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**Title: Qualitative assessment of the community and healthcare system related determining factors of perinatal mortality in Sindh, Pakistan**

**Authors:** Jamil Ahmed, Ashraful Alam, Saadat H. Khokhar, Sadiq Khowaja, Ramesh Kumar and Camille Raynes-Greenow

**Background:** We examined the cultural influences and the intersection of these with antenatal and birth service provision to determine the main factors, as perceived and experienced by women, leading to the perinatal loss.

**Methods:** Qualitative in-depth Interviews were conducted with 36 mothers with a recent perinatal loss, their family members, healthcare officials, and two focus group discussions with 17 lady health workers. Data were analysed using inductive and deductive coding and thematic analysis.

**Results:** Mothers with perinatal deaths reported a high utilisation of antenatal care; however, most were dissatisfied with the staff attitude and services in the public-sector hospitals. They preferred to give birth in private centres and attributed their perinatal loss to mishandling of their labour and staff negligence. They also attributed their perinatal deaths to delaying their decision to seek health provider care, leading to home births with traditional birth attendants. Caesarean section, and newborn care services in the public-sector facilities did not exist and if available in private, were not affordable to the women. A lack of planning and reporting of perinatal deaths were also challenges to perinatal mortality prevention.

**Conclusion:** To reduce perinatal mortality in Pakistan, it is imperative to develop and implement specific strategies that focus on improving the quality of, and access to antenatal and perinatal care. Regulation of private health providers, availability, and affordability of caesarean section and newborn care facilities within districts is pivotal to any perinatal mortality prevention strategy.

## **Title: Vitamin D Status in Under Five Children in Diverse Communities of Karachi**

**Authors:** Khemchand N Moorani, Muhammad Ayaz Mustafa, Syed Furqan Hasan, Naseem Kubar

**Introduction:** Vitamin D deficiency (VDD) is very high in children of developing countries including Pakistan. VDD contribute to significant morbidity and mortality in children. Therefore, it is important to study the vitamin D status and its deficiency in pediatric population for future interventions and disease control.

**Objective/s:** To determine 25(OH)D levels in children of one to 59 months of age in socio-economically diverse communities of Karachi, Pakistan.

**Method:** The cross-sectional analytical survey was carried out over 6 months from January - June 2017. We randomly selected 4 clusters from Korangi, Saddar, Sindhi para and Manzoor colony, Karachi using proportionate sampling technique. Blood samples for 25(OH)D and zinc levels were carried out using ELISA and colorimetry. VD level  $<20$  ng/ml was defined as VDD and serum zinc  $\leq 65$ ug/dl as low zinc levels. Data including socio-demographics (area of residency, gender, ethnicity, parent's education, family income, house status), duration of sun exposure and history of VD and zinc intake in last 3 months was collected on pretested and pre-coded semi-structured questionnaire. Data was analyzed using SPSS version-20. Frequencies and percentages were computed for categorical variables like gender, type of malnutrition whereas mean with standard deviation was used for VD and zinc levels. Vitamin D status was compared in three different socioeconomic categories according to nutritional status.

**Result:** Out of 120 children, 56% were boys and 44% girls. Mean VD level was  $22.8 \pm 14.8$  ng/ml. Around 60% children were VD deficient and 15% (18) had insufficient 25(OH)D levels. VDD was more prevalent among low socio-economic group with no obvious difference in age category. Mean zinc level was  $123.8 \pm 47.45$  ug/dl and it was either normal or high (42%) rather than low. Malnutrition was observed in 65% children and majority (82%) of them were undernourished. Optimal sun exposure was reported in 24% children only.

**Conclusion:** Vitamin D deficiency was highly prevalent in our study population. Children of low socio-economic strata and with sub-optimal sun light exposure are at high risk of vitamin D

deficiency. Unexpectedly, high zinc levels in majority of our children with low VD status needs further evidence to substantiate this inverse relation.

**Title: Awareness Community and Practices related to Domestic Child Labor, Karachi Pakistan**

**Authors:** Momal Mahar\* , Naushaba khatoon , Dr.Mehak Pervaiz

**Objective:** This study aims to assess knowledge and practices related to domestic child labor of a community in Karachi.

**Method:** This cross-sectional study included participants who had at least one child working as a domestic help for them. The study was conducted at Clifton block 1, Karachi and was conducted from January to June 2018. All the participants were approached directly; consent was taken and a structured questionnaire was used to obtain information. Data was analyzed using SPSS 20.

**Results:** Almost 63% owners/employers considered that domestic child labor is not a crime and 62% believed that child's consent is involved in child labor. According to 76% of the owners/employers, poverty drives a child towards domestic child labor, followed by lack of education (12.4%), orphan hood (7.2%) and for financial help of the parents (4.1%). When the child gets sick or hurt, 79.4% of the owners/employers confessed that he/she is not provided any treatment. Furthermore, 52.6% of the owners/employers believed that the tasks performed by the child are hazardous and 50% owners/employers reported that the child does not have friends of his/her own age. Almost 59% of the owners/employers affirmed that they give different food to the child, compared to what they eat themselves. Moreover, 66% of the owners/employers were of the view that domestic child labor does not have any negative impact on the development of the nation. Whereas, 53% of the owners/employers believed that domestic child labor should be discontinued and over 77% owners/employers considered that education/schooling is necessary for the child.

**Conclusion:** Child labor is hazardous for a child and negatively influences their lives by depriving them of education and pushing them further into poverty. Thus, necessary measures are needed to spread awareness and address this public health concern.

## **Title: Prevalence and Determinants of Child Undernutrition in Rural Sindh Pakistan**

**Author:** Jahanzaib Sohail

**Introduction:** Child undernutrition is one of the serious global public health concerns. Child undernutrition results in stunting, wasting, underweight and deficiency of essential micronutrients. Globally, undernutrition contributes nearly 46% of all death of children less than 5 years of age, and 21% of total disability adjusted life years (DALYs) for children under 5 years of age. Pakistan also suffers from serious child undernutrition problem that contributes in high infant and child mortality and morbidity in Pakistan.

**Objective/s:** To estimate the prevalence of acute and chronic malnutrition among children 6-59 months of age.

To assess the determinants of undernutrition, wasting, stunting and underweight among children 6-59 months of age.

**Method:** This is a cross-sectional study with two-stage cluster sampling using SMART methodology. Data was collected from different villages of Kamber Shahdadkot district from August 2018 to October 2018. 436 children and 562 households were included for data collection and anthropometric measurements. Data was analyzed by using the SPSS 23 and SMART (ENA) for anthropometric calculations.

**Result:** This study reported nearly 37% stunting (19.6% severe and 17.4% moderate), 17.1% wasting (2.8% severe wasting and 14.3% moderate wasting), and 36.2% underweight (14.8% severely underweight and 21.4 moderately underweight) of children under 5 years of age in district Kamber Shadadkot. Maternal education (OR=3.226, 95% CI 1.024-8.361, p=0.045), birth spacing, (OR=1.196, 95% CI 1.618-2.315, p=0.04), food insecurity (OR=1.767, 95% CI 1.091-2.689, p=0.044), and infections (OR=4.729, 95% CI 1.572-12.471, p=0.002) showed positive association with outcome.

**Conclusion:** Rural Sindh suffers badly from child undernutrition problem. Study obtained current prevalence of child undernutrition, and identified maternal education, birth spacing, food insecurity and infections were main underlying factors that could cause child undernutrition in rural Sindh, Pakistan.



**Title: Evaluation Surveillance system of maternal neonatal and child health Sindh Province- 2017**

**Author/s:** Kumar.Santosh<sup>1</sup>,Ameet Kumar <sup>2</sup> ,Masood.Naveed<sup>3</sup>, Ghafoor.Tamkeen<sup>4</sup>

**Introduction:** Globally, over 70% of maternal deaths every year with an estimated 5 29,000 maternal deaths occur due to pregnancy related preventable causes. In Pakistan, 60 % of all births occur at home conducted by unskilled birth attendants; a major contributor to the high maternal mortality rate (178/100,000) with neonatal mortality rate 53/ 1,000 live births.

**Objective/s:** To evaluate existing MNCH surveillance system, finds its gaps and strengths.

**Method:** Descriptive evaluative study conducted from April – June, 2018, using “CDC Updated Guidelines of Public Health Surveillance System 2001”. Records were reviewed and interviews were taken with identified stakeholders by using structured questionnaire. Surveillance attributes were assessed. Sensitivity and Positive Predictive Value (PPV) was calculated and data was analyzed and scoring done on attributes.

**Result:** Maternal Neonatal and Child Health Program was simple with uniform case definitions. System was flexible to accommodate any new health related events. Mechanism of reporting was simple with prescribed standard case format and reporting CMWs on monthly basis with fair data quality. Acceptability from participating organizations was good. Representativeness which covered limited health facilities in all districts. Stability is good with its own PC-1. System is not integrated. Sensitivity and PVP was poor

**Conclusion:** Maternal neonatal and child health Sindh has contributed in improving health outcomes. Further Improvement of fragile health infrastructure pertains to MNCH Services, maximizing representativeness at primary health care level with fully involvement of CHWs. Increase the collaboration of private and public sectors. sustainability of funds, accountability & data quality are few challenges that needs to be addressed.

## **Title: Impact of antenatal care on maternal child health outcomes: A case study of Ibrahim Hyderi**

**Authors:** Zaheer Chand , Shelina Bhamani

Impact of antenatal care on maternal child health outcomes: A case study of Ibrahim Hyderi  
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antenatal care has been one of the proven factors of positive maternal, neonatal and child health  
(MNCH) outcomes. Globally, health aid agencies are striving to achieve 100% antenatal care  
targets to ensure positive MNCH outcomes. It is recommended that during the entire duration of  
pregnancy any pregnant women should access ANC atleast 4 times. In Pakistan, the access to  
antenatal care is yet a challenging situation as it's only accessed by 34% of women (UNICEF)  
and the percentage decreases when it comes to areas with utmost poverty. Ibrahim Hyderi area in  
Karachi is a similar area which has devastating socio-economic conditions with issues related to  
MNCH. Aman community health program (ACHP) planned and delivered comprehensive  
community health interventions specifically targeting MNCH indicators. This study presents the  
impact made by one of the elements of the program i.e. antenatal care provision on the  
community's maternal and child health indicators. Mixed method design was employed to  
explore the impact using simple survey as a quantitative mode and in depth interviews to gauge  
perceptions of women on the qualitative front. The findings of the study revealed that after the  
intervention more than 70% women in the community have started accessing antenatal care  
resulting in their life satisfaction and positive MNCH outcomes like no maternal mortality,  
healthy birth weights and low anaemia. The study also proposes a set of recommendations for its  
scale up to other districts of Pakistan.



## **Title: Measles Outbreak Investigation in Karachi, Sindh, Pakistan - 2018**

**Author:** Dr. Masroor Zia

**OBJECTIVES:** On March 14<sup>th</sup>, 2018 Town Health Officer reported 04 suspected cases of measles in Pahlwan goth, Gulshan town, Karachi. After confirmation, a team was formulated with objective of identifying magnitude and risk factors of measles in effected area.

**METHODOLOGY:** A descriptive followed by case-control (age and sex-matched) study was conducted 14<sup>th</sup> - 20<sup>th</sup> March 2018. A case was defined as “a child less than 15-years, resident of Pahlwan Goth having fever ( $>102^{\circ}\text{F}$ ), maculopapular rash and any one of cough, coryza or conjunctivitis from 06<sup>th</sup> February to 12<sup>th</sup> March 2018”. Neighborhood controls were taken with 1:2 ratio. Cases were identified by using active and passive approach. Relevant information was gathered by face-to-face interview and hospital record review. Odd ratio with 95% confidence interval, p-value  $<0.05$  was calculated by using bivariate analysis.

**RESULTS:** Eighteen cases were identified (Passive 04, Active 14), The most affected age group was 1-8 year {n=9(50%):AR 0.5%}, female to male ratio was 1:1, {n=9(50%):AR 0.03%}. The overall attack rate was 0.03% with highest attack rate observed in age group 2- 4 years (0.5%). All cases had fever, rashes and runny nose. The epicurve reveals a person to person transmission. All cases were unvaccinated against measles. Cases with contact history had higher odds of developing measles (OR 10.5, CI 2.7-40.2, p-value 0.0002).

**CONCLUSION:** The probable cause of the outbreak was contact history with measles patients which was due to saturated nomadic population with poor hygiene and sanitation. Mop-up activities and health awareness sessions were conducted.

## **Title: Outbreak Investigation of Measles in Swati Mohalla Landhi, April 2015**

**Authors:** Dr Shaimuna Fareeha Sajjad, Mirza Amir Baig, Rana Jawad Asghar

**Background:** On 29<sup>th</sup> March 2015, five cases of measles were reported from National Institute of Child Health in Karachi. An outbreak investigation was initiated through FELTP and local health department to identify the risk factors and propose control measures.

**Methods:** The investigation was carried out from 29<sup>th</sup> March to 31<sup>st</sup> April 2015. A case was defined as “any child <15 years of age, resident of Swati mohalla, presenting with fever, generalized maculopapular rash with one or more symptoms: Coryza, cough or conjunctivitis with onset of symptoms from 29<sup>th</sup> March to 31<sup>st</sup> April 2015. A case-control study was conducted. Active case finding was carried out . Age and sex-matched controls were chosen from the same community. Blood samples from four cases were sent for laboratory analysis.

**Results:** A total of 450 children <15 years of age, from 259 households in the neighborhood were surveyed. A total of 22 cases and 44 controls were identified. Mean age was 30.8 months  $\pm$ 23.8 (range 7-120 months) with an equal male-to-female ratio. Complications of measles were found in seven (31.8%) cases; 5 with pneumonia & 2 with diarrhea. Among cases, seven (31.8%) were fully immunized, 13 (59.09%) were unvaccinated and two (9%) were partially vaccinated. Vaccine efficacy was calculated to be 53.3%. Out of 22 cases, 13 were found to be unvaccinated and at risk to develop measles (OR 11.89, 95% CI 2.72-56.60, p-value 0.001). All four blood samples were positive for measles.

**Conclusion:** Poor vaccination coverage was the most likely cause of this outbreak. Mop up vaccination activity was carried out in all affected and adjoining areas.

**Title: Timely Culture Conversion in Drug Resistant Tuberculosis**

**Author:** Dr. Salman Khan

**Objectives:** To determine the timely culture conversion in Drug Resistant Tuberculosis patients enrolled at two Programmatic Management of Drug Resistant TB sites in Karachi

To identify the factors involved in timely culture conversion of DRTB patients enrolled at two PMDT sites in Karachi

**Methods:** A longitudinal study was done on enrolled Drug Resistant Tuberculosis patients enrolled at two PMDT sites in Karachi. A pretested questionnaire was administered to collect data from 305 conveniently selected DRTB patients. Detailed data was captured on social and demographic characteristics and duration of disease. Conversion of culture to negative after one month of treatment was considered timely conversion. Comparisons of average culture conversions were done across different groups including gender, education, housing, size of family, infection control measures, symptoms, previous treatment history and duration of disease using appropriate statistical tests

**Results:** Median time to sputum culture conversion of patients was sixty days. Around one-fifths converted at the end of first month. Age group 30-49 years showed significant negative association ( $p=0.001$ ) with timely conversion (Odds Ratio= 0.65, 95% CI 0.25-1.63). Education identified significance with ( $p=0.01$ ) with timely conversion (OR= 2.79, 95%CI 1.24-6.24). Non-smokers showed significant positive association ( $p=0.03$ ) with timely conversion (OR= 7.40, 95%CI 1.18-46.33). No significant association was found with weight loss, night sweat, blood in sputum, smokeless tobacco intake, diabetes, steroid intake and CXR abnormalities.

