Research Findings Dissemination Conference
Tobacco Control Research Grant Program
January 26-27, 2016
Research Findings Dissemination Conference

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The Government of Bangladesh has formulated and enacted a strong tobacco control law in line with the Framework Convention on Tobacco Control. The 'Smoking and Tobacco Products Usage (Control) Act 2005' has been amended as the 'Smoking and Tobacco Products Usage (Control) (Amendment) Act 2013' and the Rules and Regulations have been published. A National Tobacco Control Cell has been formed within the Ministry of Health and Family Welfare to coordinate tobacco control activities throughout the country. We are taking initiatives to implement the law in the country through the formation of unique, multi-sectoral Taskforce Committees in 64 districts and mobile courts at national, district and upazila levels.

However, in spite of this emphasis on tobacco control programs, we are lagging behind in the research area in this field. Tobacco-related research is yet to be in the priority list in Bangladesh. However, because of the growing recognition of severity of the tobacco epidemic in Bangladesh and considering that tobacco is a common risk factor for non-communicable diseases, there has been increasing interest in generating latest data on tobacco-related issues with a view to support tobacco control programs in the country.

Thus, an opportunity has been created to strengthen the country's tobacco control programs through the Research Grant Program managed by Bangladesh Center for Communication Programs (BCCP) with support from the Institute for Global Tobacco Control (IGTC) at the Johns Hopkins Bloomberg School of Public Health, USA. This is an important initiative to build research capacity in tobacco control and facilitate research that helps build a sound, country-specific data base to supplement international research.

I am delighted on this occasion of the Research Findings Dissemination Conference for disbursing the third round of Research Grants. I feel this event is very important as it will greatly contribute in creating an evidence base that can be used by all the stakeholders striving to eliminate the diseases and deaths that result from tobacco use.

I congratulate the grant recipients for their hard work and for presenting the findings which is expected to greatly contribute to our goal of reducing the devastating consequence on public health and economy in Bangladesh caused by tobacco consumption. BCCP deserves praise for the mentorship they provide to the research grantees during each round of the Grant Program. Finally, we appreciate the support provided by the Institute for Global Tobacco Control for this program in Bangladesh.

I wish the program every success for the sake of tobacco control programs and the benefit for the people of Bangladesh.

Roxana Quader
Additional Secretary (PH and WHO)
Ministry of Health and Family Welfare
Government of the People’s Republic of Bangladesh
The Institute for Global Tobacco Control (IGTC) at the Johns Hopkins Bloomberg School of Public Health, USA initiated the Research Grant Program on tobacco control policy issues in Bangladesh in 2013. The aim was to encourage in-country scientists to conduct research and create a local evidence base for tobacco control policy in the country. This type of program on tobacco control is the first of its kind and to-date, 50 studies have been conducted by researchers and managed by the Bangladesh Center for Communication Programs (BCCP). This Dissemination Conference presents the findings of twenty studies which I believe will contribute toward the evidence base that can be used by the government and non-government sectors, and other stakeholders working for tobacco control in Bangladesh.

The tobacco epidemic is increasing in low and middle income countries where the prevalence of smoking coupled with that of smokeless tobacco use poses a major public health challenge with serious health and economic impacts particularly in impoverished communities. The role of tobacco control research in Bangladesh is especially important because of diversity of culture and current forms of tobacco use. Bangladesh has had few dedicated researchers generating useful data drawing academic and policy attention on tobacco control issues and directing and improving tobacco control efforts. I believe Johns Hopkins University and BCCP’s initiative to launch this Research Grant Program and to develop and sustain a community of tobacco control researchers under the platform Bangladesh Tobacco Control Research Network (BTCRN) will contribute towards addressing the gaps in tobacco control research, elevate the tobacco issue high on the policy agenda and identify strategies that could be uniquely effective in the Bangladesh context.

Tobacco use continues to grow in developing countries due to a steady population growth along with aggressive tobacco industry marketing efforts. That tobacco is a common risk factor for non-communicable diseases is a major cause for concern. This situation requires concerted and collaborative efforts of all stakeholders working to control tobacco use nationally and globally to curb this epidemic. Given the commitment of the Government of Bangladesh and the joint efforts by the Partners from the Bloomberg Initiative to Reduce Tobacco Use, other stakeholders, tobacco control leaders and activists across the country, the evidence base being created by the researchers can be used to strengthen existing policies and even develop stringent new policies. With this multi-sector, collaborative effort, I believe Bangladesh will indeed see a reversal of the tobacco epidemic in the near future.

