 N18, 7.7% in males and 1.2% in females). In patients with malignant neoplasm (ICD-10 C00-C97) were 14 (2.2%, 95%CI 1.2-3.7%) in males and 14 (2.5%, 95%CI 1.4-4.1%); 8 with leukemia, 4 with liver cancer, 4 with brain tumors, 2 with cholangiocarcinoma, 2 with colon cancer, 1 with lung cancer, 1 with stomach cancer, 1 with pancreatic cancer, 1 with cervical cancer, 1 with bone sarcoma, and 3 with site-unknown cancer.
Conclusion: This study found that the burden of cancer is limited. Although the frequencies may not applicable for the whole country, prevention of traffic accident and chronic kidney disease may have a higher priority than cancer in Lao PDR.

Code: O-2

Title: Age-related trends of gastric cancer incidence in Kazakhstan

Authors: Yerkezhan Zhadykova[1], Rustem Taszhanov[1,2], Saken Kozhakhmetov[1,2], Zarina Bilyalova[1, 2], Nurbek Igissinov[1, 2, 3, 4]

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Abstract Body

Background: Based on the estimates of the IARC (WHO), 769,728 people were diagnosed with GC in 2018 in Asia. According to their prediction it will be increased up to 1,374,507 cases in 2040. GC epidemiologic monitoring is an integral part of GC prevention in the Kazakhstani population.
Objective: To study GC incidence age trends in Kazakhstan in 2009-2018.
Methods: The retrospective study covered the data of the Ministry of Health of the Republic of -Kazakhstan for 2009-2018 – the annual form No.7 related to the new cases of GC (ICD 10 – C16). Descriptive and analytical methods of medical and biologic statistics were used to define annual averages (M), mean error (m), 95% confidential interval (95% CI), annual average aligned increase/decrease (T, %). The alignment was made according to the formula: $y=a+bx$.
Results: In the study period, 27,467 new cases of GC were registered. The annual average crude incidence rate of GC in Kazakhstan amounted to 16.1 (95% CI=15.7-16.5) per 100,000 total population. Over time, the crude rate decreased from $16.8\pm0.3^{0}/_{0000}$ (95% CI=16.2-17.4) in 2009 to $15.1^{0}/_{0000}$ (95% CI=14.5-15.7) in 2018, with a statistically significant difference (R^2=0.6417). The aligned index was also growing, with an annual average rate of T=−1.0%.
Then, we reviewed the age-related trends in the GC incidence. The upward trends were registered in only 80-84 age range (T=+1.0 R^2=0.0876). The downward trends were registered in the following age ranges: under 30 (T=−4.4; R^2=0.1886), 30-34 (T=−3.4; R^2=0.3466), 35-39 (T=−5.3; R^2=0.6016), 40-44 (T=−4.1; R^2=0.6098), 45-49 (T=−3.4; R^2=0.5936), 50-54 (T=−4.2; R^2=0.6843), 55-59 (T=−2.6; R^2=0.7727), 60-64 (T=−3.1; R^2=0.8507), 65-69 (T=−0.04; R^2=0.0003), 70-74 (T=−0.9; R^2=0.3925), 75-79 (T=−0.8; R^2=0.0637), 85+ (T=−3.7; R^2=0.343).
Conclusions: Trends of age-related rates GC incidence decreased in all studied age groups except for one, 80-84 years. These changes influenced the overall downward trend of GC incidence in country. It is important to pay attention to the accounting and registration of new GC cases, as well as to preventive and diagnostic measures taken in the Republic of Kazakhstan.

Acknowledgments: The authors declare the absence of conflict of interest. The authors greatly appreciate the contribution of the Ministry of Health of the Republic of Kazakhstan to the current research by providing the data and supporting the public association “Central Asian Cancer Institute”.

Code: O-3

Title: Regional Trends of Cervical Cancer Incidence in Kazakhstan

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Presenting Author: Zhansaya Telmanova, Astana Medical University, Nur-Sultan, Kazakhstan.

Abstract Body

Background: Based on the estimates of the IARC (WHO), 569,847 women were diagnosed with CC in 2018 in the world. According to their prediction it will be increased up to 776,857 cases in 2040. CC epidemiologic monitoring is an integral part of CC prevention in the Kazakhstan population.
Objective: To study CC incidence age trends in Kazakhstan in 2009-2018.
Methods: The retrospective study covered the data of the Ministry of Health of the Republicof Kazakhstan for 2009-2018 – the annual form No.7 related to the new cases of CC (ICD 10 – C53). Descriptive and analytical methods of medical and biologic statistics were used to define annual averages(M), mean error (m), 95% confidential interval (95% CI), annual average aligned increase/decrease (T, %). The alignment was made according to the formula: ***y=a+bx.***
Results: In the study period, 16 441new cases of CC were registered. The annual average age-standardized incidence rate (ASR) of CC in Kazakhstan amounted to $17.7\pm0.4^{0}/_{0000}$ (95% CI=16.9-18.6) per 100,000 female population. Over time, the index increased from $15.8\pm0.4^{0}/_{0000}$(95% CI=15.0-16.7) in2009 to $18.3\pm0.4^{0}/_{0000}$(95% CI=17.4-19.1) in 2018, with a statistically significant difference(t=4.42; p=0.000; R^2=0.613). The aligned index was also growing, with an annual average rate of T=+2.3%.
Then, we reviewed the regional CC ASR trends. The upward ASR trends were registered in the East Kazakhstan (T=+0.3%; R^2=0.003), Akmola (T=+0.3%; R^2=0.019), Almaty (T=+1.2%; R^2=0.024), Atyrau (T=+1.2%; R^2=0.052), Karaganda (T=+1.2%; R^2=0.144), Kostanay (T=+2.9%; R^2=0.324), Pavlodar (T=+2.9%; R^2=0.311), North Kazakhstan (T=+3.0%; R^2=0.127), South Kazakhstan (T=+3.5%; R^2=0.467), West Kazakhstan (T=+3.8%; R^2=0.368), Mangistau (T=+4.1%; R^2=0.482) and Aktobe (*T=+6.3%; R^2=0.846*) regions, as well as in the city of Almaty (T=+2.2%; R^2=0.166).The downward trends were registered in thecity of Nur-Sultan (T=−2.0%; R^2=0.179) and in the Zhambyl (T=−0.3%; R^2=0.011), Kyzylorda (T=−0.3%; R^2=0.002) regions.
Conclusions: CC incidence in Kazakhstan was mainly growing by regions, with different growth rates. But in the city of Nur-Sultan and in the Zhambyl, Kyzylorda regions the incidence has decreased. It is important to pay attention to the accounting and registration

of new CC cases, as well as to preventive and diagnostic measures taken in the Republic of Kazakhstan.

Acknowledgments: The authors declare the absence of conflict of interest. The authors greatlyappreciate the contribution of the Ministry of Health of the Republic of Kazakhstan to the currentresearch by providing the data and supporting the public association “Central Asian CancerInstitute”.

Code: O-4

Title: Screening and Surveillance of Colorectal Cancer- Where do we stand now?

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Abstract Body

Objectives: Cancer is a global health problem, as cancer incidence is increasing; diagnostic procedures, screening tests, and treatment modalities are improving. Colorectal cancer (CRC) is one of the cancers (breast, prostate, melanoma, cervix, and lung) that can be diagnosed early with screening programs. In patients with early diagnosis, chance of cure is high, survival is longer, cost of treatment is low, morbidity and disability are low.
Methods: We will review the benefit of CRC screening (and the barriers) and the different modalities of screening, the advantages and limits of each modality, **Results:** CRC can be prevented by a primary prevention (life style mainly), and by secondary prevention with an early detection of the major risk factors: hereditary (familial), personal medical history (inflammatory bowel diseases). Endoscopy and endoscopic or surgical polypectomy, prophylactic colectomy). Studies have shown the benefit of screening in people at average risk for CRC (it reduces mortality), and surveillance for patients with highest risk (hereditary non-polyposis, familial adenomatous polyposis, familial history...) by genetic testing, or yearly colonoscopy. We will review the different modalities of screening and surveillance: Fecal occult blood testing (FOBT), FIT and Guaiac Tests, Flexible sigmoidoscopy, Barium enema, Colonoscopy, Virtual Colonoscopy, Stool DNA testing- limits and advantages.
Conclusion: There is convincing evidence of benefit associated with colorectal cancer screening (reduces CRC mortality). Screening for colorectal cancer should be started at age 50 years and continue until age 75 years. Screening would be most appropriate among adults who are healthy enough to undergo treatment if colorectal cancer is detected and, do not have comorbid conditions that would significantly limit their life expectancy. Recommendation applies to asymptomatic adults 50 years and older who are at average risk of colorectal cancer. Adult at high risk should benefit from a special regimen.

Keywords: Screening, colorectal cancer, benefits and limits

Code: O-5

Title: Screening of Potentially Malignant Oral Lesions and Conditions among Rural Population of Belagavi, Karnataka.

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Abstract Body

Background: Cancer is the most common cause of morbidity and mortality, Globally accounting to with more than 10 million new cases and 6 million deaths each year. Two-third of these cases are contributed by the developing countries. Despite of advances in diagnosis and treatment the burden of cancer is still increasing worldwide. India alone accounts for one third of the world's oral cancer and has a high rate of pre-malignancy lesions. Oral premalignant lesions have shown a rate of progression to cancer up to 17% within a mean period of 7 years after diagnosis. The cancer burden can be reduced through early detection and management of precancerous lesions and conditions. It also offers the most cost-effective long-term strategy for the control of cancer.
Objectives: 1. To estimate prevalence of oral precancerous lesions and conditions among rural population of Belagavi. 2. To determine association between risk factors and oral precancerous lesions and conditions.
Methodology: - Study design: Community based analytical cross sectional study. - Sample size: 6010 - Inclusion: All participants of age 20 and above and permanent residents of rural area. - Exclusion: All non-pathological conditions such as, leucoedema, lingual varices, Fordyce granules, benign migratory glossitis and fissured tongue were excluded from the present study Participants who did not give consent. - Data Collection Tool: pre designed and pretested Questionnaire was used to collect information on demography, socio economic status, habits etc. -Oral Examination: Visual method using vital stains (Toulidine blue kit) Data was analysed using IBM SPSS software version 22.0.
Results: Overall prevalence of potentially malignant oral lesions 16.4%. Among these majority had Tobacco pouch keratosis (4.5%), OSMF (4.4%) and leukoplakia was (4.2%). Statistical significance was found with spicy food, all forms of tobacco and lower socio economic status.
Conclusion: Prevalence of potentially malignant oral lesions was high. Community based screening programmes for oral precancerous lesions and conditions should be conducted. Awareness programmes to the people through community participation on precancerous lesions and conditions should be conducted.

Code: O-6

Title: The estimated cost-effectiveness of screening for colorectal cancer: An example in low-middle income country

Authors: Binh Thang Tran[a,b], Kui Son Choi[a,c], Dae Kyung Sohn[a,d], Sun-Young Kim[a], Jae Kyung Suh[e], Thanh Huong Tran[f], Jin-Kyoung Oh[a,h,*]

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Abstract Body

Background: In this study, we analyzed the cost-effective of an annual colorectal cancer (CRC) screening program from the healthcare service provider's perspective based on the Vietnamese population.

Method: We designed the economic model consisting of a decision tree and Markov models in this study. A decision tree was constructed to compare two strategies, including a screening group with a *guaiac*-based faecal occult blood test (*g*FOBT) coupled with colonoscopy if FOBT positive and a no-screening group (no intervention). We modelled Markov model using a 25 years' horizon with a one-year cycle length. Parameter of the model came from the local data and published data. The cost-effectiveness outcome was the incremental cost-effectiveness ratio (ICER) represented by costs per quality-adjusted life-years (QALYs) gained with QALYs were quantified using the EQ-5D-5L preference-based value of each stage. Deterministic and probabilistic sensitivity analyses (PSA) were undertaken.

Result: Comparing with no screening, ICER gained US $ 1,388 per QALY with increasing cost about $43.98 and gained 0.032 QALY. The uptake rate of gFOBT, the cost of a colonoscopy and total cost of screening contributed the largest impact on the ICER. PSA shows result was robust to variation in parameter estimates, and the probability of being cost-effective of annual screening arm accounted for 87% compared to 13% of no screening.

Conclusion: A screening strategy would be considered cost-effective compared with no screening. Findings in our study could potentially use to develop a CRC national screening program.

Keywords: colorectal cancer, screening, cost-effectiveness, Vietnam

Code: O-7

Title: Program of Cervical and Breast Cancer Screening in West Sumatera, Indonesia, 2018

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Abstract Body

Background: Cervical and breast cancer screening program in West Sumatera was started in2015 in line with national program that launched in 2008. West Sumatera is one of Indonesia provinces in Sumatera island which has 19 districts with tight moslem tradition. The screening program for cervical cancer was conducted using method of Visual Inspection with Acetic Acid (VIA) or Pap Smear and early treatment with cryotherapy for VIA positive. Meanwhile, method of breast cancer screening was Clinical Breast Examination (CBE). The program should be developed and strengthened to achieve its target, 50% of women aged 30-50 years. We need to know implementation of the program in West Sumatera and result of the program.
Aim: The study was aimed to know implementation and result of cervical and breast cancer screening program in West Sumatera, Indonesia till 2018.
Material and Methods: This was a descriptive studythrough literature and data review from related sources. Secondary data was collected from Provincial Health Office of West Sumatera Province, Indonesia. The study was conducted in October - November 2019.
Results: Started in 2015, the program of cervical and breast cancer screening in West Sumatera Provinces was developed through steps oftrainings at each 19 districts, socialization to community, preparing equipments, providing services of the screening, monitoring, and evaluation. The screening was privided by trained health care provider (general practitioner dan midwife) in primary health centers with referral system to district/municipality hospitals.Target of the program was women aged 30-50 years. Till 2018, the screening program was running in all 19 distritcs (100%),105 out of 271 primary health centers (38.7%). Providers of screening were 184 persons (104 midiwives and 80 general practitioners) or 4.4 persons per primary health center. There were 25 cryotherapy set for early treatment for VIA positive or only 24% primary health centers providing screening service have this equipment. Result of the screening showed that out of 658.362 target, women aged 30-50 have been screened was 30,853 (4.7%). It was lower than 40% target in 2018. Itconsisted of age under 30 years for 6.177 women (20%), age of 30-39 for 9.055 women (29,3%), age of 40-59 for 8.220 women (26,4%), and age of 60 and above for

3436 women (11,1%). There were only 26 women attende for Pap smear in primary health centers. Meanwhile, positive VIA was 292 (9.5 per 1000) and there was only 11 women have been treated with cryotherapy. Another results showed that suspected cervical cancer was 48 (1.6 per 1000), lump in the breast was 337 (10.9 per 1000), and suspected breast cancer was 149 (4.8 per 1000). Prevalence of positive VIA was lower than national result, but lump in the breast was higher than national result.