**Conclusion:** In spite of programmatic management with closed monitoring and social support incentives, factors like age, education and smoking significantly influenced the timely culture conversion. There is an urgent need for more efforts through TB control Program within the country to minimize the epidemics of drug resistance Tuberculosis and its transmission within the individuals and achieve early culture conversion to reduce the costs and duration of treatment.

**Title: Marching towards SDGs: Analysis of the Policy and Governance Environment for NCDs Control & Identifying Potential Policy Options in Pakistan.**

**Authors:** Fauziah Rabbani, Nousheen Pradhan, Wafa Aftab & Anam Feroz

**Background:** The NCDs are a major challenge to achieving the SDGs, 2030. A huge gap exists in understanding the policy and regulatory environment around NCD drivers –Salt, Sugar and Trans fats (SSTFs), responsible for the growing NCD burden in Pakistan. This research aimed to analyze the existing regulatory environment around NCDs drivers in Pakistan.

**Methods:** Desk review of 22 policy documents at national and subnational level (health and non-health sector) on SSTF was carried out using Shiffman’s framework. The documents were analyzed using 12 WHO best buys for NCDs.

**Results:** Only few WHO best buys are addressed (n=6). Best buys for marketing regulations for complementary foods for infants and young children, limiting portion size, nutritional labeling and promotion of exclusive breastfeeding exist across the country. Only in Sindh, Food Authority has banned carbonated drinks and snacks, which complies with the marketing of junk foods. Policies also exist on reduced levels of salt and sugar. Elimination of trans fats has not received attention, alongside many other dietary interventions.

**Conclusion:** A weak policy and governance environment around NCD drivers exist in Pakistan. The number of policies do not match the severity of neither the epidemiological burden nor are they designed in such a way that government action will focus on the most critical dietary drivers. The study identified a dire need to strengthen the existing regulatory environment by addressing WHO best buys for SSTF, which in long run can have the potential to control the rising burden of NCDs in the country.

## **Title: Association of nephrolithiasis with the intake of carbonated drinks**

**Authors:** Dr Maira Adeel, Dr Saima Zainab, Dr Rafiq Soomro, Dr Aneeta Khoso

**Background:** Renal stones have been ranked the 3<sup>rd</sup> most common disease in Pakistan, where prevalence of silent kidney stones is 3% among general population. There are various risk factors for the formation of kidney stones. Some of them include family history, high milk and caffeine consumption, low water intake, previous history of kidney disorders, smoking and excess intake of carbonated drinks. Frequency of nephrolithiasis is increasing, and some studies associate the rise in nephrolithiasis with the increased consumption of carbonated drinks. Various other factors like magnesium and oxalate excretion, changes in pH and obesity are also observed as a result of intake of soft drinks. The purpose of this research was to collect valid and reliable information regarding the prevalence of kidney stones associated with the intake of carbonated drinks.

**Objective:** To determine the association between the consumption of carbonated drinks and development of kidney stones.

**Methodology:** It was a matched case-control study conducted from June 2017 to December 2017, at Liaquat National Hospital Karachi, Pakistan. We recruited patients of nephrolithiasis admitted in Nephrology ward at Liaquat National Hospital as cases and controls from General Surgery ward. The sample size calculated was 186, with 93 cases and 93 controls, matched for age. Descriptive statistics of socio-demographic variables were computed. Multivariate logistic regression analysis was applied to determine the association between predictor and outcome variables.

**Results:** A total of 186 patients participated in the study. Mean ages of the cases and controls were 34.92 (SD: 16.81) years and 31.76 (SD: 14.49) years, respectively. Around 66% of the cases and 75% of the controls had formal education. Approximately 16% of the cases and 10% of the controls were consuming soft drinks daily. Of them 77% were taking for more than 5 years. In multivariate analysis, we were unable to find significant associations between intake of carbonated drinks and kidney stones. However, the adjusted matched odds ratio (adj. mOR) for calcium intake was 6.36 (CI: 1.81- 22.33) and for caffeine intake was 7.9 (CI: 2.12 – 30.04). Those who had a past history of kidney diseases were at higher risk of developing kidney stones (mOR14.5; CI: 3.20- 65.76).

**Conclusion:** There is a need to create awareness among the members of the society to adopt a modified lifestyle to eliminate the significant risk factors contributing to the formation of kidney stones. Further longitudinal studies are required in order to confirm or refute any association between intake of carbonated drinks and nephrolithiasis.

**Title: Participatory Empowerment Education to Increase Effectiveness of Peer-led health promotion for HIV testing among Men Who Have Sex with Men (MSM) and Transgender (TG) populations: Evidence from Pakistan**

**Authors:** Ali Asghar, Dr. Agha Xaher Gul

**Introduction:** Between 2005 and 2015 Pakistan saw an average increase of 17.6% in the number of new HIV infections. The low uptake of VCT services by MSM and TG populations continues to pose a serious challenge to HIV prevention in Pakistan. In the absence of evidence, there exists a policy vacuum around best practices for providing peer-led counseling for HIV prevention and treatment services.

**Method:** A behavior change framework was developed to inform a training curriculum aimed at improving skills of MSM and TG field workers in promoting uptake of VCT services for HIV. Rooted in early Islamic scholarship, the curriculum applied the Integrated Behaviour Model, translated into culturally congruent concepts, to identify behavioural antecedents amenable to persuasive communication (Figure1). The training curriculum used participatory approaches and was piloted with 15 TG and 29 MSM (n=44) outreach field workers from 6 CBOs across Pakistan. Participants were trained in using Participatory Reflection and Analysis (PRA) tools (timeline/daily routine, body mapping, and network diagram) for increasing critical consciousness regarding HIV testing among target audience. Participants' were assessed for knowledge about HIV transmission, self-efficacy for communicating effectively about HIV, and self-efficacy for using PRA tools before and after the training. Knowledge was assessed using 17 items with binary (1=True; 0=False) endpoints. Self-efficacy was assessed using three items each for communication and PRA use, (scale: 1-Strongly disagree-5-Strongly agree). Knowledge scores were summated, and mean scores were obtained for self-efficacy. All scores were converted to percentages and differences between the average pre and post scores were assessed using T-test.

**Result :** Participants' average score for knowledge of HIV transmission increased by 11.36 percentage points, while scores for self-efficacy for communicating about HIV and using PRA tools increased by 36.36 percentage points and 52.87 percentage points, respectively between



pre-test and post-test. All differences between average pre and post test scores were statistically significant ( $p < .001$ ).

**Conclusion:** Participatory empowerment approaches are potentially well suited to Pakistan's low-literacy context. Resource allocation for further research is needed to evaluate whether theory-driven, peer-led participatory health education for HIV prevention can yield greater uptake of HIV testing among MSM and TG populations in hostile outreach settings.

**Title: Assessment of the levels of dental anxiety among patients attending dental OPD of different tertiary care teaching dental hospitals of Karachi**

**Authors:** Syeda Zeenat Raza Rizvi, Syed Zulfiqar Hyder Naqvi, Syed Imtiaz Ahmad Jaffry, Syed Mohsin Abbas Abidi

**Introduction:** Dental anxiety is defined as a patient's response to stress that is specific to the dental situation. It is multifactorial and is often related to past unpleasant experiences. It is the most significant predictor of people's decision to visit their dentists regularly and is therefore a significant barrier to dental care. Patients who are dentally anxious can subsequently have greater number of dental problems due to avoiding dental treatment.

**Objective/s:** To assess the level of dental anxiety among patients attending dental OPD of different tertiary care dental hospitals of Karachi.

**Method:** A cross-sectional study was conducted in two public and two private dental colleges of Karachi. A total of 247 participants were interviewed by the principal investigator using a structured questionnaire specifically designed for this study which included Corah's Dental Anxiety Scale and Dental Concerns Assessment. Data were entered and analyzed on SPSS version 20. Inferential analysis was performed using chi-square test and Mann-Whitney U test. The significance level was set at 0.05.

**Result:** The study findings revealed that 2.4% of the patients were severely anxious, 8.1% were highly anxious, 37.2% were moderately anxious while 54.3% were not at all anxious. The study finding further revealed that none of the demographic variables were significantly associated with dental anxiety score. Moreover, patients with younger age and monthly household income between 16000 and 75000 were found to have significantly higher mean dental anxiety scores.

**Conclusion:** The study findings revealed that 2.4% of the patients were severely anxious, 8.1% were highly anxious, 37.2% were moderately anxious while 54.3% were not at all anxious. The study finding further revealed that none of the demographic variables were significantly associated with dental anxiety score. Moreover, patients with younger age and monthly household income between 16000 and 75000 were found to have significantly higher mean dental anxiety scores.

## **Title: Dental esthetics and Psycho-social wellbeing among students of Health Sciences**

**Authors:** Abeeha Batool Zaidi, Saadia Hayee Shaikh

**Background:** Poor dental esthetics is one of the contributing factors in influencing psychological well-being. The aim of the study is to determine the effects of dental esthetics on psychosocial well-being among students of health sciences.

**Methodology:** Analytical cross sectional study was conducted among students of private tertiary care university, Karachi. 400 students from the disciplines of dentistry, medicine and pharmacy were approached randomly through non probability convenience sampling. Data was collected using an adapted questionnaire comprised of Psychosocial Impact of Dental aesthetics Questionnaire (PIDAQ) and Aesthetic Component of Index of Orthodontic Treatment Need (IOTN-AC). Statistical Package for the Social Sciences (SPSS) version 22 was used for statistical analysis. Mann-Whitney U Test and Kruskal-Wallis test was used to determine differences between components of PIDAQ and age, gender, year of education, discipline of studies and scores of IOTN. P value < 0.05 was considered significant.

**Results:** Statistically significant difference was found between dental esthetics concern and gender (p value 0.04), year of study (p value 0.01) and age (p value 0.03). Statistically significant difference was also found between social impact factor and gender (p value 0.02), year of study (p < 0.01). Dental self-confidence was found to be highest in grade 1 (mean 2.6 and SD  $\pm$ 1.02) and lowest in grade 5 (mean 2.0 and SD  $\pm$ 1.16) of Aesthetic Component of Index of Orthodontic Treatment Need (IOTN-AC).

**Conclusion:** Individual's psycho-social life is remarkably affected by poor dental esthetics. Therefore, dental therapy and cosmetic treatments might reflect positive role towards behavior and self-esteem.

## **Title: Quitting Smokeless Tobacco: Identifying Barriers And Facilitators In Dental Patients**

**Author:** Dr. S. M. Ashraf Jahangee, Aalima Fatima, Fasih, Manahil Akmal, Shawal Sajid and Arshad Hasan

**OBJECTIVE:** To determine the frequency of quitting intention among smokeless tobacco (SLT) users and to explore the barriers and facilitators to quitting.

**METHODS:** A descriptive cross-sectional study was conducted in the out-patient department of Dow Dental College and included all the people who regarded themselves as users of SLT. Data was collected using a pre-tested semi-structured questionnaire. The questionnaire was divided into four sections and explored the habits, attitudes, beliefs and quitting intention of the users

**RESULTS:** The original sample size of our study is 626 and data collection is still in the process. The results of 137 participants have been so far analyzed. 122 (89%) were male and 15 (11%) were female. Gutka was the most commonly used SLT product (49.3%) followed by Mawa (21.3%) and Niswar (18.4%). Majority of the participants (90.5%) were aware of the harmful effects of SLT use and most (89.1%) also knew about its potential to cause cancer. Overall, 89% of the users wanted to quit their habit and had attempted to quit in the past. Withdrawal symptoms were the main reason for unsuccessful quitting.

**CONCLUSION:** The preliminary results of our study reveal that the intention to quit is almost universal among SLT users with a vast majority of the users having made at least one unsuccessful attempt to quit in the past. Hence, our research highlights the future need to facilitate SLT users in quitting SLT which is one of the main cause of oral cancers.

**Title: ORAL HYGIENE STATUS OF CHILDREN WITH THALASSAEMIA AT KASHIF'S THALASSAEMIA CENTRE, KARACHI**

**Author/s:** Muhammad Nasir<sup>[1]</sup> Hifza Sheikh<sup>[2]</sup> Areeba Mahru Gul<sup>[3]</sup> Maliha Ghani<sup>[4]</sup>

**Introduction:** Thalassemia is a quantitative hemoglobinopathy, caused by genetic mutation. The main oral manifestations are class-II malocclusion, maxillary protrusion, high dental caries index and severe gingivitis. In Pakistan an estimated 5000-9000 children with  $\beta$ -thalassemia are born per year, although no documented registry is available. The estimated carrier rate is 5-7%, with 9.8 million carriers in total population.

**Objective:** To determine the frequency of dental caries and oral hygiene status of children with Thalassemia at Kashif's Thalassemia Centre Karachi, Pakistan.

**Method:** Cross-Sectional study, conducted among 106 children with thalassemia aged 5–15 years of either gender. After taking informed consent, the subjects were examined for dental caries and oral hygiene status. Non-probability purposive sampling technique was employed. Clinical examination was carried out according to World Health Organization (WHO) techniques. Demographic information such as age, gender, weight and height of the children was recorded. BMI of each children was calculated by using the formula  $BMI = \text{weight}/\text{height}^2$  (kg/m<sup>2</sup>). Other related information regarding previous dental visits, frequency of tooth brushing, material used for brushing and food preferences was obtained. Dental caries was assessed by using DMFT index and Oral hygiene status was assessed by using Oral Hygiene Index-Simplified (OHI-S). The data were analyzed using SPSS version 23.

**Result:** The study sample was consisted of 106 children with mean age as  $12.88 \pm 2.59$  years. Out of 106, 64 were males and 42 were females. The mean BMI of the children was reported as  $20.10 \pm 4.09$  kg/m<sup>2</sup>. Majority of the children had never visited the dentist (57.5%). About 59.4% of them brushed once daily, 28.3% of them brushed twice a day, 7.5% of them brushed after every meal and only 4.7% of them rarely brushed. Majority of the subjects (91.5%) were using toothpaste to clean their teeth, tooth powder was used by 5.7% and no material was used by 2.8% of the children. Regarding eating habits, majority of children (91.5%) were consumer of confectioneries, flavored sweetened milk was consumed by 73.6% and 83% of the children were habitual consumers of sweetened juices.

The mean DMFT score is  $7.58 \pm 8.62$ . Out of 106 children, 68.9% have dental caries while 31.1% are caries free. The mean debris index is  $0.92 \pm 0.56$  with mean calculus index as  $0.54 \pm 0.62$ . The overall oral health index (OHI-S) of the children is  $1.45 \pm 1.01$ .

**Conclusion:** A high prevalence of dental caries was observed among thalassemia children. There is a high need for an epidemiological survey followed by the comprehensive dental care programs for these children to improve their oral health.

**Title: Knowledge, Attitude and Practice regarding oral health among patients attending dental OPD in hospitals of District Malir, Karachi.**

**Author/s:** Dr.Saima Asim, Dr. Syed Muhammad Zulfiqar Hyder Naqvi, Dr. Syed Imtiaz Ahmed Jafry, Dr.Shikoh Naz

**Introduction:** Oral health is essential to general health and quality of life. Systemic diseases which effect entire body may first appear in oral cavity. The burden of oral diseases is higher among poor and disadvantaged population group and is also depend upon the geographical area and services provided to community. In developing societies people are not aware of the importance of regular dental check-ups and believes that they need to see a dentist only if they are in pain.

**Objective/s:** To assess knowledge, attitude and practice regarding oral health among patients attending dental OPD in hospitals of district Malir, Karachi.

**Method:** A knowledge, attitude and practice survey was conducted among 393 randomly sampled patients from two hospitals of district Malir, Karachi. After taking their written informed consent, the participants were interviewed by the principal investigator with the help of structured questionnaire developed specifically for the study. Data were entered and analyzed in SPSS version 21. Inferential analysis was performed using chi-square test whereas binary logistic regression was used to develop a risk assessment model for the study outcome. The significance level was set at 0.05. The duration of study was 6 months.