I wish all the success to the tobacco control initiatives currently underway that pave the way towards achieving improved public health for all in Bangladesh.

Joanna Cohen, PHD, MHSC
Director, Institute for Global Tobacco Control
Bloomberg Associate Professor of Disease Prevention
Department of Health, Behavior and Society
Johns Hopkins Bloomberg School of Public Health
Tobacco use in Bangladesh exists in many forms and some are even socially and culturally accepted. Added to this is the prevalence among economically disadvantaged populations who are already overburdened with ill-health.

To meet the challenge of controlling tobacco use in these conditions it is important to conduct research into tobacco related issues which can then be translated into effective action. Since 2013, the Research Grant Program is being administered by BCCP and made possible with funding from the Bloomberg Philanthropies through the Institute for Global Tobacco Control (IGTC) at the Johns Hopkins Bloomberg School of Public Health, USA. Today, we share with you the summary findings of the studies on tobacco control that were conducted under the third round of the Research Grant Program. This year, a total of 20 research proposals- ten from student and ten from the experienced researcher category.

BCCP follows a rigorous process for selection of research proposals every year. The announcement for research proposals is made in the national dailies. The proposals received are reviewed by a Review Panel comprised of renowned researchers from home and abroad. To ensure quality data collection, a Research Capacity Building Workshop is also organized for short-listed candidates. The BCCP Research Team has been continuously monitoring the data collection efforts and provided input when necessary. I thank all the researchers for their excellent performance.

I also appreciate the hard work of the BCCP Research Team who have provided mentorship throughout the research study. I am grateful to IGTC for their financial support to the program for the interest of the tobacco control program in Bangladesh.

This is an important step towards coordinated tobacco control efforts in the country. The World Health Organization, Bloomberg Initiative (BI) partners and many other NGOs, leaders and activists have joined hands with the government to implement the Tobacco Control Law to save the lives of millions of Bangladeshis every year. The Research Grant Program and establishment of Bangladesh Tobacco Control Research Network (BTCRN) are initiatives to unveil facts and figures in order to support the policymakers, leaders and activists in tobacco control to develop effective tobacco control strategies in Bangladesh.

I look forward to working closely with all partners, stakeholders, leaders and activists in public and private sectors towards reversing the use of tobacco in Bangladesh.

Mohammad Shahjahan  
Director & CEO  
Bangladesh Center for Communication Programs
Bangladesh Tobacco Control Research Network Program

Historically, tobacco control has been considered a low priority issue compared to other health-related programs in Bangladesh. Systematic research capacity building especially in tobacco control research has also been inadequate. Tobacco control research even had not been an item of choice among academicians or postgraduate students in universities and other institutions. Usually postgraduate students choose their dissertation topics in different fields other than tobacco control. There was no platform in Bangladesh where tobacco control researchers could get support and guidance.

Although the Government of Bangladesh formulated the Tobacco Control Law in 2005 and amended it in 2013 to address many loopholes and be in compliance with the Framework Convention on Tobacco Control (FCTC), the tobacco control program did not get further momentum for lack of facts and figures to design and implement effective tobacco control programs. Therefore, the research capacities of the young researchers need to be built who will ultimately undertake the tobacco control research to generate facts and figures.

BCCP in collaboration with the Institute for Global Tobacco Control at the Johns Hopkins Bloomberg School of Public Health, USA, adopted a three-pronged approach to build partnerships and collaboration, strengthen systematic research capacity building programs, and promote research to generate local evidence in support of tobacco control interventions. The purpose of this systematic research capacity building program is to popularize tobacco control research through Tobacco Control Research Grant Program, especially among young researchers, and generate local evidence to support tobacco control interventions.

Tobacco Control Research Grant Program
A Research Grant Program supported by capacity building workshops covering the whole spectrum of the research process was implemented over the last three years with an emphasis on engaging young researchers. The program, the first of its kind in Bangladesh, was introduced in 2013. All Bangladeshi postgraduate students and researchers aspiring to contribute to tobacco control are eligible to apply for the grants.
Two types of research grants are available:

**Student Category:**
- The student should be enrolled in a postgraduate program in Bangladesh.
- Applicant should be available in the country throughout the research period.