Conclusions: The cervical and breast cancer screening program has been developed in all districts in West Sumatera, conducting in more than one third primary health centers. It has adequate human resources but the coverage of screening was till lower that its target. Prevalence of VIA positif was low but lump in the breast was quite high.

Keyword: cervical cancer, breast cancer, screening, west sumatera

Code: O-8

Title: 12 Years Implementation of Cervical and Breast Cancer Screening Program in Indonesia

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Abstract Body

Background: In order to decrease cervical and breast cancer in Indonesia, Ministry of Health, provincial and district government developed program of screening of these cancer since 2007. This became national program since 2008. Screening method for cervical cancer was Visual Inspection with Acetic Acid (VIA) or Pap smear and early treatment with cryotherapy for positive VIA. Screening for breast cancer uses method of Clinical Breast Examination (CBE). These two screening were combined together for each client. The program has been running for 12 years till 2018. We would like to know implementation and its result.

Aim: This study was aimed to know process, strengths, weakness, and results of cervical and breast cancer screening in Indonesia after 12 years implementation (2007-2018).

Methods: It was a descriptive study through literature and data review from related sources. Secondary data was collected from Directorate of Non-Communicable Disease Control, Ministry of Health, and professionals. The study was conducted in October - November 2019.

Results: Program of cervical and breast cancer screening became national program by 21 April 2008 launched by Indonesian First Lady. The program should be developed by all district governments as implementation of National Strategic Plan 2015-2019. The program was developed through training of trainers at national level, trainings at district level, providing equipment, socialization to community, providing services of the screening, monitoring, and evaluation. Screening was conducted in primary health centers provided by trained midwives and general practitioners. Cases of suspected cervical or breast cancer was referred to district/municipality hospitals. Target of the program was women aged 30-50 years, totally 37,415,483 women. Strength factors of the program implementation were clear regulation supporting the program, namely Ministry of Health Decree No HK.02.02/Menkes/52/2015 about National Strategic Plan 2015-2019, Minister of Health Decree No 34/2015 about breast and cervical cancer control, and Minster of Health Decree

No 43/2016 about Minimum Service Standard of Health. Other strength factors were support from Association of Wives of Cabinet, Non- Governmental Organization, and Financing from National Health Insurance (BPJS). Meanwhile, weakness factors were limited budget for education, socialization, and outreach screening beyond primary health centers, and geographical barrier that Indonesia has more than 17,000 islands. By 2018, the program was running in all 34 (100%) provinces, 411 out of 514 ditricts/municipalities (80%), rose from 393 in 2016. There were 4,514 out of 9,813 primary health centers (46%) providing screening services, rose from 4,472 in 2016. Clinical trainers of the program were 366 persons consisted of obgyn oncologist, obgyn, surgeon oncologist, surgeon, general practitioners, and midwives. Providers of screening were 13,589 persons consisted of 3,775 general practitioners, and 9,814 midwives (3 providers per Primary health center). It rose from 8,526 in 2016, The result of 12 years implementation of cervical and breast cancer screening showed that 3.664.625 women (9,8 %) have been screened. This coverage still under target of 40% in 2018. The highest coverage was in Bali province, meanwhile the lowest was in Papua province. VIA positive was 124,868 women (3.4%), cryotherapy was20.054 (16% from positive VIA), suspect of cervical cancer was 4.786 (1.3 per 1,000), lump in the breast was19,759 (5.4 per 1000) and suspected breast cancer was 2,489 women (0.7 per 1,000).

Conclusions: Program implementation of cervical and breast cancer screening in Indonesia was running well, had increase of resource, had enough strength factors but facing weakness factors to be solved. The result of screening was still under the target. The program need to be strengthened involving local government and community to increase awareness.

Keyword: cervical cancer, breast cancer, cancer screening, Indonesia

Code: O-9

Title: Diagnostic accuracy of novel colorectal cancer screening modalities (Mt-sDNA and FIT test) compared with colonoscopy: A systematic review and meta-analysis

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Abstract Body

Background: Colorectal cancer (CRC) is the third most common cancer, but is the second leading cause of cancer-related death, worldwide. CRC screening programs reduce approximately 60% of CRC-related deaths; however, there is currently limited evidence for screening tests, other than colonoscopy, that provide diagnostic benefits at the population level.

Objectives: Despite reliable and comprehensive studies in the last two decades on the diagnostic accuracy and specificity of the multi-target stool DNA (Mt-sDNA) test, evidence-based analysis is needed to prove its efficiency. Therefore, this study aimed to collect and summarize test data and conduct a meta-analysis, providing information on the diagnostic accuracy of the Mt-sDNA test with respect to its sensitivity and specificity, compared to colonoscopy.

Data Sources: We searched all available databases including Pubmed, MEDLINE, CINAHL Plus with full text (EBSCO), Web of Science Core Collection, EMBASE (Ovid), SCOPUS, ProQuest Central, Joanna Briggs Institute EBP database, and Google Scholar as English databases as well as SID, Magiran, Medlib, and Irandoc as Iranian databases.

Study eligibility criteria: All manuscripts were screened for eligibility according to PICO criteria, date of publication, and type of study. Studies with reliable and available end points (SE, SP, true positives (tp), false positives (fp), false negatives (fn), true negatives (tn), number of diseased patients (CRC and advanced adenoma), and number of healthy controls were included in the meta-analysis.
Participants: Participants included in the study were a normal population at an average risk of developing CRC.
Intervention: -Stool based DNA panel compared with colonoscopy; -Panel included mutational aberrations (KRAS, BRAF) and/or hypermethylated promoter genes (SFRP2, TFPI2, BMP3, NDRG4, TFPI2, and vimentin) and Fecal Immunochemical Test (FIT) with Colonoscopy; -FIT with Colonoscopy.
Study appraisal: Study appraisal was performed by two independent investigators using the PICO and PRISMA checklist.
Synthesis methods: We designed and performed this study as a systematic review and meta-analysis following the PRISMA guidelines. The systematic review question was the effectiveness of Stool-based DNA tests for detecting CRC and any pre-cancerous lesions (advanced adenoma) compared with colonoscopy, as a gold standard method, in a normal population (asymptomatic persons with an average risk of developing CRC). We did not consider any geographic considerations in the search strategy. Studies with reliable and available end points (SE, SP, true positives (tp), false positives (fp), false negatives (fn), true negatives (tn), number of individuals with disease (CRC and advanced adenoma (AA)), and number of health controls were included. Inter-study variation in sensitivity and specificity, ROC area with 95% CI, heterogeneity (using the Chi-squared test), and inconsistency (using the I-squared test) were assessed. The reference test was colonoscopy and the index tests were Mt-sDNA and FIT tests. Publication bias across the studies was assessed with Deek's asymmetry test.
Results: Meta-analyses showed a combined sensitivity of 89%, 51%, and 76% for the detection of CRC, advanced adenoma (AA), and combined CRC and AA, respectively. The overall specificity was 91%, 89%, and 90% for the detection of CRC, AA, and combined CRC and AA, respectively. Meta-analyses of the FIT test showed a combined sensitivity of 76%, 25%, and 55% for detection of CRC, AA, and combined CRC and AA, respectively. The combined specificity was 96%, 93%, and 95% for the detection of CRC, AA, and combined CRC and AA, respectively.
Heterogeneity analysis showed that there was substantial heterogeneity between the 11 studies with the multi-target stool DNA test (I^2 = 100-99), and between the 6 studies with the FIT test (I^2 = 94-99) compared with colonoscopy.
Conclusion: Mt-sDNA had a significantly higher sensitivity for CRC and AA diagnosis, with almost the same specificity rates as FIT.

Keywords: Colorectal Cancer; Screening; Accuracy; DNA; Multitarget; Stool Test

Code: O-10

Title: Disparities in Stage at diagnosis for five major cancers between urban and rural areas in China

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Abstract Body

Objective: To explore the disparities in stage at diagnosis for five major cancers between urban and rural areas in China, we conducted a multi-center hospital-based study.
Methods: Total 25 hospitals were selected to set up the Chinese cancer clinical database. Detailed information on stage at diagnosis was collected for cancers of the lung, stomach, colon-rectum, female breast, and esophagus diagnosed during 2016-2017. We compared the stage distribution between patients residing in urban and rural areas.
Results: Overall, 52238 newly diagnosed cancer cases were analyzed, including 38026 (72.8%) urban residents and 14212 (27.2%) rural residents. Among all patients with known stage at diagnosis, urban patients have a higher proportion of cancer cases at early stage (stage I-II) than rural patients (49.3% vs 41.5%; $p<0.0001$). After adjusting for sex, age at diagnosis, hospitals types, lifestyle factors, and insurance status, we still found that urban patients were more likely to be diagnosed with cancers at early stage than rural patients (OR:1.2,95%CI:1.1-1.3), and this finding was most prominent for patients with lung (OR:1.5,95%CI:1.4-1.7) and breast (OR:1.2,95%CI:1.1-1.4) cancers.
Conclusions: Disparities exist in stage at diagnosis between urban and rural areas in China. Early detection interventions are especially needed to be targeted on rural population of the country.

Code: O-11

Title: Dietary acid load and colorectal cancer risk: a case-control study

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Abstract Body

Background: If the endogenous acid-base balance is not well regulated, dietary acid load contributes to metabolic acidosis, leading to inflammation and cancer metastasis. Nevertheless, there is still no epidemiologic evidence on the association between diet-dependent acid load and colorectal cancer risk. Therefore, we aim to explore its possible role therein.

Patients and Methods: A case-control study was performed on 611 colorectal cancer incident cases and 2394 age-frequency matched controls, using a specific multi-topic questionnaire, including a food frequency questionnaire. Food-derived nutrients were calculated from available databases. We assessed dietary acid load based on existing and validated measures as potential renal acid load (PRAL) score and net endogenous acid production (NEAP) score. Odds Ratios (ORs) were estimated by logistic regression, adjusting for potential confounders.

Results: We found direct associations between dietary acid load and colorectal cancer risk. The highest quartile of the PRAL score was significantly associated (OR=1.53, ptrend = 0.03). A positive family history of cancer and female sex derived even higher risks (OR=2.31 and OR=2.23, respectively). Nevertheless, no heterogeneities were found in these strata. The NEAP score tended to display similar associations.

Conclusions: PRAL and NEAP scores are directly associated with meat intake and inversely associated with plant-based foods intake. Results suggest that a low acid load dietary style may reduce colorectal cancer risk, which agrees with studies focused on food groups and dietary patterns. To our knowledge, the present one is the first reported epidemiologic study on dietary acid load and CRC risk.

Keywords: acid load, colorectal cancer, diet, net endogenous acid production, potential renal acid load

Code: O-12

Title: Dietary fat affect Colorectal Cancer through ALOX, COX gene polymorphisms; a literature review

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Abstract Body

Objective: The role of dietary factors and genetic susceptibility in the development of colorectal cancer (CRC) has been already proven, but the role of gene polymorphisms in modifying the risk of dietary components is still unknown. Aim of this study was to clarify the effect of gene polymorphisms ALOXs and COXs in the association between dietary fats with the development CRC.
Methodology: This review was carried out using keywords such as ALOXs and COXs, PTGS, Colorectal cancer, Polymorphism, Fat, Dietary. All the previous studies published from 2001 to 2019 about Cancer and ALOXs and COXs gene were collected from different databases such as PubMed, Science Direct, Scopus, and Cochran. The exclusion criteria included studies which were unrelated to diet and/or ALOXs and COXs gene and/or colorectal cancer.
Results: The presence of single-nucleotide polymorphisms in the coding genes of enzymes involved in the metabolism of Fat such as ALOXs and COXs could play significant roles in the extent of the effects of nutrition in the development of CRC. The effect of dietary greatly depends on the gene polymorphisms in the metabolizing enzymes of these substances that lead to different effects of similar nutrients in different individuals.
Conclusion: Dietary and nutritional recommendations for the prevention and control of colorectal cancer should be modified based on the genotype in different individuals. Increasing our knowledge of this field of nutritional genomics can lead to personalized therapeutic recommendations for CRC prevention.

Keywords: colorectal Cancer, Polymorphism, FAT, ALOX, COX

Code: O-13

Title: Gendered prevalence and access to cigarette by minor: evidence from Global Youth Tobacco Survey, 83 countries, 2013 to 2016

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Abstract Body

Background: Article 16 of Framework Convention on Tobacco Control (WHO-FCTC) prohibiting the sale of tobacco to and by minors is a proven strategy to reduce adolescent smoking. In this context, this study examines minor's access to cigarette in 83 countries using Global Youth Tobacco Survey (GYTS) data.
Materials and methods: Gender stratified analysis of GYTS data (2013-2016) was done and access to cigarette among minors (13-15 years) were estimated and compared with FCTC Article 16 implementation in the country.
Results: Use of cigarette among male youths (range: 41.5-100%) was higher than female (Range: 0-58%) counterparts in all countries except Belarus, Bulgaria, Italy, Mozambique, Tokelau, and Uruguay. Relatively higher male and female prevalence was noted in SEAR region and AMERICAN region respectively. Shops/vendors/kiosks were the major (& gt; 50%) source of cigarette for both males and females in all countries. The cigarette vending machine was used 19 countries. Prominent gender disparity in supplying cigarette across all except 12 countries was observed. About 72 and 53 countries had implemented FCTC-Article-16 and banned use of vending machine respectively.
Conclusions: Cigarette use by minor and access to minor is universal and gendered contextually. Contextual and gender specific strategy to reduce minor use and access to cigarette should be given priority.