**Result:** Overall 31.8% of the study participants had adequate knowledge, 25.2% had adequate attitude whereas 32.2% had adequate practices with regards to oral health. Furthermore, multivariable analysis revealed that higher qualification of the study participants had significant positive associations with adequateness of all of the knowledge, attitude and practices of the study participants regarding oral health ( $p < 0.05$  for all).

**Conclusion:** The level of knowledge and appropriateness of attitude and practices of the study participants was less than satisfactory as only 31.8% of subjects interviewed had adequate knowledge, 25.2% had adequate attitude whereas 32.2% had adequate practices with regards to



oral health. It is recommended that healthcare providers and government, in their respective capacities, educate and persuade people to take better care of their oral health.

**Title: Medication Administration Errors among Nurses in Public Sector Tertiary Care Hospitals, Karachi**

**Authors:** Raja, Pawan Kumar , Badil

**Objectives:** To determine the frequency and types of medication administration errors among nurses.

**Methods:** A cross-sectional, which was conducted at Civil Hospital and Dow University Hospital, Karachi. Duration of the study was 10 months. The total sample size was 204 nurses, both male and female who have a valid license by the Pakistan Nursing Council and one year of working experience were the participants of the study. The non-probability purposive sampling method was used to access the participants. A pre-tested questionnaire was used to obtain data. SPSS version 21 was used to analyze the data.

**Results:** There were 204 nurses in this study, 52% of them were male. More than 80% of the nurse had age below 35 years. The incidence of medication administration error was 167 (81.9%). The majority 103 (50.5%) of the medications have technique error, missed drug error (43.1%) and wrong time error 56 (27.5 %).

**Conclusion:** The study result concluded that medication administration errors were highly prevalent in tertiary care hospitals Karachi. Majority of nurses committed one or more errors. Technique error after that missed drug error was prominent medication administration errors.

**Title: Musculoskeletal Discomfort and Mobile Phone Use among Medical Students of Public Sector Medical University (MaDAM Study)**

**Author:** Dr. S. M. Ashraf Jahangeer, Khunsha, Lubna, Maheen Siddiqui, Mudebbra, Amna, Wajeeha, Fatima, Tahira, Sehar, Mehreen, Nimra, Zainab

**Background:** Use of cell phones for prolonged period possibly increases the likelihood of musculoskeletal discomfort. Evidence of musculoskeletal discomfort with cell phone use among medical students is very scarce.

**Objectives:** To determine the relationship between amount of cell phone use with musculoskeletal discomfort, along with the factors which may prevent or predispose the cell phone users to musculoskeletal problems.

**Method:** It was a questionnaire based cross-sectional survey being conducted on 750 students of Dow Medical College, Karachi. Those with pre-existing musculoskeletal disorders, recent injuries to the neck, back and upper limb were excluded. Convenience sampling was adopted. Data was analyzed via Google analytics and SPSS version 21.

**Results:** These results are based on the preliminary analysis of 364 responses received till date. Of the total received responses 77% were females, 99% owns a smart phone and 92% used right hand as a dominant hand. About 50% were using cell phone for the last five years and 38% spent >4 hours a day using phone. A large proportion 83% used cell phone in the bed before sleeping. Lying flat is the favorite posture for using phone. Over 70% had faced musculoskeletal discomfort in the past one month and more than 50% attributed it to their bad posture. The QUICK Dash assessment tool classified more than 50% of the respondent with 27% disability.

**Conclusion:** This cross sectional study indicated a strong correlation of degree of mobile phone use with level of musculoskeletal disability among medical students.

## **Title: Stress Inducing Factors in Occupational Drivers of Karachi**

**Authors:** Mirza Muhammad Shah Rukh, Naushaba Khatoon, Dr. Mehk Pervaiz

**Background:** Stress among occupational drivers is a highly neglected topic in our population. The present study was conducted with the objective to identify the stress inducing factors in occupational drivers of Karachi and determine the relationship of stressors with socio-demographic and occupational factors among bus/ mini buses, rickshaw, taxi and private vehicle (car and high roof) drivers.

**Methods:** A cross-sectional survey was conducted from 10th February 2017 to 15th October 2017 through a validated structured questionnaire. A total of 384 drivers were included through non-probability quota sampling technique. Detailed information on socio-demographic characteristics, health history and stress inducing-factors in occupational drivers of Karachi were obtained. Statistical analysis was conducted using SPSS version 21. Chi-square test was applied to see the association between categorical variables. P-value <0.05 was taken as significant.

**Results:** Traffic jam was found to be the most significant reason of stress (n=377, 98.2%), followed by condition of road (n=356, 92.7%), lights of other vehicles (n= 339, 88.3%), load shedding of CNG (n=327, 85.2%), pressure of time (n=320, 83.3%), pollution (n=300, 78.1%), fear of accidents (n=281, 73.2%), fear of traffic police (n=281, 73.2%), fear of snatching (n=278, 72.4%), and unsafe behavior of other drivers (n= 234, 60.9%). Stress inducing factors including unsafe driving (p-value <0.001), pressure of time (p-value 0.024), traffic police (p-value <0.001), fear of snatching (p-value 0.042), pollution (p-value <0.001) and traffic jam (p-value 0.035) were significantly associated with vehicle's type.

**Conclusion:** Numerous stress inducing factors are experienced by occupational drivers in Karachi. This could possibly result in decrease precision and judgment while driving resulting in increased number of accidents. Effective strategies should be designed to train drivers to cope with stress-inducing factors/situations on the road while driving.

## **Title: FREQUENCY AND ASSOCIATION OF STRESS LEVELS WITH MODES OF TRANSPORTATION (TIRED STUDY)**

**Authors:** Dr. S. M. Ashraf Jahangeer, Taha, Ammara, Nimra, Yumna

**Objective:** This study aims at finding out the frequency and association of stress levels with modes of transportation, and is likely to uncover the contributing transportation related factors for stress in medical students.

**Method:** The study was questionnaire based, cross sectional study conducted on undergraduate medical students of DUHS. A total of 573 students participated voluntarily, out of which 300 were given manual questionnaire and 273 filled it online. Non-probability sampling technique was used. Data collection was initiated after the approval from the Review Committee of Dow Medical College. The collected data was analyzed by SPSS 21 software

**Results:** Out of the 573 participants, a response rate of 99.3%(298) was received, while online questionnaires had 100% response rate. Almost two thirds of students used the university transport; more than 90% students lived more than 5 km from the university, and 56% had a travelling time of above an hour. About 15.4% students reported physical trauma, and some form of harassment. Sheldon Cohen's stress scale revealed a surprisingly 90% students within the moderate to high stress category. Risk factors were correlated with stress levels, and significant relations were found with noise exposure( $p=0.023$ ), and sleep quality( $p=0.001$ ). The most common reported stressors related to commute included overcrowding, long time of travel and air and noise pollution. Noise pollution found as the main predictor of stress among commuters.

**Conclusion:** Bad transportation has adverse effects on health, as well as academic performance. Administration in their respective jurisdictions are needed to look into this matter, to make commuting a routine, rather than a hassle.

**Title: Prevalence of cataract among traditional oven (tandoor) bread makers in Karachi**

**Authors:** Murad Qadir, Ghazala Nasim, Rafat Murad, Yawar Yakoob

**Introduction:** Cataract is clouding/opacification of the lens of the eye which prevents clear vision. Thermal cataract has long been known as an occupational hazard. Lens protein gets opaque due to long exposure of heat. Since tandoor bread workers are exposed to abnormal heat for long durations, it is expected that they are prone to develop cataract.

**Objective/s:** To assess the prevalence of cataract among traditional oven (Tandoor) bread workers of Karachi.

**Method:** Cross-sectional study comprising of 100 participants aged 25-50 years who were conveniently selected. Participants who had at least 5 years of experience of making tandoor breads and worked up to 5-6 hours/day were selected. Data was collected through a questionnaire. Eye examination was conducted using an ophthalmoscope and torch for partial and total cataract. This

**Result:** Data of 2 participants was incomplete and hence excluded. 52 (53.1%) subjects had no cataract, 26 (26.5%) had partial cataract and 20 (20.4%) had total cataract. 62 (63.3%) of the participants had no knowledge about cataracts while 36 (36.7%) had knowledge about cataract from different sources. A statistically significant association was observed with years of work experience ( $p=0.02$ ) and age of the participants ( $p<0.001$ ) with cataract prevalence; and a trend towards an association for daily hours worked ( $p=0.08$ ) and diabetes ( $p=0.07$ ).

**Conclusion:** There was high prevalence of cataract among tandoor bread-makers of Karachi.

**Title: Working conditions and work related Health problems of Female domestic workers in Karachi**

**Author/s:** Dr Hira Tariq, Dr Shiraz Sheikh, Mehjabeen Musharaf

**Objectives:** To assess the work conditions and determine work related health issues of female domestic workers in different areas of Karachi.

**Methodology:** It was a community based cross sectional study done in four squatter settlements of Karachi with a sample size of 406 female domestic workers in 2018. A pretested questionnaire was administered to collect data from the workers who were selected through snowball technique. Comparison of violence, musculoskeletal problems, work related injuries, asthma, skin reactions and itchy red eyes was done across different groups including age, marital status, education status, type of work, duration of work and monthly salary using Chi-Square tests.

**Results:** Only a few (14.5%) earned Rs15000 and above. Less than 1% had any financial support for health or education of children. Verbal forms of violence experienced including shouted at (40.9 %), constant critique of work (17.2%), abuse (13.1%) and job threat (13.5%). Three most common workplace accidents reported included experiencing cuts (30.8%) followed by burn (27.6%) and bruise (23.6%). Doing laundry was significantly positively associated with experiencing cuts (OR=2.09; 1.15-3.71), those who looked after children were more likely to experience bruises (OR=2.29; 1.07-4.88) and cooking was positively associated with experiencing burns (OR=4.66; 2.68-8.08)

**Conclusion:** This study reveals that substandard working conditions and poor health are prevalent among the domestic workers. Creating economic environment which is equal for all low wage workers, setting up domestic labor standards and holding employers accountable to labor standards is essential.



## **Title: Evaluation of Hepatitis B and C Surveillance System of District Hyderabad Pakistan-2017-18**

Author/s: Illahi.Ahsan<sup>1</sup>,Rauf Mudasir,<sup>2</sup> Masood.Naveed<sup>3</sup>, Ghafoor.Tamkeen<sup>4</sup>

**Introduction:** Pakistan is facing a challenging problem of Communicable(41%) and non-communicable(59%) total DALYs lost. The high prevalence of viral hepatitis was particularly of Hepatitis-B(2.5%) and Hepatitis-C(5%) has forced Government of Sindh(Chief-Minister's-Initiative) to initiate Hepatitis Prevention & Control Program.

**Objective/s:** To do comprehensive review of the existing surveillance-system to identify key strengths and weaknesses and to develop recommendations for strengthen the Surveillance System of Hepatitis.

**Method:** This descriptive study was conducted at 5 sentinel sites of Hepatitis Control Program Sindh from 1st July to 31st December 2018, evaluated by using a validated and updated Guidelines for Evaluating Public Health Surveillance System 2001". Record Review of surveillance system and interviews were conducted from stakeholders by using semi-structured questionnaire. Systems evaluated on standard attributes labeled as good, average and poor and data was analyzed by using Epi info and inferences were drawn.

**Result:** Despite of good acceptability, stability, timeliness and quality but lack in flexibility and representativeness. The sensitivity of Hepatitis-B(148%) in 2017 and (146%) in 2018, while Hepatitis-C(68.6%) in 2017 and (67.7%) of 2018.The PVP calculated for Hepatitis-B of 2017(1.76%) and 2018(1.65%) and for Hepatitis-C as 2017(3.64%) and 2018(5.32%) respectively and graded as poor. About 70% disease load covered by private sector remains unreported.

**Conclusion:** Hepatitis Surveillance system, operating through Hepatitis Prevention & Control Program Sindh(Chief Minister's Initiative) is lacking in his true sense by not meeting its objectives. Development of a policy for functional integration with other systems like DHIS, VPD, involvement of private sector, general practitioners and laboratory for making the system more effective.

**Title: Five questions, Five minutes for Five years, Global Polio Eradication Initiative**

**Authors:** Dr Jewat Sunder \*\*, Dr Satti Jewat\*, Major Manzor Ali ,\*Dr Chetan Das\*, Aziz Memon\*

**Back Ground:** There are only two countries are in red colored regarding polio positive cases in the Map of the Globe, Pakistan and Afghanistan ,the crawling love disease (polio)not only cause of the disease but disability of the person whole life in which rest of family also suffer . Pakistan facing such problem and challenge.

**Objective:** Our aim to eradicate polio and polio free Pakistan by polio campaigns and by intervention of the innovative health poems especially among rural (desert) children about importance of polio drops

**Place &Duration of Study:** Primary and secondary rural (desert) schools of taluka khipro, duration of study september-2018 to January 2019, by intervention through health poems.

**Material &Method:** Descriptive comparative study, sample size 500,pre-test and post test analysis among the school going students of rural(desert) communities of taluka khipro ,the data collected by pre-test and post test questionnaire(with support of teachers) from primary school students, intervention given the students by health poems in which all answers of related with polio and polio awareness ,after conducting the session by health poem ,a printed material were pasted on the books of the students for further to study and memories. Simple five questions of awareness by health poem within five minutes health session under five years school going children with recommendation that class teacher will help out them.

**Results:** Study was conducted among the students of rural (desert) population groups of primary schools, mean age of the students (boys- girls) were 5-years results were on spss 21 versions.

**Pre –test:** 1-What is polio? Answers were: 90(18%) 2-What happen in polio? Answers were: 110(22%) 3-How many drops given? Answers were: 125(25%) 4-At what age groups taken polio drops? Answers were: 75(15%) 5-Where is the finger mark? Answers were: 139(27.8%) **Post – test:** 1-what is polio? Answers were: 353(70.6%) 2-What happen in polio? Answers were: 293(58.6%) 3-How many drops given? Answers were: 343(68.6%) 4-At what age groups taken

polio drops? Answers were: 281(56.2%) ,5-Where is the finger mark? Answers were: 377(75.4%)

**Conclusion:** Intervention by innovative health poem on polio awareness ,especially among rural desert children by simple method and in short time duration is not only aware, educate them but developing healthy interesting loving atmosphere activity of learning about polio disease by poem.

**Title: Effectiveness of hands on training of first aid and their assessment in 13-18 years old students in a volunteer program in Karachi**

**Author/s:** Dr Munazza Suharwardy Obaid, Prof. Dr Muhammad Saeed Minhas, Dr Shiraz Shaikh

**Introduction:** Facilitating an injury or illness till trained help arrives is called first aid. Public health demand is to increase number of certified people, including school students who can play significant role in First aid.

**Objective:** To determine the current knowledge and long term retention of knowledge (after three months) of the students 13-18 years old participating in a volunteer program in Karachi.

**Method:** It was a quasi experimental study designed with the intervention of Basic Life Support /Cardio Pulmonary Resuscitation training. The training was given by specially trained BLS staff of a tertiary care hospital. The students were assessed in pre-test, post-test and follow-up by a questionnaire. After three months the follow up assessment was done by questionnaire as well as hands on evaluation by the same hospital staff, to observe the retention of knowledge in the students.

**Result:** A total of 143 respondents were evaluated. 41.5 %, 63.8 % and 61 % satisfactory results were seen in pre-test, post-test and follow up respectively in knowledge of first aid in participants before and after the intervention. In 16-18 age group 76.6% students scored  $\geq 60\%$  as compared to 13-15 years who got 64.1% in post-test. In hands on practice 86.7% and 93.3% achieved  $\geq$  satisfactory result in their respective age groups.

**Conclusion:** The level of knowledge about first aid was not up to the satisfactory level in pre-test among majority of the students. The rise in results of post-test and a slight decline in follow up proved that these kind of interventions can be beneficial. Higher the ages better the results were seen. There is thus a need for formal first aid training to be introduced in the school curriculum.