**Researcher Category:**
- Researchers having a Masters, M.Phil or Ph.D. degree and affiliated with any university, institution or organization in Bangladesh. The applicant must submit a No Objection Letter from the applicant’s respective organization to carry out the research once it is selected.
- Freelance Researchers based in Bangladesh having a Masters, M.Phil or Ph.D can also submit a proposal.

The research topic must be within the priority issues of the Bloomberg Initiative to Reduce Tobacco Use (monitor tobacco industry activities; protect people from tobacco smoke; warn about the dangers of tobacco through mass media campaigns and health warning labels; enforce bans on tobacco advertising, promotion and sponsorship; raise taxes on tobacco). Proposals on generating local evidence that would contribute to developing a new policy or strengthen an existing one in line with the components of World Health Organization’s MPOWER package (http://www.who.int/tobacco/mpower/en/) are recommended. Interventional studies, proposals on quitting tobacco use, sub-population based studies and evaluation of in-country tobacco control projects are currently considered to be non-priority issues.

A Proposal Review Panel comprising of renowned researchers and tobacco control experts from home and abroad are formed to review the proposals. The Panel considers the following while selecting the winning proposals:

- Priority issues of Bloomberg Initiative
- Competitiveness
- Expected policy implications
The review panel follows a three-step review process. In the first step, preliminary screening is done to see whether proposals follow the proposal submission guideline. The second step is the technical scoring while in the third step applicants present their proposals to the review panel.

BCCP has a highly experienced and dedicated team having both technical and managerial expertise to manage the grant program. The research team is led by a Senior Deputy Director (Research and Evaluation) and has members of diversified background including statistician, anthropologist, epidemiologist, sociologist, and nutritionist. The team nurtures grantees by providing mentorship in every step of research work including questionnaire development, data collection, data entry, data analysis, and report writing.

Dissemination conference is organized to share the research findings of the studies. Students and faculties of different universities, institutions, medical colleges; representatives of Government, donor agencies, NGOs, BI partners and grantees are invited to attend the conference. Print and electronic media are also invited to cover the news of the conference.

The first round of the grant program was implemented in 2013. Under that round, five student researchers and five experienced researchers were rigorously selected to undertake ten different research studies on tobacco control for a period of nine months. Following the success of the research grant program in 2013, the number of grants was doubled in 2014. Among the proposals, ten each from both Student and Researcher categories were selected following an in-depth review process. Dissemination conferences were organized to share the research findings. The findings of the research studies that have been completed in November 2015 are ready for dissemination.

Due to innovation and uniqueness of the program, Muhammadiyah Tobacco Control Center (MTCC) of the Muhammadiyah University- Yogyakarta, Indonesia is managing their Tobacco Control Research Grant Program through building the research capacity of the researchers, especially the young researchers using the same model.

In order to ensure the sustainability of the research grant program, the Bangladesh Tobacco Control Research Network (BTCRN) was formed to carry out systematic capacity building programs even after the donor funded project is over.

**Bangladesh Tobacco Control Research Network (BTCRN)**

With the aim to provide a platform and support and guide the potential tobacco control researchers in Bangladesh, BTCRN was launched in 2013 under the auspices of JHSPH-BCCP Tobacco Control Project. The purpose of the Network is to develop a local evidence-based research repository to enhance effective tobacco control policy development and implementation in Bangladesh.

The overall objective of the Network is to promote and nurture a tobacco control research culture in Bangladesh. The specific objectives of the Network are:

- Review Bangladesh-specific tobacco control related research activities and identify gaps;
- Document and disseminate tobacco control research findings that can be used to enhance support for tobacco control policy development and implementation; and,
- Serve as a resource for partners, implementers, activists and the Government with respect to tobacco control research.
Functions and Activities

- Identify strategic partners for tobacco control-related research;
- Organize and host tobacco control research conferences, scientific seminars and meetings;
- Assist members in documenting their tobacco control related research findings, lessons learned and best practices, and publishing them in national and international journals;
- Establish a virtual and printed material library as a Resource Center;
- Publish newsletters;
- Organize research capacity building workshops;
- Promote collaboration, coordination and networking among relevant national and international stakeholders including development partners and government;
- Identify and explore sources of financial and technical assistance potentially available for BTCRN;
- Offer competitive Grant Program for tobacco control research; and
- Conduct any other activity that is thought necessary for the promotion of tobacco control research.