Keywords: Tobacco, Access, Minor, FCTC Article 16, GYTS

Code: O-14

Title: Body mass index as a risk factor for breast cancer: A case-control study in northeast Iran

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Abstract Body

Objective: Recent studies have indicated the increasing prevalence of obesity worldwide. There are some reports suggesting the role of obesity in increasing the risk of postmenopausal breast cancer. Since breast cancer as a multifactorial disease is the most common type of cancer among women worldwide, identifying the risk factors may help better risk assessment and evaluation of prognosis. This study was conducted to investigate the association of BMI with the risk of pre and post-menopausal breast cancer in a group of Iranian individuals.

Material and Methods: A case–control study was conducted on 367 breast cancer patients and 512 healthy controls. Demographic data was collected using a comprehensive questionnaire. Body mass index (BMI) as the indicator of obesity was used to analyze the risk of breast cancer in pre and post-menopausal subjects. Statistical analysis was performed using SPSS Ver16.

Results: The mean BMI values were 27.46 ± 5.27 kg/m2 and 25.40 ± 4.42 kg/m^2 in breast cancer patients and healthy controls, respectively. There was a significant difference between patients and controls in BMI<25 and ≥25 ($p<0.000001$). The significant difference was also, observed between groups after adjustment for age ($p= 0.000347$). The result indicated BMI≥25 could increase the risk of breast cancer up to 72% [OR=1.72, 95 CI (1.28-2.32)]. There was also a significant difference in BMI between cases and healthy controls in pre-menopausal subgroup ($p<0.001$). Results indicated BMI≥25 is associated with almost 2 fold increased risk of pre-menopausal breast cancer after adjustment for age [OR= 1.99, CI (1.40-2.83)]. However, we did not find any association between BMI and post-menopausal breast cancer ($p>0.05$). Furthermore, BMI was not associated with estrogen receptor expression in pre and post-menopausal subgroups ($p>0.05$).

Conclusion: BMI may be regarded as a risk factor in pre-menopausal individuals. However, more robust epidemiological research on the risk of breast cancer in our population would help to illustrate a complete figure of the involved risk factors.

Keywords: BMI, Body mass index, Breast cancer, Estrogen receptor, Obesity.

Code: O-15

Title: Population attributable risk estimate for female breast cancer in China, 2015

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Abstract Body

Objective: The burden of female breast cancer in China is high, and it is expected to further increase. Information on female breast cancers attributable to potentially risk factors are essential in planning preventive measures against breast cancer. We estimated the number and proportion of female breast cancer deaths and cases attributable to risk factors in China, using contemporary data from nationally representative surveys and cancer registries.
Methods: The number of female breast cancer cases and deaths in 2015 were obtained from the National Central Cancer Registry of China. Risk factor prevalence estimates were obtained from representative surveys, such as 2002 Chinese National Nutrition and Health Survey (2002 NNHS), Report on Chronic Disease Risk Factor Surveillance in China (2004), or large cross-sectional studies. Relative risks obtained from several recent large-scale pooled analyses or high-quality meta-analyses studies in China. Population attributable risks (PARs) for modifiable and non-modifiable risk factors were estimated.
Results: The summary PARs for non-modifiable risk factors (age at menarche, benign breast disease, and family history of breast cancer) for breast cancer was 24.0% and 22.7% for the modifiable risk factors (smoking, second-hand smoking, drinking, overweight/obesity, diabetes, nulliparous, age at first live birth≥30, use of oral contraceptives(OCs), hormone therapy (HT) use). Among those modified risk factors overweight/obesity and nulliparous had the highest impact with PARs of 8.1% and 5.9%, respectively. Approximately 68 900 cases and 16 000 deaths of female breast cancer were attributable to the modified risk factors in China in 2015.
Conclusions: The population-level impact of modifiable risk factors appears to be comparable to that of non-modifiable risk factors. Effective health interventions to reduce modified risk factors, such as tobacco control and high BMI level, may have crucial impact on lowering the female breast cancer burden in China.

Keywords: Breast cancer, Population attributable risk, Cancer registry, China

Code: O-16

Title: Thyroid Cancer in Kazakhstan: Component Analysis of Incidence Dynamics

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Abstract Body

Background: Thyroid cancer is a malignant tumor that is characterized by a progressive increase in the incidence. According to IARC estimates, annually around 567,233 new cases of prostate cancer are registered in the world, and about 41,071 deaths (7.2%).
Objective: To research changes in the incidence of thyroid cancer in Kazakhstan using component analysis.
Methods: The incidence of thyroid cancer (ICD 10–C73) in 2009 and 2018 was retrospectively studied, mainly using Dvoirin and Aksel guidelines. The component method in this study was used to divide the increase in the number of cases that belonged to the same population, but in different periods of time.
Results: In 2018, the number of thyroid cancer cases (707 new cases) was by 88.5% higher than in 2009 (375 new cases). Incidence rate of thyroid cancer in 2009 was $2.35^{0}/_{0000}$ vs $3.89^{0}/_{0000}$ in 2018, with a total growth of $T=+1.55^{0}/_{0000}$. At that, the increase of $T=+0.19^{0}/_{0000}$ was age-related and $T=+1.28^{0}/_{0000}$ was due to the risk of contracting the illness.
According to the study results, the increase in the number of new thyroid cancer cases in Kazakhstan could be mainly associated with the following components:
1. Population growth ($\Delta_P=+15.4\%$).
2. Changes in the age structure of the population ($\Delta_A=+9.3\%$).
3. The combined effect of changes in the population and its age structure ($\Delta_{PA}=+1.3\%$).
4. Changes in the risk of contracting the illness ($\Delta_R=+65.5\%$).
5. The combined effect of changes in the risk of contracting the illness and changes in the population ($\Delta_{RP}=+8.9\%$).
6. The combined effect of changes in the risk of contracting the illness and changes in the population's age structure ($\Delta_{RA}=-0{,}4\%$).
7. The combined effect of changes in the risk of the population to contract the illness and the population's age structure ($\Delta_{RPA}=+0.0\%$).
Conclusions: Thus, the number of patients with thiroyd cancer in the entire country increases dramatically. The rise is mainly due to population growth and the risk of contracting the illness. The results of the component analysis of Kazakhstani thiroyd cancer

incidence dynamics are recommended for usage in planning anti-cancer measures for cancer of this anatomical localization.

Acknowledgments: The authors declare the absence of conflict of interest and express their gratitude to the Ministry of Healthcare of the Republic of Kazakhstan for the provided data and for supporting the public association “Central Asian Cancer Institute”.

Code: O-17

Title: Prostate Cancer in Kazakhstan: Age Incidence Trends

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Abstract Body

Background: Prostate cancer is a malignant tumor that has been one of the most common diseases for many years and is characterized by a progressive increase in the incidence. According to IARC estimates, annually around 1,276,106 new cases of prostate cancer are registered in the world, and about 358,989 deaths.
Objective: To research changes in the incidence of prostate cancer in Kazakhstan.
Methods: The retrospective study covered the data of the Ministry of Health of the Republic of Kazakhstan for 2009-2018 – the annual form No. 7 related to the new cases of prostate cancer (ICD 10 – C61). Descriptive and analytical methods of medical and biologic statistics were used to define annual averages (M), mean error (m), 95% confidential interval (95% CI), annual average aligned increase/decrease (T, %). The alignment was made according to the formula: ***y=a+bx.***
Results: In the study period, 11078 new cases of prostate cancer were registered. The annual average crude incidence rate of prostate cancer in Kazakhstan amounted to 13.3 (95% CI=11.0-15.7) per 100,000 male population. Over time, the crude rate decreased from $8.2^{0}/_{0000}$ (95% CI=7.6-8.8) in 2009 to $13.7^{0}/_{0000}$ (95% CI=12.9-14.4) in 2018, with a statistically significant difference (R^2=0.6776). The aligned index was also growing, with an annual average rate of T=8.2%.
Then, we reviewed the age-related trends in the prostate cancer incidence. The upward trends were registered only in 60-69 age range (T=+8; R^2=0.5257). The downward trends were registered in the following age ranges: under 30 (T=−0.2; R^2=0.2035), 30-39 (T=−0.2; R^2=0.0068), 40-49 (T=−0.4; R^2=0.0964), 50-59 (T=−3.5; R^2=0.4163), 70+ (T=−3.8; R^2=0.8905).
Conclusions: There is an increase in the incidence of prostate cancer in the Republic of Kazakhstan. The rise is mainly due to changes in the risk of contracting. Some epidemiological features of the incidence of prostate cancer in recent years in Kazakhstan, which are recommended for use in monitoring and evaluation of anti-cancer measures, have been established.
Acknowledgments: The authors declare the absence of conflict of interest. The authors greatly appreciate the contribution of the Ministry of Health of the Republic of Kazakhstan

to the current research by providing the data and supporting the public association «Central Asian Cancer Institute».

Code: O-18

Title: Regional Trends of Kidney Cancer Incidence in Kazakhstan

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Abstract Body

Introduction: Kidney cancer is a malignant tumor that is characterized by a progressive increase in the incidence. According to IARC estimates, annually around 403,262 new cases of thyroid cancer are registered in the world, and about 175,098 deaths.
Objective: To study kidney cancer incidence age trends in Kazakhstan in 2007-2016.
Methods: The retrospective study covered the data of the Ministry of Health of the Republic of Kazakhstan for 2007-2016 – the annual form No.7 related to the new cases of kidney cancer (ICD 10 – C64). Descriptive and analytical methods of medical and biologic statistics were used to define annual averages(M), mean error (m), 95% confidential interval (95% CI), annual average aligned increase/decrease (T, %). The alignment was made according to the formula: $y=a+bx$.
Results: In the study period, 9967 new cases of kidney cancer were registered, male – 5,379 (54%) and female 4,588 (46%) The annual average age-standardized incidence rate (ASR) of kidney cancer in Kazakhstan amounted to $6.0^0/_{0000}$ (95% CI=5.7-6.3) per 100,000 total population. Over time, the index increased from $5.4^0/_{0000}$ (95% CI=5.0-5.8) in 2007 to $6.5^0/_{0000}$ (95% CI=6.1-6.9) in 2016, with a statistically significant difference (t=37.75; p=0.000; R^2=0.4805). The aligned index was also growing, with an annual average rate of T=+2.2%.
Then, we reviewed the regional kidney cancer ASR trends. The upward ASR trends were registered in the Mangistau region (T=+3.6%; R^2=0.134), Atyrau (T=+4.0%; R^2=0.0458), Karaganda (T=+0.2%; R^2=0.0198), Pavlodar (T=+2.9%; R^2=0.2831), North Kazakhstan (T=+4.4%; R^2=0.1051), South Kazakhstan (T=+5.5%; R^2=0.7911), West Kazakhstan (T=+1.9%; R^2=0.0063), Zhambyl (T=+11.6%; R^2=0.7484), and Aktobe (T=+13.0%; R^2=0.6123) regions. The downward trends were registered in the city of Almaty (T=−1.8%; R^2=0.2267), Akmola (T=−1.3%; R^2=0.1616), East Kazakhstan (T=−0.2%; R^2=0.0573), Kyzylorda (T=−3.0%; R^2=0.0957) and in the Nur-Sultan (T=−1.7%; R^2=0.0451).
Conclusions: Kidney cancer incidence in Kazakhstan was mainly growing by regions, with different growth rates. But in the city of Nur-Sultan and Almaty, Akmola, East Kazakhstan and Kyzylorda regions the incidence has decreased. It is important to pay attention to the accounting and registration of new kidney cancer cases, as well as to preventive and diagnostic measures taken in the Republic of Kazakhstan.
Acknowledgments: The authors declare the absence of conflict of interest. The authors

greatly appreciate the contribution of the Ministry of Health of the Republic of Kazakhstan to the current research by providing the data and supporting the public association “Central Asian Cancer Institute”.

Code: O-19

Title: Undifferentiated Pleomorphic Sarcoma of the Thyroid: A Case Report and Literature Review

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Abstract Body

Objectives: 1) To describe an extremely rare case study that was diagnosed with undifferentiated pleomorphic sarcoma (UPS) of the thyroid. 2) To review the literature about undifferentiated pleomorphic sarcoma of the thyroid (clinical presence, diagnosis and management).
Methods: By using Endnote X9 with keywords in PubMed: “malignant fibrous histiocytoma”, “undifferentiated pleomorphic sarcoma”, “the thyroid”, we reviewed 20 cases of thyroid UPS published in the literature.
Results: In this report, we describe a 79-year-old woman who presented with a large thyroid nodule and compressive symptoms. Immunohistochemical staining showed diffuse marked reactivity for vimentin and focal reactivity for CD68 and Ki- 67 that is compatible with primary UPS of the thyroid. There are only a few well- documented primary UPS of the thyroid in the literature (20 cases) and this is the first report in Vietnam. More than 80% of cases were female with a peak of age over 60 years. The thyroid mass in previously reported cases and in our patient exceeded 4 cm in size (75%). Adjuvant or neo-adjuvant radiotherapy in the head and neck has been used to improve disease control for thyroid UPS. However, in eleven out of twenty-one (11/21) cases in which adjuvant radio- and/or chemotherapy were used, no proven benefit was found. Rapid local recurrence or distant metastasis usually leads to death.
Conclusions: In clinical practice, primary thyroid UPS presents as a rapidly growing neck tumor in the elderly patient that causes compressive symptoms. Histopathologic features combined with immuno-histochemical stains are required for diagnosis. The treatment of choice for primary thyroid UPS is complete excision with or without postoperative adjuvant radio- and/or chemotherapy. Although the benefits of this remain unproven.

Code: O-20

Title: Benign fibrous histiocytoma of larynx: A rare case report

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Abstract Body

The Fibrous histiocytoma is one of the mesenchymal tumors that can present as malignant or benign. We reported a 30 years old male, a rare case of benign fibrous histiocytoma of larynx and evaluated the clinical and histological aspect of this patient.

Introduction: Most malignancies of the larynx are of epithelial origin, which the most common was squamous cell carcinoma. Fibrous histiocytoma or spindle cell sarcomas of the larynx was very rare (1). The Fibrous histiocytoma is one of the most common mesenchymal tumors that may present as a fibrous mass anywhere in the human body. Fibrous histiocytoma that was reported in literature can present as malignant or benign fibrous histiocytoma (2). This tumor occurs most often in the dermis of the extremities, but also can be found sporadically in the soft tissue and parenchymal organs and rarely presents as a non-cutaneous lesion especially in the head and neck (3). We presented and reported the clinical and pathological aspects of a rare case of benign fibrous histiocytoma (BFH) of the larynx treated at our center.