**Title: Role of Media and the media Hypes in the after math of mass casualty incidents in Karachi City**

**Author/s:** Prof. Lubna Baig, Mehjabeen Musharraf, Ambreen Aslam

**Introduction:** Mass casualty incident is a difficult scenario for any city to deal with making it most troublesome to manage in the available resources and the capacities. The mass casualty incidents cannot be studied without considering the vitality of the role of media in MCI's. With an increase of the media influence on today's world the role of media in a Mass casualty incident becomes integral. The media with its high impact on the public has an ability to gather a large number of audiences and also plays a role in shaping public opinions & behaviors. The media also shares a great responsibility of spreading the accurate and validated news contents, ensuring the control of the spread of any false news which can produce unrest among the public and thereby worsening the crisis situation.

**Objective:** This paper intends to explore the role of media in mass casualty events in Karachi city.

**Method:** It was a qualitative thematic content analysis study. The Sampling strategy was purposive. The interviews were audio and video recorded and transcribed verbatim.

**Result:** The inductive analysis of the qualitative data led to the identification of 3 main themes along with few sub themes:

1. Playing with people's emotions
  - 1a. Projection of distressing content
  - 1b. Creating hype
2. Irresponsible Actions
3. Suggestions

**Conclusion:** In this paper we outlined that the media coverage in times of mass casualty events is of great importance having the greatest impact on peoples mind but there is a need to use in positively. The media needs to contribute to rather than impede recovery, there is a need for the media to provide an accurate portrayal without sensationalism.



**Title: Addressing Violence against Health Care in Peshawar.**

**Author:** Dr. Faryal Baddia, Dr. Muhammad Naseem Khan, Dr. Zia-ul-Haq

**Introduction:** Violence against health care, including patients, health-care providers, health-care facilities and transport, is a phenomenon that hinders and negatively affects the provision of health care across the globe, and Pakistan is no exception. Beyond the immediate material and human consequences such as injury, loss of life and damage to infrastructure, violence against health care also has far reaching, long-term consequences affecting the access of population to health-care services, and ultimately a catastrophic impact on public health. In the absence of previous studies on the prevalence, types and risk factors of violence against health care in Khyber Pakhtunkhwa (KP) province, this study was conducted to fill the evidence gap and to enable policymakers and planners to reach evidence-based decisions. The objectives of this study were to determine the prevalence of violence against health care and its associated factors, and to explore the perceptions of health care regarding violence in Peshawar district, KP

**Material and methods:** The study was conducted in Peshawar district from 15 April till 30 November 2017. This was a mixed method research with quantitative and qualitative components. A total of 842 questionnaires were collected through random sampling. Ten focus group discussions and three in-depth interviews were conducted. The participants included in the study were doctors, nurses, physiotherapists, paramedics, ambulance staff, health-care administrators, ward staff, computer operators, media representatives and police personnel.

**Results:** The results of the study show that more than half (51%) of the participants had experienced and/or witnessed violence in the 12 months preceding the study. Instances of verbal aggression or violence (49.98%) being witnessed and/or experienced were higher than physical violence (23.67%). The main perpetrators of violence were attendants of patients, the patients themselves, members of the general public and members of security escorts. As many as 61% of the respondents were worried about violence at their workplace while around two-thirds of those who had witnessed and/or experienced violence reported various degrees of psychological effects. The findings of the study reveal that the likelihood of health-care personnel witnessing and/or experiencing violence had a significant association with public sector health-care



facilities, increasing number of co-workers and the cadre of health-care worker, with doctors and support staff being more vulnerable.

**Conclusion:** Violence against health care in hospitals of Peshawar district should be considered a serious public health issue. As demonstrated by the results of the current study, the prevalence of violence against health care is quite high. The absence of an organized effort to curb this serious humanitarian concern is alarming. Safety of the wounded and the sick, health-care personnel, health-care facilities and medical vehicles is important for provision of essential services. Therefore, a holistic effort is needed to ensure that the wounded and the sick have timely access to health care and that the facilities and personnel to treat them are available, adequately supplied with medicines and equipment, and are safe and secure. It is also evident from the findings of the study that tackling this issue is not just the health-care community's concern, but also needs the support and facilitation from government, the administration, lawmakers, law enforcement, civil society, and international organizations.

**Title: Comparison of Responsiveness of Health care system to the hospital patient needs in a public and private tertiary care hospital in Karachi**

**Author/s:**Mr.Muhammad Umair Asghar & Dr.Shiraz Shaikh

**Introduction:** Responsiveness is a system's response to non-health aspects of patients by meeting their legitimate expectations which includes caring for their respect and rights as a client. Despite being one of the three main goals of health system, it has been the most neglected and understudied area in healthcare.

**Objective/s:** The objectives of this study were to estimate and compare the level of responsiveness among patients of a public sector and a private sector tertiary care hospital in Karachi and identify the factors determining good responsiveness.

**Method:** A comparative cross-sectional survey was conducted among conveniently selected 520 patients in four major departments of a public and a private tertiary care hospital in Karachi. Sample was equally distributed among inpatient and outpatient settings. Patients having utilized the Inpatient services for at least 3 days or outpatient services at least 3 times in the last 12 months were included. WHO's questionnaire of measuring responsiveness by reporting and rating questions on eight elements was used. Multinomial Logistic Regression was used to determine the adjusted association of reporting and rating responsiveness indices with socio-demographic and hospital related factors.

**Result:** Overall responsiveness was rated well by 29.61% respondents. The most important element of responsiveness for the study participants was prompt attention (55.6%) followed by dignity (17.7%). Patients in private hospitals were significantly more likely to have moderate (OR=7.67, 95%CI=4.08-14.41,  $p<0.001$ ) and high rating score (OR=150.86, 95%CI=65.53-347.27,  $p<0.001$ ) taking low score as reference as compared to public hospitals. Compared to gynecology, department of surgery was significantly more likely to have moderate rating score and department of medicine was significantly more likely to have high rating score. Patients from Karachi were significantly less likely to have high rating score as compared to patients outside Karachi.

**Conclusion:** The study reported an overall poor responsiveness in public sector hospital as compared to private sector hospital. There is a need to introduce interventions aimed at improving capacity and resources to improve responsiveness particularly in public sector hospitals.

**Title: Impact of Pay for Performance Intervention on the provision of health care services in PPHI, SINDH**

Authors: Ayaz Baloch<sup>1</sup>, A.Sattar Chandio<sup>1</sup>, Zamir Suhag<sup>1</sup>

**Objectives:** Rewarding Health Care Providers (HCP) with Pay-For-Performance (p4p) incentives have shown significant impact in improvement of health care services quality and provision at primary health care level. In 2017, PPHI SINDH introduced P4P model for its HCP. The objective of this study is to assess the impact of P4P model on the provision of routine and MNCH health care services.

**Methods:** Key indicators from monitoring and evaluation systems i.e. District Health Information System (DHIS), Summary of Additional Services (SAS), Monitoring of Monitors (MOM) and a fourth component of Clinical Knowledge (CK) assessment were used to assess employees' performance for providing financial incentives. Key performance indicators such as Daily OPD turnover, Ante-Natal Care visits, number of deliveries performed at health facility, fully immunized children and family planning visits were used to assess the impact of the model. Data were extracted for the year preceding and after the implementation of the p4p intervention.

**Results:** Overall, we found tremendous increase in health care provision in all areas like upsurge in number of institutional deliveries and ANC visits with percentage increase of 45.24% and 18.02% respectively, followed by routine immunization (10.2%), family planning (9.9%) and OPD turnover (6.4%).

**Conclusion:** P4P intervention created an encouraging and competitive environment which eventually supported the organization's performance as a whole. Providing opportunities like academic or financial incentives will attract and retain more qualified and skilled health care providers for the organization, ultimately leading to delivery of improved quality health care services.



**Title: Effect of Health Education on Awareness & practices of Breast Self-examination among females attending charitable hospital at North Karachi**

**Authors: Dr. Zohra Jabeen, Dr. Nighat Shah, Dr. Zaeema Ahmer**

**Objective:** To determine the effectiveness of health education on BSE with monthly motivation through mobile phone among females attending the Muslim Khatri Charitable Hospital North Karachi.

**Methodology:** This Randomized Control Trial studied 172 eligible women randomly divided into intervention (n=86) and control (n=86) attending Muslim Khatri Charitable Hospital Karachi, Demographic variables were collected through pretested questionnaire by interview. Experimental group received health education regarding Ca breast and importance of BSE and monthly motivation to perform BSE through cell phone, while the control group received BSE importance and its technique after completion of study. The questionnaire was again filled after 6 months of intervention.

**Results:** Results revealed that no statistically significant difference was found between two groups (age  $p=0.080$ , education,  $p=0.75$ , knowledge,  $p=0.14$ , performance,  $p=0.117$ ) pre intervention. After 6 months females in intervention group showed significant ( $p<0.001$ ) improvement in knowledge and performance of BSE from 44.2% to 88.4% but there was no change in control group. Non intervention group showed (RR= 0.368, CI= 0.239-0.568) significant negative association while education (RR= 1.746, CI= 1.099-2.774) showed positive association with BSE performance. The relationship was adjusted with age, marital status, family history and education. On multivariate analysis non-intervention group (RR=0.392, CI= 0.253-0.603,  $p= 0.000$ ) remained significant while education (RR=1.483, CI=0.921-2.382) became insignificant.

**Conclusion:** Designed health promotion programs could improve BSE performance and can be effective for screening.

**Title: Factors Associated with Unmet Need for Family Planning in Pakistan: An analysis of Pakistan Demographic and Health Survey 2017-18**

**Author/s:** Rehana Yasmeen, Muhammad Imran

**Introduction:** Unmet need for family planning (FP) refers to women of reproductive age who aren't using contraceptive but who wish to postpone or delay their next birth. According to FP-2020 commitment Pakistan needs to increase CPR 25% to 55% at national level. It's like "low hanging fruit" addressing to fulfill unmet need for FP will raise CPR by another 17%.

**Objective/s:** To identify the factors associated with unmet need for Family Planning in Pakistan.

**Method:** Cross sectional survey 2017-18 (PDHS) of married women age 15-49 was used. Predictor contextual-level-variables included place of residence, region and visited by FP worker in last 12 months. Individual-level-Variable included women's age, household wealth index and education.

**Result:** Adjusted analysis shows that women of age group 25-29 years have the less unmet need (OR 0.48; 95% CI: 0.31 – 0.74) as compared to women 15-20 years of age. Women with primary education have low unmet need as compared to women with no education (OR 0.60 95% CI 0.46-0.77). Moreover women living in Baluchistan have high unmet need as compared to Punjab (OR 1.88, 95% CI 1.25-2.82). Women living in rural areas have more unmet need as compared to urban area (OR 1.61 95% CI 1.29-2.01). Women who have visited health worker in last 12 months have low unmet need as compared to women who had not visited (OR 0.80, 95% CI 0.65-0.98).

**Conclusion:** The findings reveals that age, education and visited by health visitor serve as protective factors for unmet need. There is need to focus on areas where situation have more worst such as Baluchistan and rural areas of Pakistan to improve CPR.

## **Title: Male Involvement in Family Planning among the residents of a Squatter Settlement in Karachi**

**Authors:** Fahmida Khowaja, Naushaba Khatoon, Dr. Mehak Pervaiz

**Background:** Worldwide the current population is about 7 billion and on a yearly basis, it rises 75 to 78 million primarily by the contribution of developing countries. The main factor contributing to this is the high birth rate, due to low utilization of contraceptives. Globally every year 536,000 women die due to pregnancy-related complications. Worldwide Contraceptive Prevalence Rate (CPR) increased from 54.8% to 63.3%. However, in Pakistan the current CPR is estimated at 35%. Men can play an important role by providing support to their life partners, as mainly only women have been targeted on reproductive health strategies. The aim of this study was to assess the involvement of married men in Family Planning (FP), especially in the decision making process.

**Material and Method:** This cross-sectional study was conducted among the 419 married men, residing in the urban squatter settlement of the Karachi. Non-probability convenience sampling was used to select the sample. A pretested structured questionnaire was used to collect the data. SPSS 23 was used to analyze data and chi-square was applied to identify the relationship between the categorical variables. Data was collected between three and half months.

**Results:** The mean age of the male respondents was  $29.74 \pm 4.66$  years. Almost 95% of participants had heard the word and were aware of the purpose of 'Family Planning' whereas only 44.6% participants (or their wives) were current users of FP. Condoms were the most frequently used FP method (50.8%). The most common reason for using FP methods was economic problems (46.5%) whereas religious limitations was the main reason for the lack of FP practice among the participants (50%). Over 80% participants believed that the decision regarding FP should be taken by the husband and almost 64% were of the view that the wife should be the one using the FP method. Furthermore, over 40% men using FP were 31- 35 years old and almost 60% were Urdu speaking ( $p < 0.01$ ). Men and their wives who had either primary or secondary education were more frequent users of FP compared to those who had no formal education ( $p < 0.01$ ). In addition, those who were private employees had the highest percentage of



FP use (68.4 %), whereas those who were unemployed had the lowest percentage (2.1%) of FP usage ( $p < 0.012$ ).

**Conclusion:** The result showed that socio-demographic factors play a key role in deciding the level of FP usage amongst the residents of Korangi. Therefore, strategies should be designed to educate men on the importance of FP and the crucial role that they can play in it, in order to achieve the 2020 Sustainable Development Goals (SDGs).

**Title: Effectiveness of targeted behaviour change communication strategies and participatory reflection and analysis (PRA) on increasing adoption of modern contraception**

**Authors:** Xaher Gul, Junaid-ur-Rehman Siddiqui, Waqas Hameed, Sharmeen Hussain, Asim Nasar, Komal Daredia, Muhammad Ishaque

**Objective**

To assess effectiveness of a traditional (non-participatory) health education approach, compared to the use of a participatory health education approach in promoting use of modern contraception amongst MWRA in rural areas, and effectiveness of exposure to single versus multiple doses of communication for FP adoption.

**Method**

The eligible sample comprised of MWRA in three districts of rural Punjab who were non-users of FP pre-test. A baseline survey (n=1072) was conducted in January 2016 followed by an endline survey (n=1048) after three months of implementation of the intervention. Multiple logistic regression was used to estimate intervention effects on FP adoption.

Both approaches used three components: (1) neighbourhood meetings with FHEs (2) advice meetings with FHEs and providers, and (3) client visits by FHEs. However, one used participatory tools and the other non-participatory tools.

**Results**

When compared to unexposed women, MWRA in the participatory arm showed 4.89 (95% CI 1.72; 13.91), 8.40 (95% CI 3.03, 23.25), and 12.85 (95% CI 4.85; 34.03) higher odds of adopting an FP method after exposure to one, two, and three communication strategies, respectively. In the non-participatory arm, results showed that compared to women who were not exposed to any communication strategy, women's odds of adopting a family planning method increased at one dose 1.87<sup>1</sup>, two doses – 3.65 (95% CI 1.94; 6.83), and three doses – 11.29 (95% CI 5.73; 22.26).

**Conclusion:** Scenarios of limited resources and few interactions with the target population, participatory approaches yield better results and return on investment than a traditional approach.

**Title: Increasing SBAs (skilled birth attendants) births in Improving MCH Services in 300 BHU Plus health facilities in Sindh: Experience from PPHI Sindh**

**Author/s** : Dr. Zaib Dahar and Samina Bakhtawar

**Introduction:** PPHI Sindh is a nonprofit Organization working in partnership with Government of Sindh to manage Basic Health Units (BHU Plus). As per Sindh primary essential health care service package, BHUs were supposed to provide day care 6/6 services to the communities but after looking at the demand and need, PPHI Sindh strengthened 300 BHUs out of 1,176 BHUs to improve Primary Health Care (PHC) services and health outcomes in Sindh. To achieve this, PPHI Sindh focused on capacity building and quality improvement approach for Maternal & Child Health (MCH) services by providing the staff hands on training by using structured competency-based training. Pakistan Demographic Health Survey (PDHS) 2017-18<sup>1</sup> shows an increase in Skilled Birth Attendance (SBA) and institutional deliveries in rural Sindh.