Membership

BTCRN offers both institutional and individual membership, including student membership. Any Bangladeshi university, institution, national and local NGO, government, and individual interested in tobacco control and signs a declaration that they are in no way affiliated with the tobacco industry, including engaging in advertising or distribution of tobacco or tobacco-related products can be a member of the Network.
Research Grant Recipients 2015 and their Abstracts

Student Category
Research Title:
Determinants of exposure to secondhand smoke at home among children in rural Bangladesh

Maksuda Jahan is an MPH student at the Department of Community Nutrition, Bangladesh University of Health Sciences, Dhaka. She graduated in Food and Nutrition from the University of Khulna. She has keen interest in public health research especially in the field of tobacco control.
Determinants of exposure to secondhand smoke at home among children in rural Bangladesh

Author: Maksuda Jahan

**Background:** Exposure to secondhand smoke (SHS) poses a serious health hazard to non-smoking adults and children. There is no evidence of a safe level of exposure to second hand smoke. Children are exposed to SHS in other places but the primary source of SHS exposure is in their homes. The Framework Convention on Tobacco Control (FCTC) guidelines recommend comprehensive bans on smoking in public places and workplaces whereas household smoking bans must be initiated voluntarily. The majority of research on household exposure to SHS comes from developed countries while similar developing country researches are limited. **Objective:** The aim of the study was to identify determinants of exposure to second hand smoke at home among children in rural Bangladesh. **Methods:** A cross-sectional study was conducted from March to October 2015 among systematically selected respondents of 400 households in a rural area of Bangladesh. Data were collected through semi-structured questionnaire from respondents having children ≤18 years. Descriptive and inferential statistics was adopted to analyse data to find out the association including logistic regression to find out the determinants. **Results:** The study found that children residing in almost two-thirds of these households were exposed to Second Hand Smoke (SHS). About 30.0% of respondents had no idea about the exposure to SHS and 68.0% of them were smoking in front of their children and exposing them to SHS. About 67.6% were aware about the health risks due to SHS exposure. Respondents who were not concerned about exposing other people to SHS, 74.8% of their children were exposed to secondhand smoke. Among the respondents who smoke daily, 69.5% of respondent’s children are exposed to SHS at home by them while it is 50.0% for those who smoke occasionally. Logistic regression results revealed that less education level, less number of room at respondent’s household, more frequent smoking were found to be significant predicators of child exposure to SHS at home. **Conclusion:** Research has identified that children from disadvantaged areas are more likely to be exposed to secondhand smoke in the home than children from more advantaged areas. Media campaigns on smoking in the home may have a positive impact in reducing the percentage of exposure to SHS at home. Having children exposed to SHS at home, pose a serious public health concern. There is a need for evidence-based interventions to restrict smoking at home and protect children from this threat.
Research Title:

Heavy Metals (Cr, Cd and Pb) in chewing and other categories of tobacco consumed in Bangladesh and their effects on health

Md. Tawhid Hossain is an MSc Student at the Department of Soil, Water and Environment, University of Dhaka. He is an enthusiastic environmental activist who has been leading an environmental web media ‘www.environmentmove.com’ since 2012. His research interest includes Soil, Water and Natural Resource Conservation; Soil and Environmental Toxicology and Sustainable Agricultural Development; Human-Nature Interaction; Environmental Journalism; Environmental Education and Knowledge Management.
Heavy metals (Cr, Cd and Pb) in chewing and other categories of tobacco consumed in Bangladesh and their effects on health