Case presentation: The patient was 30 year old male that presented with hoarseness from 3 month prior to admission that was progressive. He also have history of odynophagia to solid and liquid diet and periodic aspiration. There was no history of weight loss, respiratory distress and nasal regurgitation, but he was cigarette smoker, opium addict and naswar abuser and had history of voice abusing.

In his physical exam there was no significant finding in oral cavity but in neck examination there were 1*0.5 cm nodes at zone II on both side of his neck. On his indirect laryngoscopic exam, a lesion about 1*1 cm with irregular border and rough surface was seen on anterior commissure. Base of tongue and epiglottis are normal and bilateral vocal cords are mobile and normal.

He was evaluated by Video Stroboscope and revealed a lesion that was described (Figure 1).

He was planned for a direct laryngoscopy evaluation and biopsy. On his direct laryngoscopy a pedunculated lesion was seen on Ant. Commissure that resected and sent for pathology.

Histopathological examination was done and reported the spindle cell tumor (cellular fibrohistiocytoma) (Figure 2). To confirm this diagnose, immunohistochemistry (IHC) was done that revealed positive for Vimentin and Ki67 (in 4% tumoral cells) and negative for CD34 and SMA that confirmed the spindle cell tumor (cellular fibrohistiocytoma).

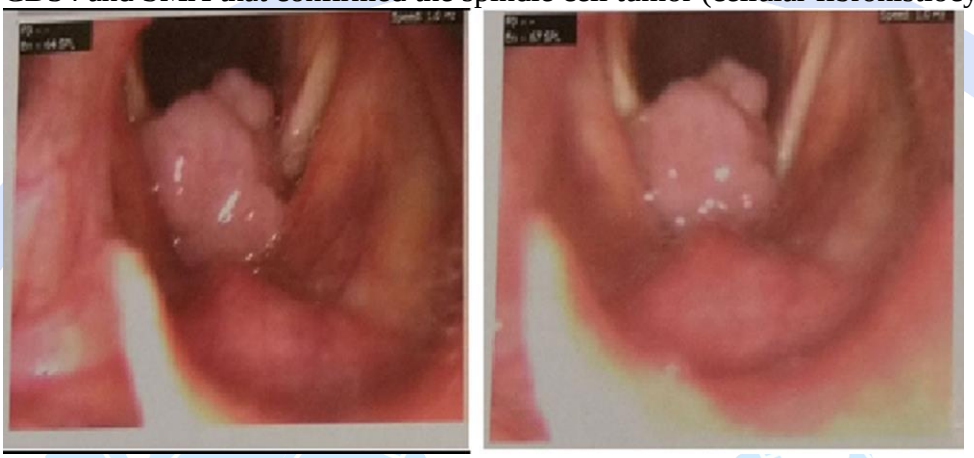

Figure 1. Video stroboscopic view of larynx of patient

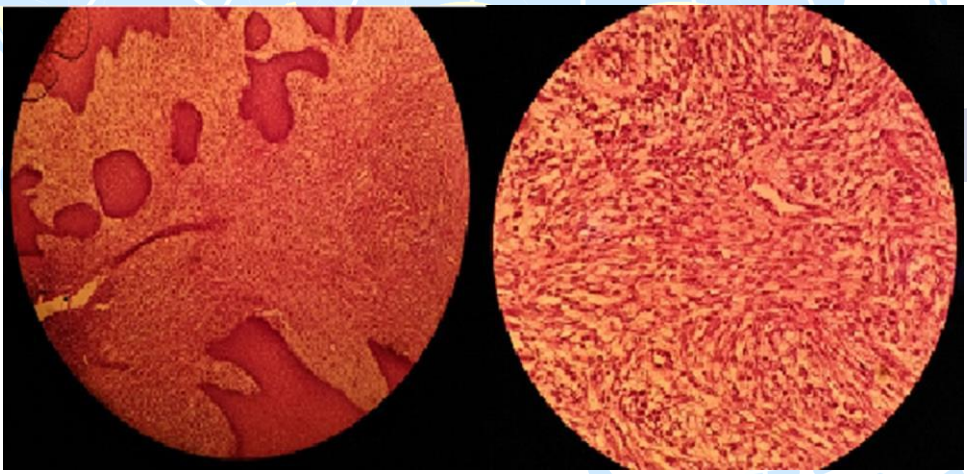

Figure 2. Histopathological picture of fibrohistiocytoma (spindle shape cell) A: H&E, x10; B: H&E, x40

Postoperatively, he had mild hoarseness, which improved and he was asymptomatic for about six months. But he had complain from hoarseness again after 6 month since previous surgery and had also odynophagia to liquid and solid diet and mild aspiration again. Direct laryngoscopy was done for him and there was a mass on Ant. Commissure that was adhesive to left TVC that resected and sent for pathology which reported spindle cell tumor again.

He was on medical and speech therapy and his voice were better few months later and he was asymptomatic for past three years. The patient came back after 3 years with complain of hoarseness again, that reevaluation by direct laryngoscopy was done and found no pathologic change in his laryngeal parts.

Discussion: The benign fibrous histiocytoma (BFH) or fibrohistiocytoma is one of the most common mesenchymal tumors in adults, which is usually found to be of cutaneous origin

and its presence in non-cutaneous deep organs of the body is rare with few reports in literature. (4).

In the head and neck region, presence of BFH is rare and the etiology of BFH in this area is obscure. The commonest region involved is the orbit and there are only rare isolated reports of involvement of oral cavity, nasal cavity, neck and larynx (5, 6).

BFH usually develops as a painless lesion or mass with nonspecific symptoms. The symptoms present later due to pressure effects depending on their size and site of involvement. They may present as nasal obstruction, epistaxis, proptosis, stridor, dysphagia, hoarseness and dysphonia (2).

Diagnosis of BFH is often a challenge and must be based on the combination of microscopic histopathology and immunohistochemistry (7).

Note that BFH has a highly variable immunohistochemical profile. Factor XIIIa is expressed by tumor but it is not specific. CD34 is usually negative, however a thin rim of CD34 positivity can be seen at the periphery of BFH lesions and more common in cell variant. IHC, it is also positive for CD 68 and Vimentin and negative for SMA and S-100 (muscle and neurogenic origin) (8).

Histologically, BFH needs to be differentiated from aggressive conditions like malignant fibrous histiocytoma, which typically has a pleomorphic pattern of cells with mitotic figures, giant cells and areas of hemorrhage and necrosis (9). Generally the prognosis of BFH is good, and it can be managed with totally resection. Because of local recurrence is rare, even with involved margins, Choice of treatment for BFH is the surgical excision of the tumor, without any specific role of radiotherapy or chemotherapy (3, 10).

In this case, we performed a direct laryngoscopic resection of lesion with complete margins and the patient is asymptomatic for the past 3 years.

Conclusion: There have been a few case reports of BFH of larynx. Diagnosis of BFH is often a challenge and must be based on the combination of microscopic histopathology and immunohistochemistry evaluation.

Keywords: Benign fibrous histiocytoma, larynx, soft tissue tumors.

Conflicts of interest: none.

Acknowledgements: We express our appreciation to Shafa hospital staff of Kerman University of Medical Sciences, Kerman, Iran for their cooperation.

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Code: O-21

Title: Pathological Profile of Breast Cancer among Yemeni Patients

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Abstract Body

Background: Breast cancer is the commonest malignancy of women in western countries and second most common in developing countries after cervical cancer and it is also the most common cause of cancer mortality in women The most common risk factors are age over 40, history of mammary gland diseases, history of cancer in first-degree relatives, early menarche and late childbearing (after 35 years of age), woman's age and others (6, 7). In Yemen, breast cancer is considered the first cancer among Yemeni women and the most leading cause of death. Therefore, every change in the breast should be evaluated carefully for early detection of possible precancerous elements. In Yemen, the magnitude of the problem of breast diseases is not yet known. The aim of current study is to study the demographic distribution and histopathological pattern of breast cancer among Yemeni women.
Methods: A descriptive retrospective study of breast specimens from 354 women was taken from the private modern histology lab and Ibn sina lab in Aden; between 2006- 2013. The data were collected from the referral sheets. All women with breast cancer underwent Fine Needle Aspiration Cytology (FNAC) and/or biopsy due to the presence of breast cancer for the purpose of diagnosis, were included. Four cases were excluded from the study as they were male cases. Therefore, the remaining 354 biopsies were included in the study.
Results: The results show 44% of the cases were from IBB Governorate, followed by 33% of cases from Aden.

Table 1: Distribution of breast cancer according to area of residency

Govemorate	Frequency	Percent (9£)
Aden	ns	333
IBB	138	44.6
Al-Dhale	8	2.3
Abyan	19	5.4
Shabwa	8	23
Hadhramout	*24*	6.8
Taiz	*5*	1.4
Lahaj	*11*	3.1
Al-Baidha	*1*	0.3
Al-Hudaida	2	0.6
Total	354	100.0

The age of the women with breast cancers ranged from 20 years (youngest patient) to 87 years (oldest patient) with a mean of 46.9 ± 12 years. 56.2% of lumps were in the right breast. Left breast was the next common (41.3%); with 3.5% of the cases affecting both breasts at the time of diagnosis. The overall pattern of breast cancer had invasive ductal carcinoma as the commonest finding (57.5%) followed by invasive lobular carcinoma (20%), in situ ductal carcinoma (13.2%) and in situ lobular carcinoma (3.4%). The less frequent subtypes were malignant phyllodes which represented 2.3%. Papillary carcinoma, medullary carcinoma and Mucinous carcinoma were 1.1% each respectively.

Table 2. Histopathoology distribution of breast cancer among Yemeni women

Type of cancer	No. of patients	%
In situ ductal carcinoma	46	13.2
Invasive ductal carcinoma	206	57.5
In situ Lobular carcinoma	12	3.4
Invasive lobular carcinoma.	71	20
Malignant phyllodes		2.3
Medullary carcinoma	4	1.1
Mucinous carcinoma	4	1.1
Papillary carcinoma	4	1.1
Metaplastic carcinoma	1	0.3
Total	354	100.0

Conclusion: Malignant neoplastic breast lesions were mostly seen beyond the 4th decade. Invasive carcinoma was the most common malignant tumor among Yemeni women.

Keywords: Breast Cancer histopathology, demographic distribution

Code: O-22

Title: The urgent need for multidisciplinary clinical programs by using framework telemedicine, bioinformatics and genomics to management of cancer patients during in the COVID-19 pandemic

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Abstract Body

During the first outbreak of novel coronavirus 2019 has been regarded highly fast-spreading respiratory tract infections and mortality in worldwide. It seems that life-threatening tumors or immunosuppressed patients are more at risk to be triggered and developed more severe symptoms by covid-19 infections so all patients will require reliable consulting and clinical treating. With the emergence of lockdown situation in more countries have motivated all government, health care services and customer to more use online strategies in different areas with close access to healthcare. We used the Medline/PubMed databases of the National Library of Medicine for the information about telemedicine, telegenetics, cancer, COVID-19 and the combinations of these terminologies. Online communications are beginning to be used in health care systems with the aim of tailor specific approach to disease management. In during pandemic, moving to the hospital or clinical care for routinely testing and malignancy were associated with an increased COVID-19 case mortality rate and the risk of spreading the disease and transmition the virus to both patients and other health individuals.

We proposed a broad framework of telemedicine and genomic information to better management at different locations for both direct patient and medical care professionals. Interdisciplinary clinical programs utilizing telemedicine, bioinformatics and genomics to merge these fields have also been developed for global collaboration and efforts to fight this unknown virus. Moreover, genome-base investigations have brought new insights for drug development, diagnostic and predictive of severity of COVID-19 infection.

Keywords: Framework, COVID-19 pandemic, Cancer management

Code: O-23

Title: Developing Clinical Guidelines for End-of-Life Care in Patients with Cancer

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Abstract Body

Context: Cancer is the second cause of death worldwide. Patients with cancer, especially those in late stages, are confronted with many challenges. Healthcare providers need to support them with a palliative care plan.
Objectives: To develop clinical guidelines for end-of-life care in patients with cancer.
Methods: In this study, an exploratory sequential mixed methods design was used. The qualitative phases included a content analysis via semi-structured qualitative interviews and a meta-synthesis to formulate the guidelines, and in the quantitative phase, the guidelines were validated using the Appraisal of Guidelines Research and Evaluation (AGREE) instrument. The content analysis and meta-synthesis were performed separately, then integrated and compared in an interpretation phase. Data were analyzed by hermeneutic analysis. Finally, quantitative method was for validation guideline through the tool appraisal of guidelines research and evaluation (AGREE) instrument.
Results: In total, 37 Iranian participants were interviewed, and 21 articles were selected and analyzed using thematic synthesis. Validation was performed by 66 head nurses and nurses at six university hospitals in Iran that have palliative care units. Our main data of end-of-life care were 1) Physical, 2) psychological, 3) social and 4) Spiritual care.
Conclusion: Quality of care in healthcare is important. The findings have provided a better understanding of the end of life care in patients with cancer to improve the quality of life for these patients.

Keywords: Experiences, Cancer, End-of-Life Care, Clinical Guidelines

Code: O-24

Title: A Network-Based approach using External Hints to assess the Differentially Expressed Genes of Epithelial Airway Cells between various Statuses of Smoking

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Abstract Body

Motivation: In this paper, we propose a network-based algorithm to assess and prioritize the differentially expressed genes (DEGs) between the normal airway lung cells of samples in different status of smoking. We assume that the cigarette smoke has the same influence on the expression of genes located on the common subcellular location. Therefore, the cellular components similarities between genes are applied as external hints about the gene associations to construct the gene networks. The algorithm assesses and prioritizes the DEGs based on the differences between their corresponding degrees in the networks of different status of smoking.
Results: We have applied the algorithm to assess the determined DEGs between smokers and non- smokers and also non-smokers and former smokers, based on the information of two different gene expression datasets. The prioritized lists of DEGs based on the proposed algorithm are compatible with their discriminant power to distinguish smokers from non-smokers for two used datasets.