**Objective/s:** To increase the institutional deliveries through SBAs from 1/3 to 2/3 of total expected births for better outcome of Maternal & Newborn health in target population across Sindh.

**Method:** The key indicators from PDHS 2012-13<sup>2</sup> taken as baseline survey showed that the delivery attended by the Skilled Birth Attendants were 52% in Rural Sindh and institutional deliveries were 48%, while the SBA attendance is increased to 69% and institutional deliveries to 66% in current PDHS survey 2017-18<sup>1</sup>. This supports the internal PPHI District Health Information System (DHIS) data that shows the number of deliveries increased from 17,128 in year 2013 to 144,896 in 2017-18. The average number of deliveries per BHU plus health facility per month varies from 100-300 deliveries.

This initiative aims to increase access to women by delivering average 300 deliveries per month per health facility. The number of evidence-based interventions is being used to augment this intervention in saving newborn and maternal survival. Project of MNCH BHU Plus was launched to work on the MCH indicators and to increase the 600 births per month at the facility level. In 2013, Maternal, Newborn and Child Health (MNCH) strengthening project was conceived by putting additional female staff, some of the physical resources and capacity building in practicing skills along with promoting healthy behaviors through community support

groups and community health sessions. There is a functional referral system to link these BHU plus with the CEmONC (Comprehensive, Emergency Obstetric and Newborn Care) Centers. After 200 years of all the positive inputs, the intervention has achieved almost 50% of the SBAs births. This initiative also includes the Competency based trainings, mentoring, coaching, essential MNCH drugs, equipment as well as implementation of evidence-based practices under supportive supervision. To ensure ongoing implementation of skills, PPHI Sindh's technical officers conduct regular follow-up visits to each facility to mentor staff.

**Result:** Five year later, the baseline data was compared with a recent PDHS of Rural Sindh which showed a 50% increase in the SBAs births at the health facilities.

**Conclusion:** Many of the facilities showed significant improvement in the total number of deliveries which is the result of additional staff to run 24/7 facilities, emergency MNCH drugs to manage the complication and minor repair and supplies necessary to conduct the procedures. Very intensive Clinical hands on training, mentoring, coaching and structured supportive supervision contributed more to get better outcomes.

**Title: The Experiences of Breastfeeding Mothers at work place in Pakistan**

**Authors:** Mehreen Qadri, Prof. Lubna Baig, Mehjabeen Musharraf

**Background :** Pakistan has highest infant mortality rates as compared to other lower middle income countries. Breastfeeding is considered as an important indicator for child and maternal health but in Pakistan the duration of breastfeeding is decreasing unfortunately. Exclusive breastfeeding during the first 6 months of life provides sufficient nutrients .Despite having positive attitudes towards exclusive breastfeeding working mothers in Pakistan still facing problems in continuing to breastfeed when they return to work.

**Objectives:** The aim of this study is to investigate the barriers to returning to work for breastfeeding mothers and to look at the experiences.

**Methods:** A qualitative study was conducted using semi-structured interviews with eight purposively sampled participants who were breastfeeding at the time of return to work. Interviews were audio recorded, transcribed and analyzed thematically.

**Results:** Three major themes were identified Mothers employment compromises infant feeding, Breastfeeding experience at work place, importance of employer support. Mothers described breastfeeding as the preferred infant feeding option and the child's right. When returning to work mothers encountered rigid policies and practices, inflexible shift patterns, unsupportive coworkers attitude. Appropriate policies needed for maternal support.

**Conclusion :** While it has been suggested that WHO guidelines for exclusive breastfeeding for 6 months may be unattainable for working women due to work commitments, inadequate support from coworkers and employers. This study highlighted the barriers related to breastfeeding experience by working mothers in Pakistan.

## **Title: Poor Learning at Operation Theatres Causing Brain Drain**

**Author/s:** Sara Sadiq, Muhammad Fazal Hussain Qureshi, Mahira Lakhani, Muzna Shah, Hassan Ayub

**Introduction:** In interior Sindh, most of the hospitals lack specialists so attitude of available specialists as supervisors is important for learning in operation theatre like need good mentorship, observation and hands-on skills.

**Objective/s:** To identify perception of residents towards learning environment in surgical theatre of a medical school teaching hospital of interior Sindh.

**Method:** A cross-sectional study was conducted at Peoples Medical College, Nawabshah, from May 2018 to October 2018. STEEM questionnaire of 40 statements was used and was validated after pilot study. The participants' responses were calculated using a five-point Likert scale. The reliability was assessed using Cronbach's alpha. Mann-Whitney and one-way analysis of variance (ANOVA) tests were used as nonparametric methods for comparative statistics for assessing gender differences. Varimax rotation, Kaiser-Mayer-Olkin (KMO) and Bartlett's tests were also applied.

**Result:** Of the 88 participants, 71.6% (n=63) were females and 28.4% (n=25) were males. Majority of participants 43% belong to gynaecology department. The reliability of the scale was 0.822, calculated using Cronbach alpha. The mean overall STEEM score was 108.81 whereas, mean score of males was 115.44 and females was 106.17 which shows there the difference between scores based on gender. Male perceived the educational environment more positive than females in each subscale.

**Conclusion:** Under current circumstances and condition of interior Sindh postgraduate trainees are deprived from good mentorship, observation and hands on skills due to lack and non-serious attitude of consultants/supervisors. The current study concluded that overall learning environment of operating theatre was perceived to be inadequate for learning.

**Title: Mixed method survey to assess the problems and propose solutions for implementation of CME/CPD in Sindh, Pakistan**

**Authors:** Nighat Shah<sup>1</sup>, Marium Soomro<sup>2</sup>, Mehjabeen Musharraf<sup>3</sup>, Shiraz Shaikh<sup>4</sup>

**Introduction:** A quote from Maimonides' Daily Prayer of a Physician says: "May there never develop in me the notion that my education is complete!"

In this context we inculcate the idea of life long learning; Continuous Medical Education (CME) and Continuous Professional Development (CPD) are essential components of lifelong learning. These are the cornerstones of quality medical practice. Hence the urgent need to establish and implement CME/CPD in Pakistan

**Objective/s:** To determine the type of CME/CPD sessions attended by doctors, identify the problems with implementation of CME/CPD program and propose possible solutions for successful implementation of CME/CPD Program

**Method:** This was a concurrent triangulation mixed method study. Quantitative questionnaires were filled by faculty and physicians from different specialties. The qualitative component had both focus groups and in depth interviews conducted with different professional bodies (PMA), faculty JSMU, College of family physicians. Qualitative analysis was conducted using thematic framework analysis

**Result:** The participants (53.6%) reported that CPD/CME should be mandatory. Top three factors which influenced doctors to attend CPD/CME included career progression (65.1%), interest (54.7%) and knowledge gap (50.5%). The most common perceived barriers were lack of study leave, cost and work-life imbalance. The implementation issues expressed by different stakeholders included lack of doctor's interest, busy clinical schedule and poor accessibility.

**Conclusion:** The CPD program is an important step toward enabling physicians to demonstrate their competency and professionalism to themselves and others. The PMDC has to take practical steps to evaluate the cognitive, clinical, and humanistic attributes of certified doctors.



**Title: Performance of Research Journals of Pakistan in terms of their Impact Factor**

**Authors:** Muhammad Saquib Qureshi<sup>1</sup>, Irfan Ahmed<sup>2</sup>, and Sohail Khan<sup>3</sup>

**Background:** Impact factor is a tool to identify the quality of research conducted. Research papers published in high impact factor journals shows worth of their work.

**Objective:** To summarize the performance of Pakistani Research Journals in terms of their impact factor.

**Methodology:** Pakistani Research Journals were analyzed for their Impact Factor (IF) from 2011-2017. Journals Citation Report (JCR) published by Thomas Router and Impact Factor list of Journals published by Higher Education Commission Pakistan was used to retrieve data electronically. Study was conducted from June-August 2018.

**Result:** A total of 10 Pakistani Research Journals have their Impact Factor in the year 2013. Highest Impact Factor of any Pakistani Research Journal was 1.365 of Pakistan Veterinary Journal in 2013. Out of 8411 Research Journals published worldwide, only 10 Pakistani Journals have their Impact Factor which shows less participation of Pakistan in terms of Quality research.

**Discussion:** Pakistani Journals are contributing very low in terms of ISI indexation. Reasons behind the low performance may be lack of resources and awareness among the young graduates.

**Title: Does sector matter in House Officers performances? A Cross sectional study**

**Author: Muhammad Fazal Hussain Qureshi, Sara Sadiq, Danish Mohammad, Mahira Lakhani, Muzna Shah**

**Introduction:** House officers experience monstrous levels of stress during their training period. There is significant variation in level of stress among house officers of public sector hospitals to those of private hospitals because of the OPD input per day, excessive paper work and sample collection for lab investigations. None of the study has been done to find any variation in the stress level of house officers among different hospitals.

**Objective/s:** Objective of current study is to compare the stress levels among house officers working in Public and Private hospitals of Karachi.

**Method:** A descriptive cross-sectional study was conducted using a self-designed, self-explanatory questionnaire for identification of stress among house officers of government and private tertiary care hospitals of Karachi. Cronbach Alpha was calculated which was found to be 0.804. Multistage non-probability sampling technique was used. The data was analyzed by using SPSS version 22. ANOVA with Post Hoc Tukey's test and a five-point Likert scale was used.

**Result:** The mean age of the participants was  $24 \pm 1.2$  years. The majority of the participants were female that is about  $\frac{3}{4}$  of total sample. Hospital to hospital variation was non-significant in positive attitudes while in negative it was highly significant ( $p < 0.001$ ). On applying post hoc Tukey's test for the inter hospital variations, significant variation was observed between Altamash Hospital (Private) and Civil (Public) ( $< 0.001$ ) and that of JPMC (Public) was also significant ( $p = 0.027$ ). Other than Altamash only significant variation was reported for Civil (Public) and Baqai (Private) hospital with a p-value of 0.016. Weekly working hours had no significant role in positive attitudes in both Public and Private sector hospitals while in negative attitude it was significant in Public sector ( $p = 0.008$ )

**Conclusion:** It can be concluded that the house officers of Public sectors are suffering from high levels of stress, as compared to that of Private sector, but are more confident in making decisions at the workplace. It is important that concern authorities should take action to reduce working

hours and emergency calls so that we can control chronic stress which is a risk factor towards depression.

**Title: Comparison of knowledge scores of medical students in Annual and Modular curriculum: Study findings from Karachi, Pakistan**

**Author:** Dr Saher Uneeb, Dr Saima Zainab, Dr Rafiq Soomro, Dr Aneeta Khoso

**Objective:** To compare the knowledge retention of basic medical subjects among Annual and Semester undergraduate medical students.

**Methods:** A cross sectional survey was conducted on the 4<sup>th</sup> year MBBS students of Annual and Semester systems of Liaquat National Medical College. Sample size was calculated using Open-Epi software. There were a total of 82 students, 41 in each group. Simple random sampling technique was applied. The data was collected using a questionnaire which comprised of demography of students and multiple choice questions from the subjects of Basic medical sciences. Data was analyzed using SPSS version 21.

**Results:** For individual subject knowledge scores of Basic Medical sciences, the students in modular system retained significantly better knowledge of Anatomy as compared to annual system students. While the annual system students retained higher knowledge for the subjects of Community Medicine and Pharmacology. There was no significant difference of knowledge scores among the groups for the subjects of Physiology and Biochemistry.

The overall mean knowledge score of annual system students was 12.98 (SD=2.92) and semester system students was 13.10 (SD= 3.03). There was no significant difference observed in overall mean knowledge score among the groups (p-value = 0.85).

**Conclusions:** Students in the annual system scored higher in Pharmacology and Community Medicine. This highlights the need to address the issues of time allocation and implementation strategies for the subjects in the new system. There was no difference between overall knowledge scores in each group, hence it cannot be concluded that one system is superior to the other.

## **Title: Do Psychostimulants impact academic grades? A cross-sectional survey on Medical students of Karachi, Pakistan**

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Authors: Noor-E-Sabah. M. Saleem, Dr. Aneeta Khoso, Dr. Saima Zainab

**Background:** Medical studies go students through five years of intense study. To cope with such pressures, students have been found to be using psychostimulants. This study aimed to determine the prevalence of use of psychostimulants among medical students in a private medical college in Karachi, Pakistan, and to assess the association of intake of psychostimulants and other independent variables with the examination grades of the students.

**Methods:** A cross-sectional survey was conducted employing 299 Medical students who were provided with a semi-structured, self-administered questionnaire.

**Results:** Around 57.5% used psychostimulants, mostly for duration of 1-5 years. Caffeine was the most commonly used psychostimulants, followed by nicotine. Most of them used psychostimulants to stay alert and aroused during their exams. Students studying in 3<sup>rd</sup> year MBBS were using psychostimulants more often compared to other years. Increase in the student's age and being a female increased the marks of the students, with each year increase of year of education, there was a decrease in student's marks.

**Conclusion:** This study suggests the interplay of factors other than psychostimulants in the academic grades of medical students. As students grow older, their grades decrease, being a female increases marks more compared to being a male student.

**Title: ASSOCIATION OF DEPRESSION, ANXIETY AND STRESS IN STUDENTS STUDYING IN MODULAR, SEMESTER AND ANNUAL EXAMINATION SYSTEM**

**Author:** Dr. Akhtar Ali

**Objectives:** The objectives of our study were to find out the association of stress with different examination systems and to identify the stress causing and coping factors used by medical students of 1<sup>st</sup>, 2<sup>nd</sup> and 3<sup>rd</sup> year studying in colleges having different examination system in the province of Sindh Pakistan.

**METHODOLOGY:** Three medical colleges in the province of Sindh having different examination systems i.e. modular, semester and annual were selected. To assess depression, anxiety and stress among study population, **DASS scale** was used. To identify the stress causing and coping factors in the students **Likert scale** based proforma with 19 factors were given to the selected participants

**Results:** There was no significant association of examination system with depression, anxiety and stress, however various stress causing and coping factors were found significant in altering medical student's life.

**CONCLUSION:**

There is pertinent need to take initiatives to overcome the situation to improve the academic grades of medical students not only for their selves but for nation as they are going to serve the nation in the next step.

**Title: Violence and Vulgarity in Children’s media: A content analysis of live TV programs (ViCTiM study)**

**Author:** Dr. S. M. Ashraf Jahangeer, Bilal, Bushra, Faryal, Hafsa, Hajra, Maaz, Manahil, Nighat

**Introduction:** Children TV content has never been studied for their appropriateness to age. Children spend substantial amount of their wake time on electronic media, mostly TV.

**Objectives:** This study aimed to quantify the depiction of violence and vulgarity in the children TV programs

**Methodology:** The study is based on over one hundred hours of live content analysis of TV programs for children. the identified television channels broadcast program round the clock and in fact there is no restricted broadcast time for any of the selected channel and hence assuming that most of the children watch television at home after the school hours we sampled the children prime time from 4-9 pm in week days and 9-11 am and 5-9 pm on the weekends. The data was collected by 7 researchers for one week who were trained by to record such contents using structured tally sheets.

**Results:** During the over 6000 minutes of TV content analysis 5800 depictions of violence and vulgarity were recorded in a week time period. According to our estimates a child in Karachi during his childhood (3-16 years) is being exposed to over 500, 000 depictions of violent or indecent depictions through their TV programs alone. Although we collected data during the children prime time but according to our observations there is virtually no time specification for children TV programs and it runs round the clock. Late hours children TV programs are showing more violent and indecent depictions than early evening programs.