Author: Md. Tawhid Hossain

Background: Heavy metals are of concerned because of their potential accumulation in bio-systems through diversified contamination in food, air, water, soil and other major and minor sources. Heavy metals have been reported to be associated with the toxicity of tobacco products and tobacco smoke. A number of elements have been identified as contributors to this toxicity. Several heavy metals are found in tobacco smoke, which have long (10–12 years) half-lives in the human body. Cigarette smoking is a major exposure route for cadmium (and to a lesser extent lead) in the general population. Under the circumstances it is necessary to determine the levels of heavy metals present in tobacco products to better predict associated risks and provide data to monitor, regulate and control the contents of tobacco products. Objective: This research explored the possible existence of heavy metals in both smokeless and smoking tobacco and estimate probable cancer risk for long-term use of these products. Methods: This was a cross-sectional study where samples of smokeless tobacco, cigarettes and bidi of different brands were collected from different shops of Dhaka, Kushtia, Khulna, and Narsingdi districts. The chemical analysis was done in the laboratory through conventional digestion and atomic absorption spectrometry. The carcinogenic potential of the tobacco was calculated using the method applied by Jefferson and Michael, 2000 for smoke based tobacco and risk estimation method applied by Ayo-Yusuf, 2011 for smokeless tobacco which was then compared with the United States Environmental Protection Agency's (USEPA's) benchmark “acceptable limit”. Results: Concentration of Lead in smoked and smokeless tobacco ranged from 0-1.167µg/g and 0-6.167µg/g respectively. Concentration of Cadmium in smoked and smokeless tobacco ranged from 0.33-0.655µg/g and 0-1.26 µg/g respectively. The overall concentration curve or prevalence of metals was dominated by Chromium for both smoked and smokeless products. The concentration of Chromium in smoked and smokeless tobacco ranged from 0.25-3 µg/g and 0.36-6.29 µg/g respectively. Risk from Lead in both smoked and smokeless tobacco was least while Chromium posed a much higher risk for both smoked and smokeless tobacco users. Lead concentration had the lowest toxicological risk among the three metals (Lead, Cadmium and Chromium). Cadmium and Chromium presented greater risk which crossed the “acceptable limit”, i.e. the US Environmental Protection Agency’s (USEPA’s) benchmark limit of 10E-4 to 10E-6. Conclusion: Cadmium and Chromium are two Group 1 carcinogens classified by International Agency for Research on Cancer and potentially dangerous for individuals who consumed them in high amounts. Overall toxicity of most of the tobacco products examined was higher than generally recognized “acceptable limits”. Due to the demonstrated adverse health effects of tobacco use, from the perspective of environmental and agricultural policy, tobacco cultivation and processing in Bangladesh should be at a minimum and controlled.
Mohammad Kowsar Bhuiyan

Research Title:
Secondhand smoke in public places: Awareness, attitudes and exposure among university students

Mohammad Kowsar Bhuiyan is an MPhil student at the Institute of Education and Research, University of Dhaka. He is works as a Research Associate for Diploma in Primary Education Program at the same institute. He has just finished a study under the National Academy for Educational Management (NAEM) Research Grant 2015, Ministry of Education of Government of the People's Republic of Bangladesh. Earlier, he worked for the English in Action (EIA), a joint venture research collaboration program undertaken by the University of Dhaka and the Open University (UK) for two years. His core interest in the research field is to foster change for the advancement of the national education system and social transformation.
Secondhand smoke in public places: Awareness, attitudes and exposure among university students

Author: Mohammad Kowsar Bhuiyan

**Background:** Exposure to secondhand smoke (SHS) is causing serious health effects. In Bangladesh, according to the Global Adult Tobacco Survey (GATS) 2009, young people are exposed to high levels of secondhand smoke but there is limited awareness about SHS. **Objective:** The purpose of this study was to explore the awareness, attitudes and exposure to secondhand smoke among university students of Bangladesh. **Methods:** A survey was conducted among 384 students selected from four universities in Dhaka city and two Focus Group Discussions (FGDs), with 8 participants in each, were conducted among students from those universities. The quantitative data were analyzed using both descriptive and inferential statistics while transforming and information synthesizing technique was used for analyzing qualitative data. The qualitative and quantitative data were triangulated to authenticate the participants’ responses. **Results:** Respondents’ smoking behavior varied by type of university they attended and their gender, with 49.3% respondents from private universities and 44.8% males more likely to smoke. A high majority of respondents (82.0%) believed that SHS harmed health and 91.0% of nonsmokers stated that they were regularly exposed to SHS in various public places like educational institutions, government/private offices, railway station, etc. during their daily routine. Respondents’ attitudes varied as per sixteen statements about SHS based on their gender and smoking behavior (p<0.01). The study found that about half of the respondents (49.7%) supported banning smoking in public places but one-third (33.9%) thought that smoking can be allowed in some areas. There were difference in respondents’ support for banning smoking in public places according to university type, gender, and smoking status (p<0.01). Qualitative findings were similar to the survey findings. **Conclusion:** There is inconsistency between awareness, attitudes and university students’ exposure towards SHS in Bangladesh that is likely influenced by the type of university, gender and smoking behavior. Therefore, there is a need of campaigns for smoke-free public places that can prevent smoking in public places so that university students are not exposed to SHS.
Muhammad Shaikh Hassan

Research Title:
The prevalence of tobacco consumption and its determinants among university students in Sylhet division: a cross-sectional study