Keywords: Differentially expressed genes (DEGs), network construction, Bayesian inference, GO cellular components similarity, cigarette smoking

Code: O-25

Title: Molecular Detection of Association of Vascular Endothelial Growth Factor (VEGF) Gene in Oral Sub mucosal Fibrosis (OSF) Cancer

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Abstract Body

Oral submucous fibrosis (OSMF or OSF) is a chronic, complex, premalignant (1%transformation risk) condition of the oral cavity, characterized by juxta-epithelial inflammatory reaction and progressive fibrosis of the sub mucosal tissues. A recent study shows strong association of VEGF gene in Oral Sub mucosal Fibrosis (OSF) Cancer. To know the association of VEGF gene polymorphism in patients with OSMF and to compare the same among healthy subjects. The study included a total of 50 subjects from patients reporting to the Out-patient Department of Dentistry, ENT of which 30 were diagnosed to have Oral sub mucous fibrosis and 20 were healthy controls (without habits and free from any lesions). Isolated deoxyribonucleic acid (DNA) samples from both were subjected polymerase chain reaction based restriction analysis was carried out for VEGF gene. VEGF gene has to be used as a specific biomarker for the Oral submucous fibrosis Cancer (OSMF or OSF).

Code: O-26

Title: The prognostic relevance of NANOG, Ki-67, HPV, CD44 and p53 in Oral Squamous Cell Carcinoma

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Abstract Body

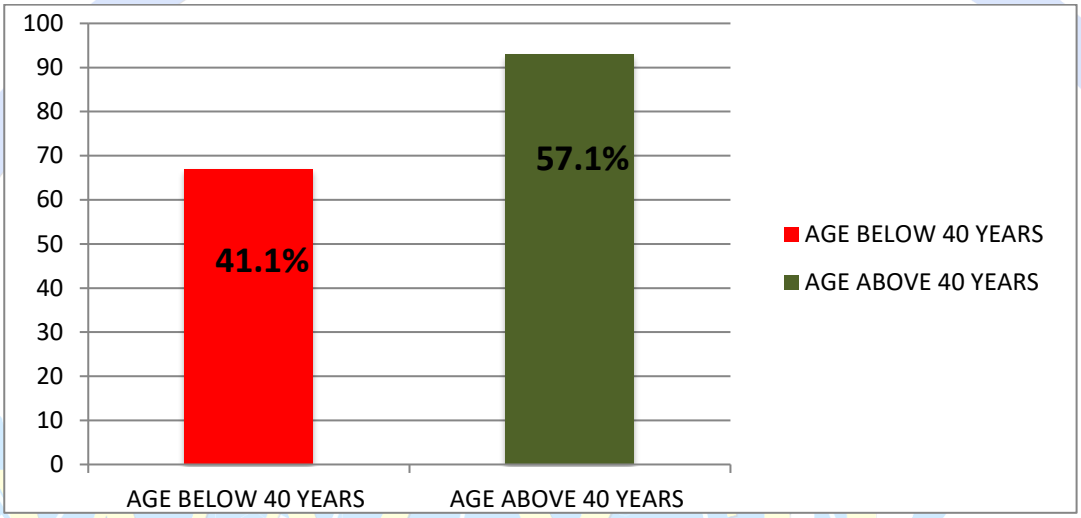
Objective: The aim of this study was to assess expression and prognostic relevance of NANOG, Ki-67, HPV, CD44 and p53 in Oral squamous cell carcinoma.

Method: A total of 160 OSCC patients were taken for this study from 500 Oral squamous cell carcinoma patients through random sampling technique from 1st December 2016- 31st July 2019. Oral squamous cell carcinoma was diagnosed and graded according to WHO criteria. The immunohistochemistry for p53, NANOG, HPV and Ki-67 was performed, results were interpreted and recorded. The patients were kept on follow up for 19 months and overall survival rate was recorded further Kaplan Meier test was applied to evaluate the survival status.

Results: High expression of NANOG, Ki-67, CD44 and p53 was associated with poor survival rate despite the fact majority of patients were presenting with well and moderately differentiated squamous cell carcinoma.

Conclusion: Inclusion of entire panel of tumor markers will aid in more specific and definitive discernment of Oral squamous cell carcinoma. As evident that proposed classification systems fails to unmask the tumor behavior due to molecular heterogeneity of oral squamous cell carcinoma

Graph 1: Distribution of patients in accordance with age



Graph 2: Gender distribution

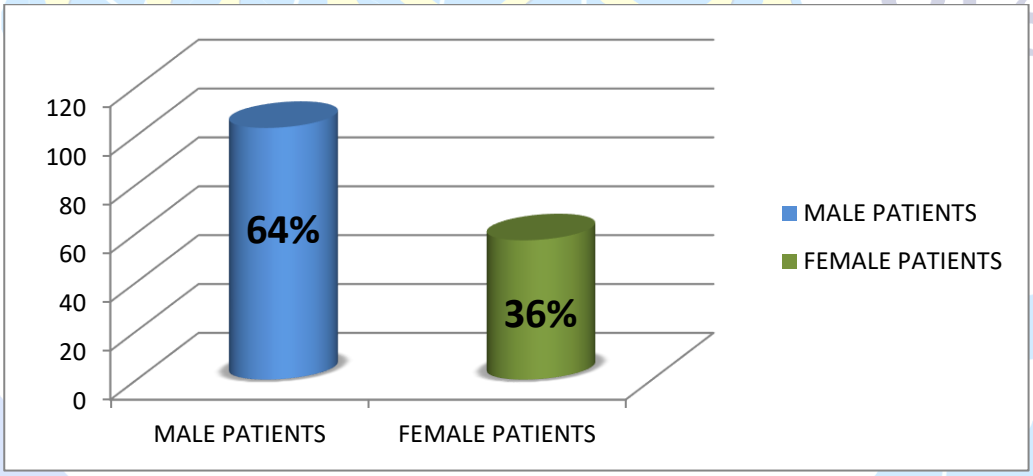


Table 1: survival status of patients in accordance with CD44 expression

Survival status	CD44 positive n(%)	CD44Negative n(%)	Total n(%)	*p* value *
Alive	24(18.89)	19(57.57)	43(26.87)	0.001
Expired	98(77.16)	13(39.39)	111(69.37)	
Lost to follow up	5(3.93)	1(3.0)	6(3.75)	
Total	127	33	160	

Table 2: Survival status in accordance with p53 Expression

Survival status	p53positive n(%)	p53Negative n(%)	Total n(%)	*p* value *
Alive	24(17.9)	19(57.57)	43(26.87)	0.001
Expired	109(81.35)	2(7.69)	111(69.37)	
Lost to follow up	1(0.7)	5(83.3)	6(3.75)	
Total	134(83.7)	26(16.25)	160	

Table 3: Survival status in accordance with NANOG expression

Survival status	NANOG positive n(%)	NANOG Negative n(%)	Total n(%)	*p* value *
Alive	15(34.8)	28(65.11)	43(26.87)	0.001
Expired	105(94.5)	6(5.4)	111(69.37)	
Lost to follow up	1(16.6)	5(83.3)	6(3.75)	
Total	121(75.6)	39(24.4)	160	

Code: O-27

Title: Association of IHC p16INK4a expression and ELISA plasma p16INK4a protein in squamous cell carcinoma of uterine cervix: A concept of liquid biopsy

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Abstract Body

Background: Cervical cancer is the 3rd most common cancer among women worldwide. P16 biomarker is the surrogate marker in cervical cancer and can be detected by immunohistochemistry (IHC). This study is done to evaluate the association of tissue IHC p16 expression with plasma ELISA p16 protein levels in squamous cell carcinoma (SCC) of cervix.

Materials & Methods: This is a laboratory based observational study. Seventy newly diagnosed, histopathology proven cases of SCC of cervix was considered. The cases were staged as per FIGO staging system and classified histopathologically as keratinizing and non-keratinizing types. IHC p16 evaluation was done on tissue sections and classified as block positivity, ambiguity and negative. ELISA p16 estimation was done using plasma from K2EDTA blood sample of same cases. Statistical analysis was done using SPSS 22 version software.

Results: The age ranged from 30-80 years with mean of 54.3±12.0. Plasma ELISA p16 level ranged from 3.4 – 19.6 ng/ml with a mean of 7.2±2.35 ng/ml in SCC of cervix. The plasma p16 ELISA levels of 5.1 to 6.2 ng/ml, 6.0 to 6.6 ng/ml and 5.5 to 9.7 ng/ml predicts negative, ambiguity and block positivity of IHC p16 expression respectively in corresponding tissue biopsy. Plasma ELISA p16 levels were maximum in WDSCC, followed by MDSCC and PDSCC. The plasma ELISA p16 levels and IHC p16 expression were high in higher disease stage compared to lower stage.

Conclusion: This is a pilot study to evaluate the association between tissue IHC p16 expression and plasma ELISA p16 levels. The study has to be done in larger study population with standardized procedure to extrapolate the findings to the clinical settings.

Keywords: Cervical cancer, ELISA, immunohistochemistry, p16 biomarker.

Code: O-28

Title: Thyroid and sex hormones in predicting breast cancer risk

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Abstract Body

Introduction: Thyroid hormones exert estrogen-like effects on breast cancer (BC) cell growth. A case-control study on BC patients in Sri Lanka revealed significantly low levels of serum testosterone and non-significant differences in serum estrogen and progesterone in BC patients. However, incidence of thyroid related diseases, thyroid profiles, and the relationship of thyroid to sex hormones ratios on BC development is not reported in Sri Lanka.
Objectives: To analyze the incidence of thyroid related diseases, thyroid hormones of BC patients and to compare with apparently healthy age matched women and to assess thyroid to sex hormones ratios of BC patients.
Methodology: Serum TSH, T3, T4, of newly diagnosed BC patients (N=155) in the age of 30 to 75 years and age-matched normal controls (n=75) were analyzed, using mini VIDAS immune analyzer. Data on thyroid related disease incidence was collected from an interviewer administered questionnaire.
Results: Thyroid disease incidence was significantly higher in BC patients compared to controls. Ten percent of BC patients who were already on treatment for thyroid related diseases were excluded from study. Subclinical hyperthyroidism was identified in 14% of the remaining BC patients and was the only dysfunction (7%) present in apparently healthy women. Significantly higher mean T 3 and T 4 values and lower TSH levels were observed in BC patients when compared to healthy. Considering the thyroid hormones to sex hormones ratios among postmenopausal women, T3/testosterone, T4/testosterone, T3/estrogen, T4/ estrogen, ratios were significantly different in the two groups and the highest significance was found with T3/testosterone. Cutoff values studied from ROC curves indicated that a woman having T3/testosterone above 7.47 to be having 12.5 times risk (p=0.000) of having BC.
Conclusion: Thyroid related diseases are significantly higher among BC patients with significantly elevated serum T3 and T4 levels than controls indicating the possible impact of thyroid hormones in BC. Considering the thyroid hormones: sex hormone ratios, serum T3/testosterone above 7.47 was identified as a potent marker in identifying BC risk among the study group.

Code: O-29

Title: Immunohistochemical Expression of Ki67 and HER2 in Colorectal Cancer Compared to Adenomatous and Normal Samples

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Abstract Body

Background & Aim: Colorectal cancer (CRC) is one of the most common cancers worldwide. Due to the high rate of mortality in advanced metastatic stages, finding new detecting techniques seems to be necessary. This study aimed to investigate the immunohistochemical expression of Ki67 and human epidermal growth factor receptor 2 (HER2) in colorectal cancer compared to adenomatous and normal samples.
Methods: This case-control study was conducted to evaluate Ki67 and HER2 protein immunohistochemical (IHC) expressions in 137 colorectal formalin fixed paraffin-embedded tissue blocks. The blocks were classified into 3 groups; normal (n = 36), adenomatous (n = 38), and adenocarcinoma (n = 63). All tissue blocks were selected through convenience sampling method from the archive of pathology in Ali-Ebne-Abitaleb Hospital, Zahedan, Iran from 2010 to 2015. The sections were evaluated, using semi-quantitative scoring. Ki67 and HER2 expressions were reported as negative and positive. Clinicopathological characteristics were also assessed. The data was analyzed by Kruskal-Wallis and Chi-square or Fisher tests. The significance level set as P < 0.05.
Results: The expression of Ki67 in CRC, adenomatous, and normal colorectal tissues were 79.30%, 44.80%, 25.00%, and in HER2 were 54.00%, 36.80%, and 19.40%, respectively. Ki67 and HER2 overexpressions were significantly higher in CRC than the adenomatous and normal tissues (P < 0.05). Ki67 overexpression was significantly correlated with differentiation grade of tumor (P = 0.0002) and also HER2 expression was significantly associated with tumor type (P = 0.003).
Conclusions: Considering the significant overexpression of Ki67 and HER2 in CRC, it seems that these biomarkers can be used as useful predictors in primary screening and identifying of CRCs. Further research should be conducted on this matter.

Code: O-30

Title: DNA hypermethylation of *sirtuin 1* may be a predictive biomarker for malignant transformation of oral mucosa

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Abstract Body

The predictive biomarkers for malignant transformation in oral epithelium remain unexplored. The malignant transformation of oral epithelium is often preceded by the development of precancerous lesions, characterized by the disruption of epithelial integrity and, consequently, the transformation to invasive cancer. *Sirtuin1* (*SIRT1*) has been identified as playing a role in the maintenance of epithelial integrity and its alteration is often related to carcinogenesis. However, the methylation and transcription status of *SIRT1* in patients with oral cancer has not been investigated. We hypothesized that DNA hypermethylation followed by *SIRT1* transcriptional downregulated expression may be an early event of oral carcinogenesis prior to observable clinical changes. In the present study, we examined the methylation status of *SIRT1* in paraffin-embedded tissue samples of oral squamous cell carcinoma (OSCC) obtained from betel quid (BQ) chewing and non-chewing patients and in tissues samples from healthy control subjects. In addition, we examined whether the hypermethylation of *SIRT1* followed by its transcriptional downregulation in the human gingival epithelial cells could be caused by arecoline, a major component of BQ. Furthermore, we investigated the methylation status of *SIRT1* in smear samples of macroscopically healthy buccal mucosa from subjects with a habit of BQ chewing. DNA methylation of *SIRT1* was significantly higher in the tissue samples from BQ chewing patients with oral cancer than in samples from non-chewing oral cancer patients or controls. Our *in vitro* model showed that hypermethylation is followed by the downregulation of the transcriptional level of *SIRT1*. The methylation level of *SIRT1* in healthy oral epithelium of

BQ chewing subjects is higher than that of non-chewing subjects. Our data demonstrate that DNA hypermethylation of *SIRT1* is involved in the occurrence of oral cancer in BQ chewing patients. The hypermethylation of *SIRT1* in the oral mucosa may be a predictive marker for the occurrence of malignant transformation. In conclusion, our results suggest that DNA methylation status of *SIRT1* in buccal smear samples might be considered as an applicable routine oral screening procedure in high-risk populations, particularly in relation to BQ-induced oral cancers.