**Conclusion:** Children TV programs are not properly screened by the regulatory authorities. This pioneer work highlights the urgent need of regulating inappropriate content on children TV programs

**Title: Prevalence of emotional and physical intimate partner violence among married women in Pakistan**

**Authors:** Meesha Iqbal<sup>1</sup>, Zafar Fatmi<sup>1</sup>

**Objectives:** We aimed to determine standardized representative national and subnational estimates of intimate partner violence (IPV) in Pakistan.

**Methods:** We analysed 3,666 ever-married women (15-49 years), from Pakistan Demographic and Health Survey (2012-2013), to determine the prevalence of emotional and physical violence among women in Pakistan and its provinces. The Conflicts Tactics Scale was used to ascertain violence. We examined the socioeconomic and demographic characteristics, which have the potential to increase the risk of emotional and physical violence. Weighted-multivariate logistic regression was carried out to determine the association of IPV with the potential risk factors using Stata version 13.0.

**Results:** The prevalence of emotional and physical violence was, respectively, 36.4% (95% CI: 33.8, 39.1]) and 18.4% (95% CI: [16.4, 20.6]) in Pakistan. The frequency of emotional and physical violence was highest in Khyber Pakhtunkhwa (54.9% and 36.4%) followed by Balochistan (50.0% and 25.5%), Punjab (35.9% and 15.8%), and Sindh (24.7% and 13.3%) provinces. The prevalence of any form of violence was higher in rural than in urban areas (45.2% vs. 30.6%). Higher age of the husband and lower socioeconomic status were associated with emotional violence in KPK. Furthermore, alcohol intake by husbands and lower educational status of women or their husbands were associated with greater risk of violence across the provinces.

**Conclusion:** IPV is high in Pakistan and large variations exist in its prevalence across the provinces. Further studies are needed to explore the underlying factors of violence and reasons for variation across different regions in the country for contextual interventions.



**Title: EXPLORING PRISONERS MENTAL HEALTH PROBLEMS AND NEEDS**

**Authors:** Syeda Hajra Ali, Komal Fareed, Areej Saeed and Warda

**Introduction:** 311 million mental disorders are reported annually around the globe and these psychiatric disorders are markedly elevated within the prison population. Literature review is suggestive of prisoners overrepresentation of mental health problems that develop during imprisonment due to various prison factors.

**Objective/s:** This study aimed to explore how the prison environment influences the mental health of the prisoners and to understand their mental health needs.

**Method:** Qualitative study design was used to conduct semi-structured interviews from convicted adult prisoners at Central Prison Karachi, Pakistan. Framework analysis approach was used to acquire data relating to factors that influence mental health of prisoners.

**Result:** Prisoners perceived the prison environment to have a negative impact on their mental health overall. Family disconnection, loss of autonomy, overcrowding, stigma and abandonment contributed to mental instability and psychological disturbances, leading to intense feelings of anger, frustration and anxiety. Conversely, prison was contemplated as a place of respite which offered basic necessities, medical health facilities and affordable structure. Yet psychiatric availability remains a dilemma. Prisoners look forward to having counselling sessions, availability of sports and quality education for their mental wellbeing.

**Conclusion:** Little is known about how prison affects mental health of prisoners. Greater consideration should be given in investigating how the prison setup may exacerbate mental distress among this population. The information gathered in this study can be used by the prison policy makers and primary health workers, who seek to improve mental health of prisoners.



## **Title: Depression among Adolescents; A cross-sectional study from Karachi, Pakistan**

**Authors:** Faryal Nawab, Nighat Nisar

**Introduction:** Depression among adolescents is increasing worldwide and recognized as important public health problem. Globally, about 11% of the adolescents develop major Depression. In Pakistan the prevalence of depression among adolescents is 23%. There is a need to conduct research on adolescent depression and factors leading to depression among school adolescents so that prevention and control measures can be applied earlier in school settings to protect our next generation.

**Objectives:** To determine the frequency and factors leading to depression among adolescents attending schools of Karachi, Pakistan.

**Methodology:** This cross-sectional study was conducted in public and private schools of Karachi. Three hundred and fifty-nine students of grade 8,9,10 from one private and two government schools were randomly selected after taking ethical committee approval from August 2015 to February 2016. Participants were interviewed through semi-structured pretested questionnaire. The Patient Health Questionnaire (PHQ-9) scale was used for Diagnosing depression. Logistic Regression analysis was performed to determine the association of risk factors with Depression.

**Results:** Out of 359 adolescents, About 14 % (n=53) students participants were found depressed , 7.0% were obese, 29% mothers of students were working women, 33% parents quarrel at home and 5.3% had positive family history of depression. In Multivariate analysis obesity was found to be significantly associated with Depression (AOR 4.57, 95% C.I. 1.692-13.772).

**Conclusion:** The frequency of depression among adolescents studying in school was found high. The factors identified for depression were obesity among students, working mothers and parents quarrelling at home.

**Title: Experiences Of Mothers Of Children With Intellectual Disability: A Qualitative Study**

**Authors: Javeria Imran, Faiqa Farrukh , Rabihah Usmani, Syeda Rameen, Dr Farhat Jaffri**

**BACKGROUND:** The health and wellbeing of mothers raising a child with a disability, has become a public health priority and sufficient information of their experiences is required to produce effective interventions.

**OBJECTIVE:** This study was conducted to explore experiences of mothers having intellectually disabled (ID) children, to understand their beliefs, views, feelings, specific challenges and lived experiences of raising a child with ID.

**METHOD:** For this study qualitative interviews were done till the point of saturation with mothers of age 18-55 years and having only one ID child. Before interviews written informed consents were taken from all mothers for 30-45 minutes qualitative interview session. Interviews were taken in local language of participants. The obtained results were analyzed by thematic framework analysis which comprises of 5 steps. 1) Familiarization, 2) identifying a thematic framework, 3) indexing, 4) charting and 5) mapping and interpretation

**RESULTS:** The reported result of this study has shown early signs noticed by mothers, their reaction to diagnosis, society's attitude towards mothers and their concerns for their child's future and wellbeing. It highlighted effects on mother's mental, physical, social, marital and professional life due to excessive work, financial problems and lack of support from family and society

**CONCLUSION:** Above mentioned factors conclude that mothers sufferings are due to society's attitude and lack of health, educational, financial and moral support. This calls for development of meaningful and effective interventions, services and support for mothers suffering from this stigmatizing condition.

## **Title: ORAL HEALTH STATUS OF SPEECH AND HEARING-IMPAIRED CHILDREN**

**Author/s :** Adina Aijaz, Midhat Ahmed, Syeda Farwa Abbas, Marium Khan

**Introduction:** The main reasons of the burden of poor oral health in this group includes lack of routine dental check-ups mainly because of poor access to dental care, lack of awareness and knowledge among parents, communication gap being major glitches experienced in the treatment situation and subjects with widely differing ages or with different handicapping situations.

**Objective/s:** This study is aimed to evaluate the oral health status of this group of population and identify their treatment needs. The study also educated and enhanced awareness regarding healthy oral practices of students and their parents or care takers.

**Method:** A cross sectional survey was conducted among 150 children. The children having systemic diseases, under medication or uncooperative and whose parents/caretakers do not provide consent for oral examination were excluded out of the study. 24 subjects were aged 5–8 years, 46 were aged 9–12 years, 55 were 13–18 years, and 25 were aged  $\geq 19$ –22 years. The subjects were examined using a mouth mirror the school teachers were asked to assist during communication. The parameters such as oral hygiene status (oral hygiene index simplified [OHI-S]), decayed, missing, and filled teeth/surface (DMFT/S) index, periodontal status using CPI, dentition status and treatment needs were assessed.

**Result:** Adults had a greater number of decayed teeth. The largest component of DMFT/dmft was the D component, with a mean of  $2.71 \pm 1.92$ . The M and F had very low mean values of  $0.24 \pm 0.83$  and  $0.11 \pm 0.95$ , respectively. the distribution of OHI S and Silness and Loe plaque index (PI). The Calculus Index Simplified (CI S) and OHI S index showed a significant difference between males and females of the study population ( $P < 0.05$ , S). the treatment needs for the various age groups as per the WHO criteria. Of 150 subjects examined, one surface filling was needed by 72.6% subjects, while 21.3% needed two surface fillings, 15.3% needed pit and fissure sealant application, 10% needed pulp care, and 6% needed tooth extraction

**Conclusion:** The present findings exhibited an increased caries prevalence, poor oral hygiene, increased gum problems, and extensive unmet needs for dental treatment indicating that these children were neglected, and less treatment priority is offered to these children. In fact, this is a

highly alarming situation which needs immediate attention. Hence, it is recommended that intervention program is much needed for these groups of subjects involving voluntary health agencies. Effort must be taken to encourage and promote the parents of these children to improve their oral health.

**Title: Frequency of somatic complains among patients with mental illness**

**Authors:** Anum Haider, Usama Asad

**Background:** It is established that physical and mental disorders share common risk factors, among those the unhealthy lifestyle is most common. In order to achieve complete health, it is crucial to monitor both physical and mental health. Mental health problem is the most deserving area to work with because physical health issues are often neglected or mismanaged. This study intends to unveil the frequency of somatic (physical) health complains among patients with mental illness.

**Methodology:** In this cross-sectional study total 85 patients were enrolled from Psychiatry Out Patient Department, Civil Hospital Karachi, during 16<sup>th</sup> October to 13<sup>th</sup> November 2015. Patients were asked about the demographic details and existing somatic complaints from the pre-formulated questionnaire while data was analyzed on SPSS.

**Results:** 32.9% of the subjects were diagnosed with particular medical comorbidity. However, among undiagnosed somatic (physical) complains; endocrinological complaints were more frequent i.e. 16.7% followed by 14.2% Gastrointestinal (GIT) and 13.68% Central Nervous System (CNS).

**Conclusion:** The current study supported the fact that there is a high frequency of somatic complaints in patients with mental illness. Physical monitoring is crucial for early identification and better prognosis.

## **Title: Management of PBSI cases and their outcomes among Young Infants: Data from PPHI Sindh**

**Authors:** Asher Feroze, Zamir Suhag, A. Sattar Chandio, Owais Raza

**Introduction:** According to WHO infections are responsible for about one fifth of the world's i.e. 2.7 million neonates die annually. Whereas in South Asia and Sub-Saharan Africa about one quarter of all neonates deaths are due to infections. Possible serious bacterial infections (PSBI) such as fast breathing, critical illness and severe clinical illness are the significant causes of morbidity and mortality in young infants. The purpose is to see the pattern of management of PSBI in young infants (0-59 days) where referral is not possible in primary health care facilities (PHCF) of the four region in Sindh province.

**Objectives:** To see the pattern and management of PSBI Cases among young infants (0-59 days) from 304 PPHI's primary health care facilities (PHCF) of four region in Sindh.

**Methods:** Total 19,385 young infants related to PSBI were registered in the from July 2017 to December 2018 in 304 PHCF in four region (Hyderabad, Larkana, Sukkur and Mirpurkhas) of Sindh. The case report form (CRF) was finalized after consultation with the department of pediatrics, Aga khan university. CRF includes details of associated diagnosis, history, investigations, procedures with current diagnosis and details of medicine up to eight days follow-ups.

**Results:** Young infants brought with PSBI were 11.9% (19,385) who visited different PPHI health facilities. Of these we have identified 19.4% were critical illness (CI), 20.5% were severe clinical illness (SCI) whereas 22.1% and 33.2% due to fast breathing (FB) among young infants 0-6 and 7-59 days respectively. Region wise, Sukkur and Hyderabad have higher proportion of fast breathing among young infants i.e. 64.9% and 63.4% respectively while Larkana and Mirpurkhas have almost same proportion that is 44.5% and 43.7% respectively. Similarly, young infants who brought with having severe clinical illness region Sukkur had less proportion i.e. 14% as compare to other three region ranges between 22 - 25% whereas patients reported critical illness 14.4% reported in Hyderabad region 21.2% reported in Sukkur region whereas 30.2% and 32. %% reported in Larkana and Mirpuskhas region respectively. Among identified PSBI cases 36.8% who refused for referral have been successfully treated with an outpatient management as



per PSBI guidelines. While 10% lost to follow up during treatment and only 2% reported death during treatment for critical illness. However, they must have accepted the referral but unfortunately family refused.

**Conclusion:** Majority of the PSBI identified cases have been treated successfully across all PPHI Health facilities in Sindh. About more than 10% young infants who suspected with PSBI do not continue their follow up visits till day eight. Appropriate Implementation of PSBI guideline increases coverage and potentially contribute to reduction in neonatal mortality, furthermore it is also evident that this intervention does not require major investment.

**Title: Irrational use of conventional and traditional medicines during pregnancy-A risk of fetal and maternal well being**

**Author: Bushra Hina and Fokeha Sheikh**

Pregnancy is an especial period in which various physiological, biochemical, and psychological changes occur in the body. The use of drugs in this duration should be limited because a number of drugs have been proven to cross the placenta and produce teratogenic effects on the growing fetus. Moreover physiological changes during gestation may affect the pharmacokinetics of the drugs. These medications may be conventional /allopathic/modern in origin and are either administered as prescription based medicines or taken as self medication. Apart from conventional system of medicines, traditional system of medicines is also present in Pakistan that is also known as complementary and alternative system of medicines (CAM) all over the world. Traditional medicinal practice involves the use of crude drugs/medicinal plants and related herbal medicinal products (HMPs), dietary supplements and nutraceuticals. Just like conventional medicines drugs of natural origin are also taken as self medication or by following proper prescriptions of traditional healers. These natural origin drugs are considered safe but the idea is dangerously false because these contain active phytochemical constituents that may produce harm to the pregnant ladies and their growing fetus. On general note pharmaceutical products of conventional origin that produce teratogenic effects are well established and continued research is going on focusing the harmful effects of drugs on fetus, but talking about the traditional medicines very less attention is paid towards this issue. A number of herbal drugs are taken as home remedies, over the counter available herbal formulations or prescribed herbs and related products. It is recommended that teratogenic effects of such medicines should also be identified. This review focus on different types of medications that have been taken during gestation and their effects on the developing fetus.

## **Title: Depression among Medical students of Karachi**

**Author/s :** Ujalla Kumari, Nakeeta Devnani, Joti Devnani, Muhammad Fazal Hussain Qureshi, Fahad Khalid Soleja, **Danish Mohammad**, Zain Jawed, Ayesha Haroon, Sara Sadiq.

**Introduction:** Depression is a mood disorder characterized by loss of interest in daily activity, feeling of hopelessness and helplessness, decreased appetite and anger or irritability. A high prevalence of anxiety and depression 43.89% was found amongst medical students of Pakistan, risk factors which leads to depression includes, academic demands, daily habits, sleeping hours etc

**Objective/s:** The objective of our study is to find out the prevalence and causes of depression in population of Karachi and its association with age, gender, marital status, life style habits and coping mechanisms among students of medical colleges of Karachi.

**Method:** A descriptive cross-sectional study was conducted using a self-designed, self-explanatory questionnaire which include Public Health Questionnaire (PHQ-9) for identification of depression. Study was conducted in 6 months i.e. April 2018 to September 2018. Students from 3 private medical colleges and 3 government medical Colleges were included in study. Students from all years (first, second, third, fourth and fifth) of MBBS were included. Students of BDS, Pharmacy, and Physiotherapy etc. were excluded to avoid bias. The data was analysed by using Statistical Package for Social Sciences (SPSS-22).

**Result:** About 230 questionnaire were distributed, out of which 200 were fully filled. Response rate was 87%. The coefficient of reliability was 0.839 determined using Cronbach alpha. 41% of the participants were suffering from mild depression. The mean age of participants was 21.43 with standard deviation of 1.803. Majority of participant about 2/3 were female and marital status of 3/4<sup>th</sup> of participants was single which has a significant relationship with depression scores ( $p=0.018$ ). Positive family history of depression also showed a significant relationship with depression ( $p=0.024$ ). Students from each year were equally included in the study. Depression scores were compared with lifestyle habits of participants, including sleeping hours, exercise, recent trauma and multiple coping mechanisms, showed significant relation with depression scores ( $p\text{-value} \leq 0.01$ ). Symptoms of depression were also compared with depression score which showed strong correlation as  $p\text{-values}$  were highly significant ( $p\text{-value} \leq 0.01$ ).