Muhammad Shaikh Hassan is an MSS student of the Department of Anthropology, Shahjalal University of Science and Technology, Sylhet. He has also completed Master of Medical Science in Public Health at the University of Malaya, Kuala Lumpur, Malaysia. He was involved as a Co-Investigator in a research study on Water, Sanitation and Hygiene Practices among the Urban Poor Migrants: A Study in Pathantula Area in Sylhet City conducted under the Masters Research Fellowship Program 2013 funded by the London School of Hygiene & Tropical Medicine (UK), and WaterAid Bangladesh. He has interest in public health and social science research especially in anthropological research.
The prevalence of tobacco consumption and its determinants among university students in Sylhet division: a cross-sectional study

Author: Muhammad Shaikh Hassan

**Background:** Tobacco use is a key predictor of premature death and ill-health in the developing world. Worldwide, young adults, especially university level students, are at high risk as they are exposed to various tobacco products. Many non-smoking students become smokers after entering university.

**Objective:** This study was conducted to find out the prevalence of tobacco consumption and its determinants among university students in Sylhet Division. **Methods:** A cross-sectional study was conducted and data were collected using a survey administered through face-to-face interviews. The questionnaire was developed based on the GATS (Global Adult Tobacco Survey) questionnaire. Descriptive statistics were performed to show the prevalence of smoking and smokeless tobacco consumption. Pearson Chi-Square test was used to determine statistically significant associations between categories of variables. **Results:** The prevalence of tobacco smoking was 37.0% and only 10 out of 416 participants were found to be smokeless tobacco users. The results indicate that about two third of the smokers started smoking at the age of 18 or less and peer influence played as an influential factor for smoking initiation. This study did not find a significant relationship between smoking initiation and family members smoking history. Smoking behavior among the students was significantly associated with own expenditure (P<0.05), gender, smoking at home and smoking status of close friends (P<0.001). A majority of the students reported that they want to see a tobacco-free campus. **Conclusion:** Approximately one-third of the respondents were smokers and the prevalence was more in males than in females. It is suggested that there is a need for an increased emphasis on effective anti-smoking programs among students to discourage smoking and raise awareness of the adverse health effects of smoking. Large scale cross-sectional study may be conducted on the same issue among university students in Sylhet division. The Government of Bangladesh has enacted Smoking and Tobacco Products Usage (Control) (Amendment) Act 2013 which should be effectively implemented to protect people from the hazards of tobacco consumption.
Research Title:

Emotional, behavioral problems and cigarette smoking behavior: A survey among Bangladeshi adolescents

Rajib Ahmed Faisal is a student of MPhil program at the Institute of Education and Research (IER) of the University of Dhaka. He worked in a joint venture research collaboration program titled English in Action undertaken by the University of Dhaka and the Open University (UK). At present he works at the Institute of Education and Research of the University of Chittagong as a Faculty member. He has interests in research that would foster change for the advancement of the national education system and social transformation particularly in the areas of social and emotional adjustment of students in school, teaching English language, curriculum development, community development, etc.
Emotional, behavioral problems and cigarette smoking behavior: A survey among Bangladeshi adolescents

Author: Rajib Ahmed Faisal

**Background:** Adolescence is a stage of significant growth and potential, and experiencing a time of great risk as well, as most adolescents are facing pressures to use alcohol, cigarettes or drugs. Very little is known about the pattern and prevalence of smoking among them. There is limited data from Bangladesh regarding emotional and behavioral problems among adolescent smokers. Therefore, this study gives an effort to assessing smoking status including emotional and behavioral problems of adolescents. **Objective:** The general objective of the study was to examine the association between adolescents’ cigarette smoking behavior and their emotional and behavioral problems. **Methods:** A survey was conducted among 724 secondary and higher secondary level students aged 10-19 from the districts of Dhaka and Comilla. Respondents were selected randomly from both general and madrasa education stream. Relevant data were gathered using a questionnaire where the emotional and behavioral status of the respondent was assessed from the self-reported Bengali version of Strengths and Difficulties Questionnaire (SDQ) developed by Goodman, Meltzer, & Bailey (1998). The study was conducted within a period of nine months starting from February 2015. Data were analyzed through descriptive statistics in terms of frequency distribution, percent, mean and standard deviation and inferential statistics were used to conduct correlations and examine association. **Results:** Among all the respondents 6.4% were found to be current smokers whereas 2.8% reported that they smoked irregularly. Males were more likely to smoke than females (p<0.001). More than half of the adolescents’ family members were not informed about their smoking and a majority of families had made the respondent aware regarding the consequences of smoking. The current smoking status of respondents was significantly associated with their parents' education, occupation and family members' smoking status (p<0.05). Age, gender, father's smoking status, family awareness activities about bad effect of smoking and SDQ total difficulties score were independently associated with adolescents' smoking. Also, after adjustment for several selected covariates, scores on conduct problems were associated with greater likelihood for smoking (OR=1.51; 95% CI: 1.23-1.85). **Conclusion:** Findings of present study support the association between emotional, behavioral problems and smoking behavior of adolescents. Addressing the adolescents' needs regarding their mental health could be helpful in designing and implementing effective interventions in the school environment and elsewhere for preventing or combating adolescents’ cigarette smoking during this critical period of life.
Sarah Marandy