Code: O-31

Title: Systemic inflammation and cancer stem cell marker evaluation in bladder cancer prognosis

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Abstract Body

Objective: Cancer stem cells are cancer cells with additional features of self-renewal, differentiation and drug/radiotherapy resistance. But many functional studies have shown that systemic inflammation alleviates these stem cell properties in cancer cells. Therefore, it is of utmost importance to evaluate their significance together. Nanog, a transcription factor, is involved in embryonic stem cells self-renewal but few studies have reported its association with poor overall survival in bladder cancer patients. Recently, Neutrophil to Lymphocyte ratio (NLR) has appeared to be an independent prognostic biomarker in various cancers. Previously, in another study we have studied the significance of Nanog in bladder cancer patients with 1 recurrence free survival (RFS). But the present undertaken study aims to evaluate the significance of Nanog expression in non-muscle invasive bladder cancer (NMIBC) patients with systemic inflammatory marker i.e. NLR in recurrent and non-recurrent bladder cancer cases.

Methods: Fifty-six NMIBC patients were studied and pre-treatment absolute neutrophil count and absolute lymphocyte count was recorded. Neutrophil count was divided by lymphocyte count to obtain NLR. The NMIBC patients were categorized into low NLR (<2.8) and high NLR (≥2.8) based on median value. The fresh tissue samples of these patients were fixed in 10% formalin for histopathological analysis and immunohistochemistry (for Nanog expression analysis). The combined significance of Nanog and NLR was evaluated by developing a Nanog/NLR scoring system which included

score 0 for individuals with low Nanog and low NLR and score 1 for individuals with low Nanog and high NLR or high Nanog and low NLR.

Results: Tumour grade was found to be significantly associated with both Nanog and NLR (all $p<0.05$). High Nanog expression and NLR were associated with reduced 4-year RFS (all $p<0.01$). Likewise, shorter RFS was observed for individuals with a score of 1 (Nanog/NLR; $p<0.01$). We performed Cox proportional hazard regression analysis for RFS separately which comprised two models i.e. model 1 included all the clinical parameters (age, gender, tumour grade, tumour stage, and tumour size) along with Nanog and NLR while model 2 included the above mentioned clinical parameters and Nanog/NLR scoring. On multivariate analysis of model 1 and model 2, the promising independent markers appeared to be were Nanog and Nanog/NLR scoring system respectively for RFS.

Conclusion: NMIBC is characterised by frequent bladder tumour recurrence, which requires invasive follow-up sessions. Therefore we need good and economical non-invasive prognostic biomarkers. The combined evaluation of cancer stem cell expression and systemic inflammation might play an important role in prognosis of bladder tumour recurrence. Thus we conclude that Nanog/NLR scoring system will help in tailoring of treatment modality. However, this study requires further validation in a larger population size.

Reference:

1. Z Siddiqui, AN Srivastava, SN Sankhwar et al. Synergic effects of cancer stem cells markers, CD44 and embryonic stem cell transcription factor Nanog, on bladder cancer prognosis. British Journal of Biomedical Science. doi.org/10.1080/09674845.2019.1692761.

Keywords: cancer stem cell, Nanog, Neutrophil to Lymphocyte ratio, bladder cancer, prognosis

Code: O-32

Title: Papillary Thyroid Cancer-Promoting Activities of Combined Oral Contraceptive

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Abstract Body

Background: Thyroid cancer is more common in women at reproductive age, suggesting the relationship between its high-incidence and therapeutic use of hormonal medications, such as oral contraceptives (OCPs). The aim of this study was to identify the effect of low-dose combined OCP (LD-COC) on proliferation, apoptosis, and migration of human papillary thyroid cancer (PTC) BCPAP cell line.
Materials and Methods: BCPAP cells were cultured and treated with the combination of 90nM levonorgestrel (LNG) and 20nM ethinylestradiol (EE) for 48 hours. Afterward, using 3-(4, 5-dimethylthiazol-2-yl) -2, 5-diphenyltetrazolium bromide (MTT) assay, the proliferation of the cells was measured. Apoptosis was determined by using a Caspase-3 ELISA kit. Migratory properties of combined LNG and EE were studied through wound scratch assay. The expression levels of pro-apoptotic factor *BAX*, anti-apoptotic factor *Bcl2*, and proliferation marker *Ki67* were analyzed by quantitative reverse transcriptase polymerase chain reaction (qRT-PCR) and western blotting.
Results: Upon treatment with the combination of LNG and EE, proliferation and migration of BCPAP cells were significantly enhanced. However, LNG and EE remarkably inhibited apoptosis of these cells. Furthermore, treating PTC cells with combined LNG and EE caused a marked increase in the expression of *Bcl2* and *Ki67* and a considerable decrease in *BAX* levels ($P< 0.05$).
Conclusion: Our data linked the use of COCs and the progression and aggressiveness of PTC, suggesting the role of these hormonal compounds as promoting factors for PTC tumors. Despite these observations, further investigations will be required to fully establish the pathogenic impact of these medications on PTC.

Keywords: Papillary thyroid cancer; Oral contraceptives; Proliferation; Apoptosis

Code: O-33

Title: Immune dysfunction as measured by lymphocytopenia is associated with the sub-type of minimal residual disease and outcome in Stage II colon cancer treated with surgery alone.

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Abstract Body

Objective: Within 5 years after curative surgery for stage II colon cancer 25% of patients will relapse due to minimal residual disease (MRD). Immune dysfunction has been associated with a worse prognosis. We hypothesize that markers of immune function such lymphocytopenia (LCP) is associated with the sub-type of MRD defined by bone marrow micro-metastasis (mM) and circulating tumour cells (CTCs). A higher immune dysfunction being associated with a more aggressive MRD and worse prognosis.

Methods and Patients: Blood and bone marrow samples were taken to detect CTCs and mM using immunocytochemistry with anti-CEA one month after surgery. The absolute lymphocyte count (ALC) was determined one month post-surgery, LCP was defined as < 1,000 lymphocytes/mm^3. The ALC and frequency of ALC were compared with the sub-types of MRD; Group I MRD (-); Group II mM positive and Group III CTC positive. Follow-up was for up to 5 years or relapse and survival curves using Kaplan-Meier (KM) were calculated.

Results: 181 patients (99 women) participated, mean age 68 years, median follow up 4.04 years; Group I: N=105, Group II: N= 36, Group III: N=40. A significantly lower ALC 1,210/mm^3 vs 1,710/mm^3 (p=0.01) and higher frequency of LCP 42% vs 6% (p<0.001) was seen in patients who relapsed (N=52). The ALC was significantly lower in Group III MRD, with no difference between Groups I and II ($p < 0.01$), the frequency of LCP increased from Group I to III, 6% vs 19% vs 43% respectively ($p < 0.001$). The ALC decreased significantly with increasing CTC counts, 1,7120/mm^3 vs 1,260/mm^3 vs 970/mm^3 for CTCs counts of 0, 1-2 and ≥ 3 (p<0.05) respectively and the frequency of LCP significantly increased with increasing CTC counts, 6% vs 19% vs 79% ($p < 0.001$) respectively. The 5-year KM were

98% Group I, 68% Group II and 7% Group III ($p < 0.001$), with restricted mean survival times of 4.9, 4.1 and 1.7 years respectively ($p < 0.01$).

Conclusions: The results of the study suggest that the severity of immune dysfunction after curative resection as determined by the ALC is associated with differing sub-types of MRD and a worse prognosis. A significantly lower median ALC and a higher frequency of LCP was associated with CTC positive MRD. A more severe immune dysfunction was associated with an aggressive CTC positive MRD sub-type and a higher number of CTCs. Immune dysfunction as defined by LCP has an important role in the type of MRD and prognosis in stage II colon cancer.

Code: O-34

Title: Anticancer potential of ethno-medical plants from Indian Sub-continent against breast cancer

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Abstract Body

Objective: Natural products have been historically proven their value as a source of molecules with therapeutic potential. The Indian sub-continent has rich culture and widespread use of medicinal herbs and spices traditionally known as Ayurvedic, Unani and Sidhha systems of medicine worldwide. Moreover, one of the most exciting discoveries of many biologically active chemotherapeutic compounds could offer rational drug design. Most of these compounds are derived from routinely used traditional plants and hence their tolerance and safety are relatively better known than any other synthetic drugs. However, only some preliminary anticancer activities have been carried out as well as there is a lack of systematic identification of compounds of most of the medicinal plants. Moreover, no attempts have been made to isolate and characterize the active phytochemicals of these plants and their extracts except few. In the present study we investigated the cytotoxic and anti-proliferative effects of extract and different fractions in human breast cancer MDA MB 231 and MCF-7 cells along with isolation and characterization of active principles from *Tinospora cordifolia* (Thunb.) Miers (Menispermaceae), *Rheum emodi* L. (Polygonaceae), *Crotalaria juncea* L. (Fabaceae) and *Zingiber officinale* Roscoe (Zingiberaceae).

Methods: The cytotoxic and antiproliferative activity was evaluated against human breast cancer (MDA-MB-231 and MCF-7) cells by MTT and colony formation assay. Hoechst 33342 staining was performed to examine apoptosis. H2DCFDA staining was used to determine ROS mediated cell death in breast cancer cell line MDA-MB-231 and MCF-7. Gas chromatography and High performance column chromatography coupled with triple quadruple mass spectrometer was used to screen out the presence chemical compounds present in different fractions. Identification and structure were elucidated by extensive analysis of spectroscopic data (UV, 1D and 2D NMR, Mass) and comparison with the literatures and Co-TLC.

Results: The methanolic crude extracts of *T. cordifolia* and *Z. officinale* were found to be most effective in cell growth inhibition of human breast cancer MDA-MB-231 and MCF-7. Furthermore, different solvent fractions of *T. cordifolia* and *Z. officinale* for anticancer activity showed that hexane and chloroform fractions from both the plants exhibited most effective against all the cell lines (Table 1). We also found that both fractions of above plants induce apoptosis in breast cancer cell lines. *T. cordifolia* chloroform fraction induces significant ROS generation in a time-dependent manner in MDA-MB-231 and MCF-7 cancer cells. We observed from the RNA expression and western blot that treatment with chloform fraction of *T. cordifolia* increased the expression of tumor suppressor genes p21, p53, Bax and Bad and decreased the expression of anti-apoptotic genes Bcl2 and c-myc, furthermore, we observed decrease in total PARP and the increase in cleaved fragment of caspase-3 which is considered to be the hallmarks of apoptosis. This is the first time report on chloroform fraction of *T. cordifolia* which showed ROS mediated apoptosis in human breast cancer cells.

Flash, HPLC and silica open column chromatography of these fractions afforded several compounds. Structural elucidation by 1D and 2D NMR, UV and Mass showed that the molecules belongs to the sterols, terpenes, phenolics, glycosides and alkaloids. Spectroscopic scanning with triple quadruple (GC-MS/MS) confirmed the presence of different classes of compounds in *T. cordifolia and Z. officinale*. Identified compounds were compared with those reported for structurally related molecules. Many new compounds were identified in our work that was not reported earlier from *Z. officinale* and *T. cordifolia*.

Table 1 IC_{50} value obtained for different fractions of *T. cordifolia* and *Z. officinale* against MDA-MB-231 and MCF-7 cancer cells after 24h of exposure

Extract	**IC_{50} Value (µg/mL)**	
	MDA-MB-231 Cells	**MCF- 7 Cells**
TCMH	47.5 ±2.53	37.2 ±2.77
TCMC	35.6 ±3.66	28.9 ±2.93
ZOMH	25.8±3.60	85.3±4.60
ZOMC	43.3±2.45	94.4±5.14

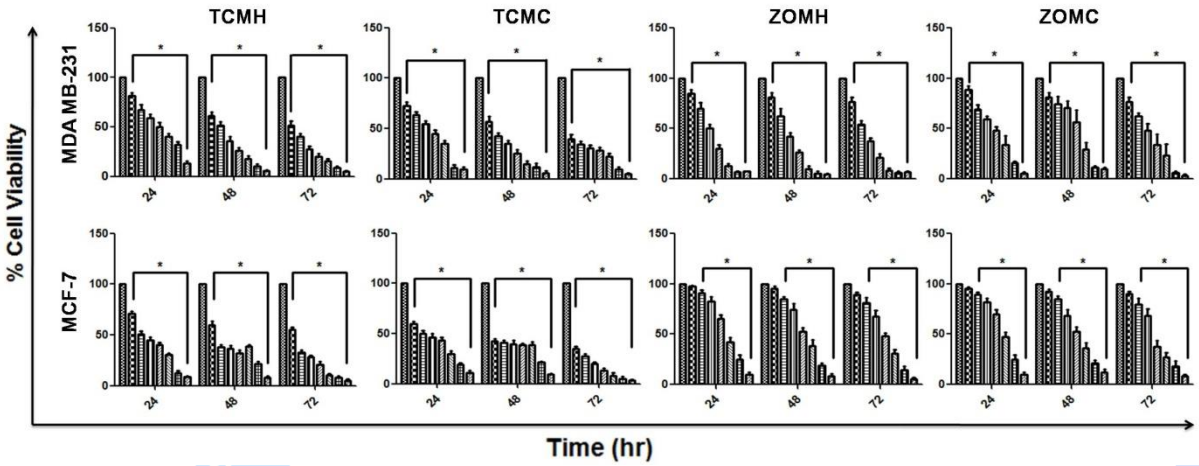

Figure 1 Effect of *Tinospora cordifolia* hexane and chloform (TCMH, TCMC) and *Zingiber officinale* hexane and chloroform (ZOMH, ZOMC) fractions on the cell viability of MDA-MB-231 and MCF-7 cancer cells at the dose of 6.25-400µg/mL for 24 h.