**Conclusion:** It was concluded that lifestyle habits, sleeping, physical activities, recent trauma and coping mechanism showed positive association with depression among medical students of Karachi.



**Title: Assessment of Knowledge Attitude & Practice regarding Self-medication in persons visiting the pharmacies of Gulistan-e-Johar Karachi**

**Author/s :** Devidas, Syed Imtiaz Ahamed Jafri, Syed Muhammad Zulfqar Hyder Naqvi, Gunesh Kumar

**Introduction:** A desire to take medicine may be the most outstanding feature which recognizes human from other creature, this desire in many case may play great destruction when an individual begins taking drugs on his own.

**Objective/s:** To determine the knowledge, attitude and practice regarding use of self-medications in persons visiting the pharmacies of Gulistan-e-johar Block-13 Karachi.

**Method:** A KAP study was conducted in four pharmacies of Gulistan-e-joahar Block-13 Karachi. Total 395 participants were interviewed that met the inclusion criteria. Their written consent was taken. The data were collected by the principal investigator through a structured questionnaire specifically designed for the study. The duration of study was 6 months.

**Result:** Study results showed that only 23.5% of them had adequate knowledge, 72.9% of them had adequate attitude, after analyzing results statistically it has been observed that there is an association between demographic variables education level ( $p < .001$ ) and type of family system ( $p < .003$ ) with knowledge. While determining association between demographic factors and adequateness of attitude, it was revealed that education level ( $p = 0.001$ ) and monthly income ( $p = 0.001$ ) had strong association with adequateness of attitude. Meanwhile, other demographic variables didn't have strong association with demographic variables.

**Conclusion:** Significant association was found between demographic variables, education level and type of family system with adequateness of knowledge. Similarly, significant association was found between demographic variables, education level and monthly income with adequateness of attitude. In this connection serious efforts from all the stake holders should be carried out, mainly by pharmaceuticals companies, Public health specialist and other health care provider agencies.



**Title: Crimen Congo Hemorrhagic Fever Case Investigation In Tribal District Khyber (Merged Areas Fata) Pakistan August, 2018**

**Authors:** Dr Arooj Manzoor FELTP-11 COHORT

**Background:** Crimean Congo Hemorrhagic is a zoonotic vector born disease fatal for humans. The causative agent belongs to Nairovirus, Bunyaviridae family. Virus is susceptible to drug Ribavirin and to some disinfectants such as 1% hypochlorite and 2% glutarate .The virus is stable in blood up to 10 days at 40C. The disease is a major public health problem and considered as an emerging disease. . In Pakistan the first CCHF case was documented in 1976.

**Methodology:** On August 31<sup>st</sup> 2018 CCHF case was reported by NIH (National Institute of Health) Islamabad to Disease Surveillance and Reporting Unit (DSRU) Fata secretariat .The outbreak was associated to the Khyber agency Landikotal village Pirokhel. .A team from DSRU that includes TSO and Fellows Feltp visited the affected area. According to case definition the cases were searched through active case finding and a surveillance system was established in the affected area. Demographic data and information on medical history, exposure history, treatment, contacts and travel history of case and contacts was collected.

**Results:** It was found through history that the second case got infected through direct contact and the date of onset of both cases were in one or two day span and both cases expired. Both cases are laboratory confirmed for CCHF, one from NIH and other from Agha khan Hospital Karachi.

**Conclusion:** The CCHF outbreak started on 31<sup>st</sup> August, 2018 soon after Eid-ul-Azha. The index case had a history of close contact with animals and the second case had a direct blood contact with the index case. Due to timely response from health department the outbreak was controlled and did not spread to other areas of district.



## **Title: MAKING HOME SAFE FOR CHILDREN: LESSONS LEARNT FROM BURN INJURIES**

**Author: Inayat Ullah**

**Objective:** To find out mechanism, place and types of burn, body surface area involved, first aid provided/treatment given elsewhere, mode of referral and outcome in children with burn injuries.

**Methods:** This was a retrospective study in which records of patients with burn injuries managed from January 2018 to January 2019 were reviewed. All patients  $\leq 12$  years of age were included. Information regarding age, sex, mechanism, place and types of burn, total body surface area (TBSA) involved, depth (superficial or deep), were recorded. In all the patients, the standard ATLS protocol was applied. All the burn wounds were thoroughly washed with normal saline under sedation, and open dressing done. Superficial burns were left for secondary healing and deep burns were grafted. Parents were counseled and information regarding prevention given.

**Results:** Two hundred and six patients (Male= 111, female = 95) were managed. Scalds were 130 (63%), flame burn 62 (30%), electrical burn 10 (5%) and blast injury burn 5 (2%). Among the scalds, boiling water victims were 70 (53%), hot tea 27(20%) and boiling milk burns 17(13%). Majority of accidents occurred in domestic settings, including the kitchen (70%) and bathroom (25%) due hot water. Fifty percent 50% of patients were managed initially in local area clinics or hospitals with local application of dermazine and polymyxin. Seventy-two percent patients had superficial to deep second-degree burns; 20.5% with third-degree burns. Of the total 34 (16%) patients died due to sepsis and multi organ failure.

**Conclusion:** This study identified specific patterns and risk factors of pediatric burns. Home was the place where majority of accidents took place. Preventive measures adopted at home could have prevented this unfortunate incidents with high mortality. Making homes safe for children should be the priority and awareness must be created in this context.

**Title: Frequency of Developmental Defects of Enamel and Dentin in patients coming to Tertiary Care Clinic of Karachi**

**Author/s :** Dr.Sanaa Ahmed, Dr.Maria Naz, Dr.Batool Bibi

**Introduction:** Developmental defects of Enamel and Dentine includes Amelogenesis Imperfecta, Dentinogenesis Imperfecta, Fluorosis and Molar incisor hypo mineralization. The cause can be simple as infectious diseases such as measles to as complex as mutation in ENAM, AMELX, KLKS, MMP20, AMELOTIN and FAM83H genes. Amelogenesis imperfecta and Dentinogenesis Imperfecta are autosomal dominant gene defects which is transferred from one family member to the other. The basic objective of treatment in patients diagnosed with these defects is early diagnosis and treatment plan to restore function and avoid tooth loss.

**Objective/s:**

1. Find the prevalence of Developmental Disorders of Enamel and Dentin.
2. Compare it with prevalence in west.

**Method:** Retrospective analysis of data of 10125 patients coming to oral medicine/diagnosis from November 2016 to November 2017 was done. Sampling technique was convenient. Patients were diagnosed on basis of clinical criteria.13 cases were included in the study. Statistical analysis was done through spss17.

**Result:** Analysis of data of 10125 patients was done out of which 13 were diagnosed with developmental disorders of enamel and dentine.10 cases of Amelogenesis imperfecta, fluorosis 2 and 1 case of Dentinogenesis Imperfecta.

**Conclusion:** The aim of the study was to compare our statistics with that of the west. After comparison the rate of Amelogenesis imperfecta was bit high as compared to USA, Sweden and Israel while the Dentinogenesis Imperfecta is less prevalent in Pakistan as compared to USA.

**Title: RACIAL DISPARITIES IN PATIENTS WITH ORAL CAVITY SQUAMOUS CELL CANCERS PRESENTING IN A TERTIARY CARE HOSPITAL IN KARACHI, PAKISTAN**

**Author/s :** Beenish Nisar Ahmed, Muhammad Waqas Nisar Ahmed, Mehwish Nisar

**Introduction:** Oral cavity squamous cell cancer is the third most commonly occurring malignancy among head and neck cancers worldwide. Different factors contribute to the development of this disease including cultural habits like chewing betel leaf with betel nuts, using addictive substances like manpuri, gutka, niswar, smoking, which are strongly associated with lifestyles practiced by different races. Therefore, the disease outcome may be the result of several factors identified as cultural influences and socioeconomic circumstances of people belonging to different races.

**Objective/s:** To find out the disease outcome, result of several factors identified as cultural influences and socioeconomic circumstances of people belonging to different races.

**Method:** This prospective study was conducted at Jinnah Postgraduate Medical Center (one of the major and the biggest tertiary care centers of Karachi, Pakistan). Samples of 208 proven cases of oral cavity squamous cell cancers were collected from the department of E.N.T. Surgery and Otorhinolaryngology. Oral cavity squamous cell cancers were matched on clinical characteristics, age, site of lesion, stage, race, socioeconomic status, and addiction.

**Result:** Mean age of the patients was  $45 \pm 10.26$  years ranging from 25 to 65 years. Among the patients who presented with oral cavity squamous cell cancer at JPMC, Indo-Aryan population was found to have the highest incidence. Majority of patients presented in stage 3 involving oral mucosal non-healing ulcers. Smoking and betel nut with betel leaf chewing were common addictions. Patients presented in third and fifth decades of life and were socioeconomically poor.

**Conclusion:**

Differences in disease outcome may be attributed to a combination of racial factors, tumor stages, socioeconomic status, and access to health care.

**Title: Correlation between Knowledge of Hand Hygiene in Relation to Health Care Associated Infections and Hand Decontamination Practices of Medical Students of Karachi, Pakistan**

**Author:** Syeda Ghadeer Zehra<sup>1</sup>, Nazish Jaffar<sup>2</sup>, Syeda Aqeela Zehra<sup>3</sup> and Humera Shahzad<sup>4</sup>.

**Background:** Healthcare-associated infections (HCAIs) contribute significantly to infectious disease burden worldwide. Contaminated hands of health care workers are the main source for transmission of HCAIs. Hand hygiene (HH) is a persuasive method to control HCAIs.

**Objectives:** The aim of the present study was to determine the knowledge and attitude of HH among preclinical and clinical MBBS students and to compare the knowledge of HH and hand decontamination practices of clinical medical students.

**Material and methods:** A cross sectional, questionnaire-based study was conducted in SMC, JSMU during the period of June to October 2018. A total of 316 MBBS students were included in the study. Data was analyzed by SPSS version 22.

**Results:** Approximately 249 (78.8%) students reported that hands of health care providers are source of HCAIs. Nearly 293 (92.7%) students declared that hand decontamination and gloving is necessary before any bedside procedure. Current study revealed poor compliance of hand decontamination practices among clinical medical students. Only 61 (38.6%) students routinely performed HH (P= 0.007). Chief restricting factor in performance of HH was unavailability of hand washing equipments as reported by 122(72.2%) clinical students.

**Conclusion:** Although majority of students were aware of the significance of HH practices, however, only 38.6% students routinely performed HH. The disparity between knowledge and practice of students was chiefly due to the unavailability of hand washing equipment in public sector hospitals. There is a need to improve HH facilities. Furthermore, knowledge of HH and hand decontamination practices of students requires improvement.

**Title: Association of violent electronic /social media content with level of aggression of Adolescence in urban slums of Karachi, Pakistan**

**Author/s:** Dr. Ayesha Tahir, Prof. Dr. Lubna Ansari Baig, Dr. Zaeema Ahmer

**Introduction:** The exposure to violent media content has increased all over the world. This has affected the behavior of adolescents by increasing the level of aggression. Therefore, scientists are now emphasizing to explore the effect of media violence on adolescence. The aim of this study therefore, was to assess the association between use of violent electronic media and level of aggression among the adolescents living in an urban slum of Karachi.

**Objective/s:** To identify the level of aggression among adolescents in an urban slum of Karachi.

To determine the usage of violent content on social/electronic media among adolescents of an urban slum in Karachi.

**Method::** This was a quantitative cross sectional study conducted in urban slum of Karachi.

**Result:** Total participants in this study were 422, out of them 202 were males and 220 were females. The usage of television was significantly high (p-value=0.6) in the younger age group (9-14 Years=n=208) There was a significant difference in the usage of android cell phones among different age groups, gender and education status. The effect of watching violent content on the participants was varied. Out of 422 respondents 153(36.3%) felt stressed, 130(30.8%) cried and 115(27.3%) had no feelings for the violent content. Only 24(5.7%) felt aggressive out of 422 respondents.

**Conclusion:** Results showed that most of the respondents were stressed, while a significant population had no feelings and only few of them reported aggression related to watching violent content on electronic media.

**Title: STRAY DOG THREATS: AN ALERT FOR POLICY MAKERS**

**Author: Khair Jan**

**Objective:** To find out the number of children brought with stray dog bites, the extent of injuries, treatment provided and outcome.

**METHODS:** This was the retrospective review of records of children bitten by the stray dogs managed in NICH from January 2016 to November 2018. Data regarding the age and gender of the patient along with the information of incident and dog status (stray) were noted. Extent of injury, vaccination, treatment provided (including surgery), post-operative status, hospital stay and cosmetic results were noted.

**RESULTS:** A total of 22 children with median age 4 years were received in ER. There were sixteen males and six females. All children were bitten by stray dogs and were brought within hours of injury. Copious irrigation and intralesional administration of rabies immunoglobulin (RIG) were done. Seventeen children had injuries to head, neck and face and five had injuries to other parts of body. Fifteen patients had wounds deep to the muscles with one presented with exposed parotid gland and two with avulsed skin flaps on the occipital region. Five patients had superficial wounds involving skin and subcutaneous fat. All wounds closed primarily, except scalp wound which was left for secondary closure / graft. No wound infection occurred in primarily closed wounds. All patient recovered with good cosmetic outcome.

**CONCLUSION:** Presence of stray dogs is an important public health issue. Dog population management strategy is to be defined as policy matter. Stray dog bite injuries are difficult to manage and still a burden on health services. Headneck and face were the most common region to be affected. Primary repair was possible in majority of cases with good cosmetic.

## **Title: Anorexia Nervosa: Factors and Long-term Health Consequences**

**Author/s:** Dr. Kiran Rafiq<sup>1</sup>, Dr. Shagufta Nesar<sup>2</sup>, Sheeraz Ali<sup>1</sup>, Dr. Tabinda Zarreen<sup>1</sup>

**Introduction:** Anorexia nervosa is a psychological disorder regarding eating habits that affects females far more often than males and is most commonly observed in adolescent females. The exact cause of anorexia has not been definitively established, but thoughts about self-image, family dynamics, community pressures to some extent genetic factors can be accountable for the disorder. According to a report it affects about one percent of adolescent girls in America. A famous model Allegra-Versace was victimized by the same disorder and developed various complications

**Objective/s:** Under the condition, people be likely to illustrate neurotic behaviors and may become infatuated with food and that lead to extreme dieting and weight loss and to the stage of malnutrition. Actually characterized by anxiety, especially is experienced during eating and poor self-image in the mirror. The present study is aimed to quantify the percentage of population suffering from the disorder and to correlate the age and gender with the issue.

**Method:** In the current study was conducted among teen aged, undergraduate and adults. Male and female read a ten point vignette describing the conditions that were further quantify to understand the relationship between food anxiety, eating disorders, and related correlates as like co- morbid disorders, personality.

**Result:** One in each twelve participant was observed for experiencing food anxiety at high. They spend meal time with full concentration on their imaginary obesity, mistakes and mishaps consequently stress lowers their appetite.

**Conclusion:** The findings showed that psychological and personality disorder how of perfectionism correlates to anxiety during meals and emotional strain of being obese.

**Title: PREVALENCE OF DENTAL CARIES AND ORAL HYGIENE STATUS OF CHILDREN WITH DOWN'S SYNDROME AT UJALA SCHOOL KARACHI, PAKISTAN**

**Author/s:** Muhammad Nasir<sup>[1]</sup> Hifza Sheikh<sup>[2]</sup> Areeba Mahru Gul<sup>[3]</sup> Maliha Ghani<sup>[4]</sup>

**Introduction:** Down's syndrome represents the most common chromosomal abnormality associated with intellectual impairment. Clinically, it is characterized by generalized hypotonia, neurological changes, structural cardiopathy, respiratory problems, dental anomalies and Orofacial dysmorphism, therefore it requires special attention in the dental treatment of these patients.