Research Title:

Smokeless tobacco Use among floating people in Dhaka city

Sarah Marandy studies Master of Arts at the Department of Anthropology, Shanto-Mariam University of Creative Technology. She did her graduation in English Literature at the University of Pune, India. She has keen interest in research that would promote the Santal community in Bangladesh.
Smokeless tobacco Use among floating people in Dhaka city

Author: Sarah Marandy

**Background:** In South Asia, the use of smokeless tobacco is common and this use raises various concerns. Increasing use has been reported not only among men, but also among such vulnerable groups as children, teenagers, women of reproductive age and by migrants wherever they have settled. Dhaka city has a huge and bulging population but a worrisome feature of it is that a big part of this population are shanty dwellers, pavement dwellers or sheer vagabonds. It is assumed that, the smokeless tobacco using rate is increasing day by day among the floating population. This study is aimed to investigate the use of smokeless tobacco among the floating population of Dhaka city.

**Objective:** The objective of the study was to investigate the existing patterns of smokeless tobacco among the floating people and to make policy recommendations to protect them from its devastating effects. **Methods:** A descriptive study using a quantitative approach was designed to get a comprehensive picture of smokeless tobacco (SLT) use among the floating population in Dhaka city. A purposive sampling technique was used to reach the target population, 500 face-to-face interviews were conducted using a questionnaire. Descriptive statistics were used for all variables and Pearson's Chi-square test was carried out to explore the relationship between the use of smokeless tobacco products and socioeconomic status of the respondents. **Results:** A little more than half of the respondents (57.4%) were male. About three-fifths (59.8 percent) of the respondents were found to be current smokeless tobacco users. Of the SLT consumers 81.7% reported being regular Zarda users, which was proportionately followed by Sadapata, Gul, and Nassi. One-third of the respondents stated ‘self interest’ as the reason behind SLT initiation, followed by influence of friends and family members. The factors that influenced a person to become addicted to SLT were easy availability, social acceptence, peer influence, lower price of SLT products compared to cigarettes, after cessation of smoking, relief from toothache, etc. A majority (91.0%) had knowledge of physical and harmful effects of SLT use. Nearly half of the respondents stated that smoking is more risky compared to SLT. Current SLT use was significantly associated with gender (p<0.001) where male users were less.

**Conclusion:** This study provided a picture of smokeless tobacco use among floating people of Dhaka City. Although a majority of the respondents had knowledge about the physical and harmful effects of SLT use, the current use of SLT among them was pronounced. Multistage, effective behavioral change intervention programs may be implemented to overcome this health hazard. Further study is recommended in this area.
Dr. Sharmin Khanam

Research Title:

Smokeless tobacco consumption and diabetic foot ulcer

Dr. Sharmin Khanam received the grant to conduct a study on "Smokeless tobacco consumption and diabetic foot ulcer". She is a medical graduate and currently works at icddr,b as a Clinical Fellow. She has a Master of Public Health degree in Community Medicine from the National Institute of Preventive and Social Medicine (NIPSOM), Dhaka.
Smokeless tobacco consumption and diabetic foot ulcer