Conclusion: In conclusion, the study showed the apoptogenic property of fractions obtained from *Z. officinale* and *T. cordifolia* through induction of ROS generation in breast cancer cells along with the isolation and characterization active molecules. However, further in-depth molecular oriented as well as *in vivo* studies are required to unveil the mechanism involved in anticancer activity of compounds.

Since, *Z. officinale* and *T. cordifolia* has been commonly used throughout the world as a spice and for dietary purposes since prehistoric times. Therefore, enriched use of *Z. officinale* as dietary material could be recommended in ethno-medicine for the management of breast cancer.

Code: O-35

Title: Crocetin promotes apoptosis in human leukemic HL-60 cells via intrinsic pathway

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Abstract Body

Abstract: Acute promyelocytic leukemia (APL) is one of the most threatening hematological malignant cancers. Defects in the cell growth and apoptotic pathways are responsible for both the disease pathogenesis and its resistance to therapy. Crocetin, a naturally occurring dietary carotenoid compound, is abundantly found in various plants including *Crocus sativus*. It has shown chemopreventive and anticancer effects. This study is designed to investigate the apoptogenic potential of crocetin and its underlying mechanism in acute human leukemia HL-60 cells *versus* normal human polymorph nuclear (PMN) cells. Resazurin assay was used to determine the viability of HL-60 and PMN cells following treatment with crocetin (5-100 µM) and ATRA (10 µM, as positive control) for 24-72 h. Sub-G1 cell population and apoptotic cells were detected by flow cytometry using annexin V and propidium iodide labeling. The levels of genes involved in apoptosis (CASP3, CASP8, CASP9, Bax and Bcl-2) were also determined using real time PCR. The results showed that crocetin concentration-dependently decreased cell viability and increased sub-G1 cell population in HL-60 cells, without significant toxicity toward normal PMN cells. Also, crocetin (100 µM)-treated cells significantly showed apoptosis (15.1 ± 1.3%) against 18.8 ± 1.4% in ATRA-treated HL-60 cells during 48 h incubation. In addition, the expressions of CASP3 and CASP9 and Bax/Bcl-2 ratio were significantly increased in HL-60 cells, while CASP8 remained unchanged. It was suggested that crocetin promoted apoptosis in HL-60 cells in concentration-dependent manner through induction of intrinsic pathway. In conclusion, this study suggests that crocetin may be utilized as appropriate alternative for ATRA in APL.

Keywords: acute promyelocytic leukemia, crocetin, apoptosis, intrinsic pathway

Code: O-36

Title: Methyl elaidate rich lipophilic fraction of Moringa oleifera seed extract induces apoptosis in MCF7 breast cancer cells through intrinsic, extrinsic, and p53 mediated pathways' proteins

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Abstract Body

Objective: The aim of the study is to determine the molecular mechanisms through which the M. oleifera fraction (HF-CEE) induced apoptosis in MCF7 breast cancer cells.
Materials and Methods: For the experiments, there are 4 experimental conditions; (1) MCF7 cells treated with 130 ug/ml (IC50) of the fraction (HF-CEE) for 72 hours, (2) MCF7 cells treated with 200 ug/ml of F-CEE for 72 hours, (3) MCF7 cells treated with DMSO (vehicle) for 72 hours (control) and (4) MCF7 cells treated with Tamoxifen for 72 hours as positive control for flow cytometry analysis. The apoptosis states of the treated and untreated cells (control) were determined by flow cytometry analysis. The cells were harvested with a less concentrated trypsin solution (0.05%) to avoid unnecessary damage to the cell integrity which may interfere with the results. The cell number was determined and adjusted to about 10 6 cells/ ml or less. The cells were stained with Annexin V and propidium iodide (PI). Then, the stained cells were analysed by flow Cytometer. Western blotting was used to determine the expressions of the pro-apoptotic proteins (Bax, cytochrome c, caspase 8, and p53). The proteins of the treated and untreated MCF7 cells were separately extracted with radioimmunoprecipitation assay (RIPA) buffer and the proteins were separated by sodium dodecyl sulphate-polyacrylamide gel electrophoresis (SDS-PAGE). The separated proteins were transferred to polyvinylidene difluoride (PVDF) membrane and the membrane was blotted with primary antibodies (Bax, p53, caspase 8, cytochrome c and β-actin). Then, it was blotted with secondary antibody (HRP conjugate anti-rabbit) to visualize and quantify the target proteins.
Results: The flow cytometry results revealed HF-CEE induced apoptosis in MCF7 cells with increased rate proportional to increase in concentration of HF-CEE. Over 50% of the viable, live cells treated with 200 µg/ml HF-CEE became apoptotic or dead cells after 72 hours. The results showed that HF-CEE induces both early and late apoptosis in MCF7 cells, and most of the live MCF7 cells became early apoptotic following treatment with HF-CEE in a dose-dependent manner. To further confirm the apoptosis inducing ability of HF-CEE

in MCF7 cells, the effect of HF- CEE on some pro-apoptotic proteins of intrinsic (Bax and cytochrome c), extrinsic (caspase 8) and p53 signalling pathways of apoptosis were observed by western blotting. β – actin was used as the housekeeping gene. The western blots of the apoptotic proteins revealed there was an increase in expressions of the observed proteins in HF-CEE dose dependent manner. Bax and cytochrome c were upregulated which indicated that mitochondrial mediated pathway of apoptosis was activated. An increase in the expression of cleaved caspase 8, which is proportional to the increase in HF-CEE concentration was also observed, which meant that the extrinsic pathway of apoptosis was activated as well. Also, the observed dose-dependent upregulated p53 expression could be responsible in part for Bax upregulation. Therefore, alterations in the observed apoptotic biomarkers' expression (Bax, cleaved caspase 8, p53 and cytochrome c) clearly suggest that HF-CEE induced apoptosis in MCF7 cells via multiple apoptotic pathways.

Conclusion: The preliminary results revealed that the fraction from Moringa oleifera extract, which is a potential source of anti-breast cancer agent, induced apoptosis by activation of pro-apoptotic proteins Bax, p53, cleaved caspase 8 and cytochrome c which play key roles in the intrinsic, extrinsic, and p53 mediated pathways of apoptosis.

Keywords: Methyl elaidate; Moringa olleifera, apoptosis, Bax, p53.

Code: O-37

Title: TMX- a novel xanthone from *Swertia chirata* could restrict the process of carcinogenesis by targeting β-catenin, one of the main regulators of Cancer Stem Cell (CSC)

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Abstract Body

Objective: *Swertia chirata* forms a rich source of compounds to which its anticancer property can be attributed. Among which xanthones form an important group. Among the most abundant xanthones found, TMX came out to be most effective. Non-toxic therapeutic dose of TMX was found to be 8μM. TMX could efficiently restrict Ehrlich Ascites Carcinoma (EAC) induced ascites and solid tumor also DMBA/croton oil induced skin carcinogenesis by restricting proliferation and inducing apoptosis. Interestingly upon withdrawal of TMX, tumors could not revert back to their same invasive form as seen in other forms of treatment. This lead us to hypothesize that TMX could have effect on resistant sub-population of cancer cells called CSCs. This study aimed to explore the effect of TMX on CSC marker CD-44, its central regulator β-catenin and its associated self-renewal pathway in EAC induced ascites, solid tumor and DMBA/croton oil induced skin carcinogenesis model.
Methods: Different methods like ICC and IHC were used to explore effect of TMX on CD-44 one of the ubiquitously present CSC marker and its upstream marker β-catenin and its associated self-renewal want pathway. Above findings were validated by western blotting analysis. Effect of TMX on CSC regulator β-catenin and its various phosphorylated forms were analysed by performing sub cellular fractionation followed by western blotting analysis. Validation of targeting of β-catenin by TMX was done by evaluating the transcriptional level of wnt β-catenin associated genes by real time analysis.
Results: TMX efficiently targeted the most aggressive subset of cancer cell pool, CSCs by targeting its central regulator β-catenin by mediating its degradation by promoting N-terminal phosphorylation and thereby down regulating downstream markers and several associated genes. Targeting of β-catenin by TMX was validated by transcriptional down regulation of β-catenin and genes with its associated self-renewal pathway.
Conclusion: Therefore, TMX mediated degradation of β-catenin presents the underlying mechanism of its chemotherapeutic potential in a holistic manner.

Code: O-38

Title: Eugenol, the elixir of lung carcinogenesis model by targeting β-catenin the central Cancer Stem Cell regulator- an in vivo and in vitro experimental validation

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Abstract Body

Population based studies revealed lung cancer as one of the leading causes of death in males and also rising in females at an alarming rate. Eugenol is highly abundant in nature as a major active component of clove (78-89%) therefore provides a substantial cost-effective remedy. Here, the study was designed to exploit the inherent properties of eugenol as a chemopreventive agent on in vivo restriction of lung carcinogenesis induced by tobacco related carcinogen NDEA in Swiss albino mice. It was aimed to establish the molecular mechanism of chemoprevention of eugenol both in vivo in the carcinogenesis model and in vitro human lung adenocarcinoma cell line A549. Our study especially targeted the Cancer Stem Cell (CSCs) population tiny, drug-resistant, and most virulent subpopulation of cancer cells by targeting their central regulator molecule β-catenin. Enhanced apoptosis was observed along with remarkably supressed cell proliferation in the lung tissue samples of the carcinogen NDEA treated mice without affecting the normal mouse. The outcome reflected in the restriction of lung carcinogenesis at the mild dysplastic stage. The molecular analysis remarkably depicted the restriction of β-catenin nuclear transportation. The minimized total β-catenin pool while induced N-terminal Ser37 phosphorylation after eugenol treatment essentially channelizing it for cytoplasmic degradation. As a consequence, the CSC markers like CD44, Oct4, EpCAM, Notcht1 whose expressions are dependent on β-catenin dropped significantly proved by IHC, ICC, and WB analysis both in vivo and in vitro. At the same time, the in vitro study was performed to find out the role of eugenol on suppressing the CSC population through performing the secondary sphere formation assay of A549 cell line. Here also, eugenol proved significantly enhanced degradation of β-catenin when treated with the CK1α inhibitor D4476 in vitro by Western blot. CK1α in wnt/β-catenin pathway plays the crucial role for tagging with the N-terminal Ser45 phosphorylation of β- catenin that ultimately opens up the position for the decisive phosphorylation by GSK3β at the Ser37 residue. Therefore, in a conclusion of tertiary prevention, CSCs the central reason of treatment failure was supressed significantly. Therefore, this will help to achieve a longer life span along with a refined quality of life in a natural and immensely economical way.

Code: O-39

Title: Synergistic Effects of Arnica Montana and Cisplatin on Mcf7 Human Breast Cancer Cell Line

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Abstract Body

Background: Treatment with the chemotherapeutic drug cisplatin has been documented to adversely impact the survival of normal cells.In the light of this complementary additive treatment modalities which can reduce the dose of cisplatin and still be highly effective are needed. Ethanolic extract of *Arnica montana* has exhibited potent cytotoxic effects on MCF 7 breast cancer cells in earlier studies. Therefore, in this work, we have investigated the cytotoxic effects of dilution of *Arnica montana* in combination with lowered concentration of Cisplatin at IC_{30}, IC_{20} & IC_{10} on MCF 7 breast cancer cell line.

Materials and methods: Human cancer cell line, MCF7, was treated with different dilutions of *Arnica montana* (Mother tincture [MT] 1C, 2C, 3C) and at IC_{30}, IC_{20} & IC_{10} of cisplatin for 48 hours to assess the cytotoxic effect by cell viability assay.

Results: The combination of lower inhibitory concentration of cisplatin and *Arnica montana* potently inhibited cell growth than the single treatment of *Arnica montana* in MCF 7 cells.

Conclusion: It is concluded that *Arnica montana* may enhance the efficacy of cisplatin in MCF 7 cells even at reduced inhibitory concentrations, thereby limiting adverse effects bystander effects of chemotherapy.

Code: O-40

Title: Prevalence of Human Papilloma Virus Sub Genotypes following Head and Neck Squamous Cell Carcinomas in Asian continent, A Systematic Review Article

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Abstract Body

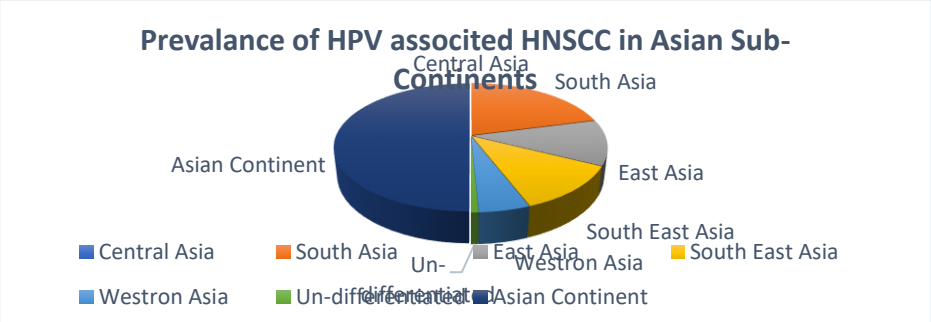
Objective: In current era of blue brain intelligence and technology access at ease, standardization of disease aetiology demands extensive research to drop-down human papilloma virus associated head and neck squamous cell carcinomas impact at large. Present retrospection aims to estimate comparative association of human papilloma virus sub-genotypes in head and neck squamous cell carcinomas, critical analysis of existing research gap, treatment progress, co-infection, gender association, national status and challenges following Human papilloma virus led head and neck squamous cell carcinomas among world largest subcontinent.
Methods: An objective based search strategy, following comprehensive and specific search approaches to retrieve recent 12 years research data from five different NCBI databases. Out of 300 shortlisted articles, only 24 principal studies met the inclusion criteria.
Results: Highest human papilloma virus prevalence (10.42 %) was found in South Asia, 5.8 % in South East Asia,5.7 % East Asia, 2.5% in west Asia and no relevant updated data was found from central Asian continent. Highest prevalence (10%) of HPV genotype-16 was recorded in Asia among 3, 710 enrolled cases including 2201 males, 1149 females and 360 cases of unknown gender. While undifferentiated multiple HPV genotype prevalence was 5.5 % (204 cases). Lowest percentage of HPV sub-types 68, 72, 57, 39 were recorded

respectively. Pakistan ranked top reporting highest number of HPV-16 cases, Taiwan HPV-18, India HPV-31, Japan HPV-35 and Singapore in HPV-16 and HPV-18 co-infection rates respectively.