In children with DS, manual dexterity difficulties may lead to oral hygiene problems which may result in accumulation of plaque and debris, hence favouring development of gingivitis.

**Objective/s:** To determine the prevalence of dental caries and oral hygiene status of children with Down's syndrome at Ujala school Karachi, Pakistan.

**Method:** This cross-sectional study, conducted in March 2018, included 106 children aged between 5-15 years of either gender. After taking informed consent, the subjects were examined. Dental caries were assessed by using DMFT index and Oral hygiene status was assessed by using Oral Hygiene Index - Simplified (OHI-S). The data was analysed by using SPSS version 23.

The inclusion criteria were: Cytogenetic diagnosis, adequate cooperation, informed consent from the children and parents. The exclusion criteria were: Detrimental systematic diseases, compound disability, extremely uncooperative children.

Ethical approval was obtained from the **Institute of Research Board, JSMU**. Clinical examination was carried by using artificial light, plane mouth mirror and examination instrument along with a structured questionnaire having demographic information.

**Result:** The study sample was consisted of 106 children with mean age of  $12.88 \pm 2.59$  years. Out of 106, 64 were males and 42 were females. Majority of the children had never visited the dentist (57.5%). About 59.4% of them brushed once daily, 28.3% of them brushed twice a day, 7.5% of them brushed after every meal and only 4.7% of them rarely brushed their teeth. The



overall **caries prevalence** in the study population was **51%** with an overall mean **DMFT score of 2.08 ( $\pm 2.97$ )**. Out of 106 DS children, majority had good oral hygiene status (48.1%), 46.2% had fair oral hygiene status and only 5.7% had poor oral hygiene status with overall mean **OHI-S score of 1.45 $\pm$ 1.01**.

**Conclusion:** A high prevalence of dental caries was observed among DS children. There is a high need for an epidemiological survey followed by the comprehensive dental care programs for children with down's syndrome, as well as efforts should be taken to encourage and promote parents of these children to improve their oral health.

**Title: Factors influencing on birth preparedness and complication readiness among women of child bearing age in Thatta district, Sindh**

**Authors: Ruquia Noor, Dr. Farhana Shahid**

**Background:** Birth preparedness and complication readiness (BPCR) is a comprehensive strategy to improve the use of skilled providers at time of child birth and key intervention to reduce maternal and neonatal mortality. However, its status and influencing factors have not been well studied at different levels in the study setting. Thus, this study was aimed to assess the status and factors influencing on BPCR among women of child bearing age in Thatta, District, Sindh.

**Methods:** A community based cross sectional survey was conducted among 770 selected women from November 2016 – January 2017. The data were collected by interviewer and supervised by principal investigator. Women were interviewed by using structured and semi-structured questionnaires and analyzed by SPSS version 23. Binary logistic regression model was used to identify the factors influencing on BPCR.

**Results:** The status of BPCR was very low. Out of 770 participants only 163 (21.2%) were well prepared and remained were not prepared for BPCR. A very small proportion of women knew about danger signs of pregnancy, labor & child birth and post-partum period. Among the factors influencing on BPCR, maternal education, socioeconomic status, ANC visits, place of delivery, and knowledge of danger signs during pregnancy and postpartum were found to be significant predictors of BPCR.

**Conclusion:** In conclusion, only a small 21.2% of participants were found to be prepared for BPCR. Among the study participants, the level of awareness regarding danger signs during pregnancy, labour and postpartum period was very poor. Community based education and quality of MNCH services may improve BPCR among women in Sindh.

**Title: Post vaccination pneumococcal colonization rates and immune status of children visiting EPI Centre of NICH.**

**Author/s:** Safia Bibi, Dua Mehfooz, Syed Furqan Hasan, Waquaruddin Ahmed

**Introduction:** Government of Pakistan introduced 10-valent pneumococcal vaccine in its routine immunization programs in April 2013. Prior to the introduction of vaccine baseline pneumococcal colonization rate and immune status of children ( $\leq 3$ -years of age) in our population was reported to be 31% and 23.3mg/l.

**Objective/s:** To determine the Pneumococcal colonization rate and immune status of children ( $< 3$  years of age) against vaccine serotypes after the introduction of Pneumococcal conjugate vaccine.

**Method:** A cross-sectional study was conducted at PHRC Research Centre, JPMC in collaboration with NICH Karachi for 1-year. Total 190 children ( $\leq 3$ -years of age) who received pneumococcal vaccine were recruited from EPI Centre of NICH. Demographic data and presence of any risk factors for pneumococcal colonization or immunity were recorded in proforma. Nasopharyngeal swabs and blood samples were collected, transported and processed for presence of pneumococcus according to WHO working group guidelines and to determine immune status of these children. Serotyping of pneumococcal isolates was done as per CDC guidelines. Chi-square test and student t-test were done to find out if there is any significant reduction in colonization rates and antibody titers in the pre and post vaccination era.

**Result:** Twenty one (11.9%) children were found to carry *S.pneumoniae* in their nasopharynx. Mean antibody titre against Pneumococcal capsular polysaccharide (anti-PCP) of children was 51.57 mg/L. Srogroup 6A/6B/6C/6D was most frequently isolated followed by serotypes 13F and 23F.

**Conclusion:** The study shows a significant drop in nasopharyngeal colonization rates and a rise in mean anti-PCP titre as compared to pre-vaccination data which indicates that vaccine has been successful in giving desirable results. However, clinical data showing desirable results in terms of lower pneumococcal infection rates can suggest actual benefit of the vaccine in our population.



**Title: Exploring Social determinants of Maternal and Perinatal Mortality Through Death Audit Form: preliminary results from PPHI Sindh's Audit Forms initiative to improve Maternal and child survival**

**Author/s** : Samina Bakhtawar and Dr. Zaib Dahar

**Introduction:** Maternal and Child Healthcare (MCH) is a major area of apprehension that is still being neglected especially in developing countries. According to PDHS 2013, Pakistan's Maternal Mortality Ratio is 276 per 10,000 live births and neonatal mortality is 42 per 1,000 live births respectively (PDHS 2017). Furthermore, still birth is also one of the core indicators of MCH domain which is 412 per 1,000 pregnancies in Pakistan<sup>1</sup>. Unfortunately, causes behind these mortalities are still underreported in Pakistan. Therefore, PPHI Sindh proposed routine maternal and neonatal death surveillance to identify causes.

**Objective/s:** To identify the causes of Maternal, Neonatal Mortalities and stillbirth by using death audit form.

**Method:** This cross-sectional retrospective data collected from November 2017 to December 2018 from health facilities (HFs) of 300 PPHI Sindh's HFs that provide health services 24/7 in 26 diversified districts of Sindh. These audit forms are administered by medical and paramedical staff to obtain information about maternal comorbid, pregnancy, delivery, postpartum and neonatal outcomes and details of death. This data is further verified by technical team of PPHI Sindh.

**Result:** The details of forms received are as follows:

1. 26 neonatal forms
2. 1,119 still birth forms
3. 27 maternal forms

Review of these forms highlights that major factors behind perinatal mortality were cord prolapse, asphyxia and preterm delivery. However, maternal mortalities were due to delay in seeking care, anemia, postpartum hemorrhage and lack of birth spacing. However, home deliveries, lack of antenatal care, lack of knowledge and cultural inhibitions were most common factors for both maternal and perinatal mortality.

**Conclusion:** Based on causes of these mortalities, PPHI Sindh promoted that the audit forms to be administered at other BHU and MCHC services, conducted community health sessions on antenatal care (ANC) and institutional deliveries, improvised its efforts to adapt evidence based standard practices that could reduce these maternal and perinatal mortalities.

**Title: Foot and mouth disease: The Study of Health and Economic Consequences**

**Authors:** Dr. Shagufta Nesar Dr. Kiran Rafiq, Sadia Khan, Sheikh Sami ullah

**Objective:** Cloven-hooved livestock is the main resource of transferring FMD disease to human beings. FMD virus belongs to genus Aphthovirus, family Picornaviridae. Although the disease was observed to spreading globally, it affected the intercontinental and domestic livestock trade. FMD is a highly contagious and economically calamitous viral disease and causes major hazards to the food security of the world. Karachi has the highest viral load of (FMD) in the country, because of commercial dairy farming being practiced on a large scale in unhygienic and risky conditions in the city. Laboratory workers may also contract the infection through traumatized skin, wound or mucous membrane. Fortunately, the virus did not affect vaccinated animals [1, 2, 3].

**Methodology:** Online data bases such as google and google scholar were used to search different articles related to FMD and articles from different newspaper e.g. Dawn News to search about the prevalence rate of FMD in Karachi, Pakistan and their transmission rate from animals to Humans.

**Result:** The prevalence rate of FMD is increasing year by year and the risk for transmission of disease to humans is also increased. In Karachi 150 outbreaks of the disease were recorded in 2014 and 954 outbreak cases were reported in 2019.

**Conclusion:** As a precautionary measure, to avoid visiting farms in FMD-affected areas and consuming unpasteurized milk, dairy or meat products from infected animals and use mask and gloves during handling of viruses in labs. Farmer's education related to Vaccination of animals is necessary.

**Title: HEAD AND NECK CANCER REPORT OF KARACHI 2013- A CROSS SECTIONAL SURVEY**

**Author/s :** Samreen Khowaja, Zubia Waqar, Hannah Emmanuel, Saira Karim

**Introduction:** Oral Cancers are the most commonly occurring cancers which accounts up to 20 % of mortality in the world. It is a multifarious disease which threatens the immune system of body.

**Objective/s:** This study was conducted to evaluate the frequency and proportion of Oral Cancer and its specifications on Gender.

**Method:** A cross sectional survey was conducted at Public tertiary care hospital of Karachi i.e. is Jinnah postgraduate Medical Centre from 2013-2015. A data was collected from the records of oncology department. All demographic variables with ethnicities and occupation of all eligible patients were noted. All eligible participants were included which comes under the eligibility criteria. We excluded participants who were not belong to the Sindh province and referred from different hospitals of Sindh.

**Result:** Mainly, Oral Cancer was reported by Pakistani males. Average age of cancer patients were  $50 \pm 7$ . Out of all reported patients only few had a positive family history. Cigarette and Poly ingredients i.e. Pan and Gutka were the common habits found in our setting. Buccal Cancer (38.49%) were the commonest cancer found between 2013- 2015.

**Conclusion:** Oral Cancers are the most prevalent and unlighted problem of health care in Pakistan.



**Title: Depression among working and non-working child rearing mothers**

**Author:** Dr. Nighat Mirza

**Objective:** The current investigation is meant to discover the depression among child rearing working and non-working mothers.

**Methods:** One hundred mothers, working (n=50) from a medical university of Karachi and non-working moms (n=50) from relatives of working mothers of age 25 -45 years, completed a questionnaire adopted by Beck Depression Inventory intended to discover their depression. Cross sectional study through purposive sampling was conducted during November2018 to January2019. Data analysis was carried out using SPSS Version 20. Mean,standard deviation, frequency and percentage were used for descriptive analysis. Chi square test (53.8=8.90;p=0.012) applied to check the association between both categories of moms. Middle class females married for 3years were included, single and less than 25 years old mothers are excluded from the study.

**Result.** Mean age of working moms was 37.32#13.78(SD), mean age of non-working moms was 37.36#8.911(SD). Working moms showed more depression 10(76.9%) than non-working moms 3 (23.1%). Non-working moms showed more mood disturbances15 (75%) than working moms 5 (25%). There is direct association between depression and number of children among both categories. Working moms having more children {4-5 children 4(22.1%), 3 children 3(21.1%) ,1-2 children 2 (15.4%)} were more depressed. While depression among non-working moms having 1-2 children was more 3(10.7%) than working moms.

**Conclusion:** Depression increases as the number of children increase in working mothers. While among non-working mothers the case is inverted, they are depressed with fewer children.

**Title: The role of men in family planning practice: a study based on practicing family planning methods by husbands of reproductive age group women attending antenatal clinics Karachi,**

**Author/s:** Ghazala Nasim, Nighat Nisar, Mehwish Hussain

**Introduction:** In Pakistani communities' women are considered as responsible for taking care of family, but the major decisions of family are taken by husbands including practicing family planning methods.

**Objective/s:** This study is carried out to determine the practices and attitude of reproductive age group women's husbands in practicing family planning in Karachi, Pakistan.

**Method:** A cross sectional study was conducted among 450 women of reproductive age group attending antenatal clinics of two tertiary care hospitals of Karachi, Pakistan by using consecutive sampling technique. They were interviewed after taking informed consent by using a questionnaire. The data were analyzed by using SPSS version 22.

**Result:** Half of the husbands (49.3%) were found in favor of family planning practice. Use of FPM by husband was reported by (120) 26.8% of women, while 73.2 % husbands were not practicing any Family planning method. The most common method was condom 26.2%. Husbands reason for discontinuing FP were pressure from family 3.4%, sociocultural constraint 3.4%, fear of side effects in 2.5%, husband just disapprove without any reason in 3.4%, inconvenient to use 34.7%, started and now think it was a mistake 20.3%, want another child 26.3%, want male child 2.5%, fear that women will not become pregnant if desired 0.8%, indecisive 0.8%, fear of side effects 2.5%, did not like to use 1.7%.

**Conclusion:** Majority of husbands were not practicing family planning. A very low proportion of husbands were practicing family planning methods with various socio cultural reasons to discontinue FPM. Half of the participants reported that husbands favor use of FPM.

## **Title: Estimation Of Salivary Superoxide Dismutase Level In Oral Submucous Fibrosis: A Clinical And Biochemical Study**

**Author/s:** Humera Akhlaq, Muhammad Owais Ismail, Muhammad Abdul Samad

**Introduction:** Oral sub mucosal fibrosis being a chronic, progressive and irreversible disease. Studies have estimated the level of superoxide dismutase (mU/L) from the blood samples. Considering, saliva sample as a cost effective, non-invasive and associated with low discomfort and fear; the present study was conducted to compare the Superoxide dismutase (mU/L) levels in the cases of OSMF stage 1 and the healthy controls.

**Objective/s:** The objective of the study was to compare the salivary Superoxide dismutase (mU/L) level among stage one patients of Oral sub mucous fibrosis and healthy controls.

**Method:** It was a comparative cross-sectional study design conducted at Outpatient clinic of Dental Department at Ziauddin University Hospital from January 2012 till December, 2013. Eighty histo-pathologically confirmed patients of clinical stage one Oral Sub mucosal fibrosis (OSMF) and eighty healthy controls were matched for age and gender to recruit in the study. Socio demographic information (i.e. age, gender, ethnicity, education and occupation), oral health status, measurement of mouth opening (mm) and Superoxide dismutase (mU/L) were recorded. The study was conducted after the approval granted from the ethical review committee of Ziauddin University Hospital. Data was entered and analyzed using SPSS version 21 (IBM).

**Result:** The standard mean (+/-SD) of Superoxide dismutase (mU/L) in both groups was 4.99 (+/-2.18). The mean of Superoxide dismutase (mU/L) in confirmed cases of oral sub mucosal fibrosis was 3.02 (+/-0.44) which was significantly lower as compared to the control group which was 6.96(+/-1.24) and the calculated p value was 0.001. There is a strong positive correlation was identified in mouth opening (mm) and superoxide dismutase (0.842)

**Conclusion:** It was concluded that the levels of salivary superoxide dismutase was significantly lower in the sample of OSMF and lower levels of superoxide dismutase (mU/L) was the indication of decrease in mouth opening among the cases of OSMF. Therefore, salivary superoxide dismutase can be used as a biomarker for the early detection as well as successful treatment of OSMF.

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