Table. Prevalence of HNSCC linked HPV Sub-genotypes among Asian population at 95% CI by Revman5.30.

Country	Positive cases	Total	Male	Female	Other	HPV 6	HPV 11	HPV 16	HPV 18	HPV 31	HPV 33	HPV 35	HPV 39	HPV 45	HPV 52	HPV 56	HPV 57	HPV 58	HPV 66	HPV 68	HPV 72	Both 16, 18	Multiple genotype	ND
South Asia																								
Pakistan	247	814	410	404	0	0	0	101	19	0	0	0	0	0	0	0	0	0	0	0	0	39	41	47
India	50	364	263	101	0	0	0	36	4	6	0	2	0	0	0	2	0	0	0	0	0	0	0	0
Bangladesh	1	34	0	0	34	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
Sri Lanka	36	78	73	5	0	0	0	11	18	0	0	0	0	0	0	0	0	0	0	0	0	7	0	0
Total	334	1290	746	510	34	0	0	148	41	6	0	2	0	0	0	2	0	0	0	0	0	46	42	47
Relative % HPV Prevalnce in south Asia	9.00	34.77	20.11	13.75	0.92	0	0	4.0	1.11	0.16	0	0.05	0	0	0	0.05	0	0	0	0	0	1.24	1.13	1.27
South East Asia																								
Singapur	144	159	0	0	159	0	0	4	0	0	0	0	0	2	0	0	0	0	0	0	0	0	138	0
Thailand	1	65	15	50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Malaysia	42	206	68	138	0	0	0	42	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	187	430	83	188	159	0	0	46	0	0	0	0	0	2	0	0	0	0	0	0	0	0	138	1
Relative % HPV Prevalnce South East Aia	5.04	11.59	2.24	5.07	4.29	0.00	0.00	1.24	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.72	0.03
East Asia																								
China	18	63	25	38	0	0	0	13	3	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0
Japan	68	496	380	66	50	0	0	62	1	0	1	3	0	0	0	0	0	1	0	0	0	0	0	0
south korea	13	90	0	0	90	0	0	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0
Taiwan	84	384	364	20	0	0	0	29	23	0	0	0	1	0	8	0	0	0	1	0	1	0	21	0
Total	183	1033	769	124	140	0	0	115	27	0	1	3	1	0	8	0	0	1	1	0	1	2	23	0
Relative % HPV Prevalnce East Asia	4.93	27.84	20.73	3.34	3.77	0.00	0.00	3.10	0.73	0.00	0.03	0.08	0.03	0.00	0.22	0.00	0.00	0.03	0.03	0.00	0.03	0.05	0.62	0.00
West Asia																								
Iran	20	304	209	86	9	0	0	6	11	0	1	0	0	0	0	0	1	0	1	0	0	0	0	0
Egypt	34	64	27	37	0	0	0	26	0	0	0	0	0	0	0	0	0	0	0	0	0	8	0	0
Turkey	27	65	62	3	0	1	0	26	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Yemen	1	18	0	0	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
Total	82	451	298	126	27	1	0	58	11	0	1	0	0	0	0	0	1	0	1	0	0	8	1	0
Relative % Prevalnce in West Asia	2.21	12.16	8.03	3.40	0.73	0.03	0.00	1.56	0.30	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.03	0.00	0.00	0.22	0.03	0.00
Un-categorized																								
China, Pakistan	12	506	305	201	0	2	2	7	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
Relative % Prevalnce in Pak-China	0.32	13.64	8.22	5.42	0.00	0.05	0.05	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00
Total ASIA	**798**	**3710**	**2201**	**1149**	**360**	**3**	**2**	**374**	**79**	**6**	**2**	**5**	**1**	**2**	**8**	**2**	**1**	**2**	**2**	**0**	**1**	**56**	**204**	**48**
Relative % HPV Prevalnce Asia	21.51	100.00	59.33	30.97	9.70	0.08	0.05	10.08	2.13	0.16	0.05	0.13	0.03	0.05	0.22	0.05	0.03	0.05	0.05	0.00	0.03	1.51	5.50	1.29

Figure. Comparative analysis of HPV distribution in Asian subcontinent.



Conclusion: Exact prevalence of HPV associated head and neck squamous cell carcinomas among Asian population is still debatable. Due to higher heterogeneity (P< 0.00001), I^2 = 81-88% at 95 % confidence interval), non-availability and limitations of reported studies from Asian continents especially central Asia, western Asia and from south and south east Asia demand large scale collaborative research culture to standardize head and neck squamous cell carcinomas aetiology.

Code: O-41

Title: Parvovirus B19 is the cause of acute myeloid leukemia

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Abstract Body

Objectives: Identifying a cause or the cause of acute myeloid leukemia (AML) could be of help to accelerate the transition of today's AML therapy towards a highly specific and low toxic therapy.
Methods: As known, a contingency table is defined by the fields a, b, c, d while a+b =U, c+d=U, a+c=W, b+d=W and a+b+c+d = U+U = W+W = N. Appropriate statistical methods like the necessary (1,2) condition relationship, defined as p (without U no W) =(a+b+d)/N, the sufficient (3) condition relationship, defined as p(if U then W)=(a+c+d)/N, the necessary and sufficient (4) condition relationship, defined as p(U is necessary and sufficient for W)=(a+d)/N, the exclusion relationship, defined as p(U excludes W) = (a)/N, and the causal (5) relationship k, defined as k (U t ,W t)=s (U t ,W t) / (s (U t) s (W t)), were used for causal (6) data analysis. The parvovirus B19 study (32 patients with AML and 60 controls) of El-Khier et al. (7) provided the following data a=31, b=9, c= 1, d= 51 and has been re-analyzed. The data (8,9) of El-Khier et al. were of high quality and were not significantly biased (p(IOU)= 0,2174, p(IOI)= 0,0870). A p-value (10) of less than 0.05 is treated as significant.
Results: Without parvovirus B19 infection no acute myeloid leukemia (P value = 0.0108). If parvovirus B19 infection then acute myeloid leukemia (Chi-square = 1,35 < 3.84). Parvovirus B19 infection is a necessary and sufficient condition of acute myeloid leukemia (Chi-square = 1,381 < 3.84). The causal relationship k between a parvovirus B19 infection and acute myeloid leukemia is highly significant (k = +0.7866, p Value right tailed = 2.55351E-15).
Conclusions: One study as such is seldom completely enough to solve a great problem ultimately. However, until contrary evidence, according to the data of the study of El- Khier et al., parvovirus B19 is the cause of acute myeloid leukemia (p Value < 0.001).

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Code: O-42

Title: Expression of Viral Oncoproteins E6 and E7 in Women with Squamous Cell Abnormalities of the Uterine Cervix

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Abstract Body

Background: Overexpression and deregulation of E6 and E7 viral oncoproteins is an essential factor for malignant transformation of infected cells following HPV integration in the host genome. The study is performed in order to investigate the positivity of HPV DNA and HPV E6/E7 mRNA expression in women with squamous cell abnormalities of the uterine cervix.
Methods: Cross-sectional study, conducted in the period from January 2017 to December 2018 of 164 sexually active women, age groups of 20 to 50 years with squamous cell abnormalities on the cervical cytology, who came to their annual gynecological exam at University Clinic for Gynecology and Obstetrics in Skopje. In all patients was done: HPV DNA testing, HPV E6/E7 mRNA testing and colposcopic cervical biopsy with endocervical curettage for histopathologycal analysis.
Results: Results were compared with concurrent histopathological data. High-risk HPV were found in 62.2% (102/164) of patients. The most common genotype was HPV-16 (44.6%), followed by HPV-31, HPV-18, HPV-33 and HPV-45. HPV DNA was detected in 80.5% (132/164) of the examinated women. HPV E6/E7 mRNA was detected in 40.2% (66/164) of the examinated women. According to grade of squamous cell abnormalities, HPV DNA was detected in 62.5% (18/24) of LGSIL, in 76.2% (32/42) of HGSIL and in 90.0% (9/10) of invasive squamous cell carcinoma, HPV E6/E7 mRNA was detected in 37.5% (9/24) of LGSIL, in 92.9% (39/42) of HGSIL and in 100% (10/10) of invasive squamous cell carcinoma.
Conclusions: Our results suggests that HPV E6 and E7 mRNA may be a more specific diagnostic tool and a better predictor of disease progression than HPV DNA testing

Code: O-43

Title: Prevalence and Risk Factors of Cervical Dysplasia among Human Immunodeficiency Virus Sero-positive Females on Highly Active Antiretroviral Therapy in Enugu, Nigeria

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Abstract Body

Objective: Evaluation of prevalence and risk factors of cervical dysplasia among Human Immunodeficiency Virus sero-positive (HIV +) females on Highly Active Antiretroviral Therapy (HAART) attending HIV clinic at University of Nigeria Teaching Hospital Ituku/Ozalla, Enugu, Nigeria.
Methods: Structured questionnaire was used to obtain socio-demographic and risk factors data. Cervical specimens were collected from 105 HIV + females on treatment and 104 HIV sero- negative (HIV -) female controls. Pap smears were made from all the participants and placed in 95% ethyl alcohol for conventional Pap staining and thin smears for Immunocytochemistry. Serum was used for HIV screening. Immunocytochemistry using anti-P16 INK4A antibody was done on Pap smears that were positive for cervical dysplasia. Slides were reported by Histopathologist/Cytopathologist.
Results: Pap staining showed prevalence of cervical dysplasia among HIV + on HAART, 19.05%, whereas HIV - was 6.73%, p = 0.008. Highly Squamous Intraepithelial Lesion, 0.95% was positive for anti-P16 INK4A antibody. Odds ratios at 95% Confident Interval of the risk factors of cervical dysplasia revealed; HIV + , 3.26 (1.31-8.09), education < secondary school, 3.23(1.25- 8.37), polygamy, 3.23(1.25-8.37), married, 2.08(0.43-2.31), parity & gt; 4, 1.54(0.66-3.61), Sexually Transmitted Diseases, 2.49(1.06-5.80). Uptake of Cervical Cancer Screening was low in both studied groups, 6.7% for HIV + on HAART and 13.5% for HIV - females, P = 0.102.
Conclusion: HAART had cyto-protective effect against cervical dysplasia in HIV + females, due to reduced progression of ASCUS. Progression from normal to ASCUS increased, which could be due to latency or/and prolonged persistent high risk HPV and HIV infections, of the most sexually active age group before diagnosed of HIV.

Code: O-44

Title: Pattern and Trend of Childhood cancers in India: A review of Population based cancer registries Data on Childhood cancers

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Abstract Body

Background and Aims: Childhood cancers constitute cancer occurring in the age-group of 0-14 years. As per Global burden of disease (GBD) estimates, India has the highest number of cases of childhood cancer, followed by China, Pakistan and Indonesia. The current review was undertaken to assess trend of childhood cancers in India using data of Population based cancer registries (PBCRs) data on childhood cancers.

Methods: Secondary data analysis based on reports of Population based cancer registries (PBCRs) under National Cancer Registry Programme (NCRP) of Indian Council of Medical research for the time period 2006-2011 and 2012-14 was carried out. Proportion of childhood cancers, incidence rates of childhood cancers in boys and girls across the registries was compared between the two time periods. Was accessed and reviewed to assess the trend of Childhood cancers. Age-adjusted incidence rates (AARpm) of childhood cancers, all types.

Results: The proportion of childhood cancers relative to cancers in all age groups decreased from 0.5 5.8% to 0.7-4.4% across the registries. However, age adjusted incidence rates per million (AARpm) of Childhood cancers, overall among boys increased from 159.6 to 235.3 whereas it increased from 112.4 to 152.3 across the registries. Leukaemia was the most common childhood cancer in both the time periods both among boys and girls followed by lymphoma. AARpm of Leukaemia among boys increased from 61.3 to 101.4 whereas AARpm of Leukaemia among girls increased from 45.8 to 62.3. Similarly, AARpm of lymphomas among boys increased from 26.0 to 36.3 whereas AARpm of Lymphomas among girls increased from 10.1 to 15.5.

Conclusion: Incidence rates of childhood cancers both among boys and girls is on rise in India although proportion of childhood cancers is decreasing.

Agenda for

The 10th APOCP General Assembly and Conferences, Tehran, Iran, 2020

The agenda is organized based on themes and side activities

(there are three themes with 12 sessions and two side activities).

Theme 1: Cancer Epidemiology and Prevention

Session	Date	Time (Tehran Time)
Cancer Epidemiology	November 20, 2020	11:00 to 13:30 | Find your time
Cancer Registry	November 24, 2020	11:00 to 13:30 | Find your time
Cancer Screening	November 25, 2020	11:00 to 13:30 | Find your time
Cancer Risk Factors	November 26, 2020	11:00 to 13:30 | Find your time
Cancer Care	November 30, 2020	11:00 to 13:30 | Find your time
Cancer in West Asia	December 6, 2020	11:00 to 13:30 | Find your time

Theme 2: Occupational and Environmental Cancer

Session	Date:	Time (Tehran Times)
Environment and Cancer	Nov. 21, 2020	11:00 to 13:30 | Find your time
Occupational Cancer	Nov. 22, 2020	11:00 to 13:30 | Find your time
Exposure and Risk Management	Nov. 23, 2020	11:00 to 13:30 | Find your time

Them 3: Cancer Genetics and Molecular Aspect

Session	Date:	Time: (Tehran Times)
Molecular Biomarkers	December 1, 2020	11:00 to 13:30 | Find your time
Cancer Biology	December 2, 2020	11:00 to 13:30 | Find your time
Oncovirology	December 3, 2020	11:00 to 13:30 | Find your time

Side Activities:

1) Report on the experience of Asia's Cancer Centers' care delivery amidst COVID 19
2) The Meeting of the Editorial Board Members of APOCP's Journals, COPE assisted meeting