Author: Dr. Sharmin Khanam

Background: If diabetes is left untreated, it can cause many complications including Diabetic Foot Ulcer (DFU). DFU, as one of the complications of Diabetic Mellitus, may be related to smokeless tobacco consumption. Foot ulceration is preventable, and relatively simple interventions can reduce amputations by up to 80%. In Bangladesh, a large proportion of the population are tobacco users, and many of them are diabetic patients. This group of people are not fully aware about the tobacco-related complications from diabetes. Objective: This study aimed to explore the association between smokeless tobacco consumption and development of diabetic foot ulcer. Methods: The study was conducted with 100 cases (diabetic patients with foot ulcer) and 200 controls (diabetic patients without foot ulcer) during March to November 2015 at BIRDEM Hospital, Dhaka. Systematic random sampling was used and data were collected through face-to-face interview using a semi-structured questionnaire. Results: Among cases, a majority (70.0%) were male and their mean (±SD) age was 53.2 ± 9.8 years while among the controls, more than half (58.0%) were male and their mean (±SD) age was 54.8±10.7 years. More than one-third of the cases (39.0%) and about half of the controls (47.0%) had education level up to HSC. A statistical significant association was found between diabetic foot ulcer and level of education (p<0.05). Most of the cases used tobacco (92.0%) while only one-fourth of the controls (25.0%) used tobacco. The association between tobacco consumption and diabetic foot ulcer was statistically significant (p<0.001). The study found that smokeless tobacco consumption was significantly higher among the cases in comparison to the controls (p<0.001), and that both types of tobacco consumption (smokeless tobacco and smoking) were significantly associated with diabetic foot ulcer (p<0.001). The study found a statistically significant relationship between duration of smokeless tobacco consumption and diabetic foot ulcer (p<0.001). Most of the cases (87.0%) and about one-third of the controls (34.0%) were showing uncontrolled diabetes mellitus. The association between glycaemic status (uncontrolled) and diabetic foot ulcer was statistically significant (p<0.001). Conclusion: This study found that smokeless tobacco consumption and duration of use increases the risk of foot ulcer among diabetic patients. Lower socioeconomic status and less education were also found to be risk factors for developing diabetic foot ulcer. The study recommends effective awareness building programs for diabetes patients to discourage smokeless tobacco consumption to prevent development of diabetic foot ulcer, which is not only a debilitating condition for the victims but great financial burden for themselves and their families.
Research Title:

A comparison of avoidance behavior to secondhand smoke (SHS) among male and female residential students of Dhaka university

Shashish Shami Kamal is an MSc student of Development Studies at University of Dhaka. Mr. Kamal has particular interest in behavioral research related to health, education and income. He is envisioning conducting more public health policy research in future.
A comparison of avoidance behavior to secondhand smoke (SHS) among male and female residential students of Dhaka university

Author: Shashish Shami Kamal

**Background:** Secondhand smoke (SHS) has serious adverse health implications and exposure to SHS is very high throughout the world. Interventions and strategies have focused on smokers to change their behavior to protect non-smokers. But very few studies, practically none in the context of Bangladesh, have focused on ‘Avoidance Behavior to SHS’ as a self-protective behavior where individuals seek to avoid exposure to SHS. **Objective:** The objective of the study was to explore and compare avoidance behavior to SHS among male and female residential students of Dhaka University. **Methods:** A comparative cross-sectional survey was conducted among male and female residential students of Dhaka University. A representative sample of 553 students was identified of whom 435 non-smoking respondents were separated for analysis. The quantitative study measured relevant variables at the same point of time using a single questionnaire as instrument among the sample respondents through face-to-face interview. Descriptive statistics, independent sample t-test and Pearson’s Correlation were used for data analysis. **Results:** Among the 435 non-smoking respondents, 98.2% were exposed to SHS at least once in their lifetime and 91.3% were exposed to SHS in a public place in last 7 days prior to the interview. Most male and female (non-smokers) respondents were exposed to SHS in locations such as public transports, and bus terminal/railway station/airport/seaport/river port. The study also explored avoidance behavior of the respondents to SHS such as moving away from the smoker, holding breath, asking the smoker to stop smoking during traveling (lower among male), feeling uncomfortable/expressing annoyance (higher among female) and advising known smokers to quit smoking (higher among female). The average score of the “Avoidance Behavior to SHS” that measured through a 6 item 5 point Likert scale, was higher for females (Mean=32.65, SD=5.08) than males (Mean= 30.64, SD= 5.78). There was also a significant difference (p<0.001) in average avoidance scores by gender. The average score of ‘Knowledge on the adverse effects associated with SHS Exposure’ was higher for females (Mean=25.14, SD=2.49) than males (Mean=23.77, SD=2.69). There was a significant difference in knowledge scores by gender (p<0.001). In response to being asked to ‘Stop Smoking’, 46.7% of persons stopped smoking and 53.3% continued smoking. **Conclusion:** In a cultural context, since smoking behavior is still widely accepted socially, people are expected to endure SHS. Focusing on increasing knowledge about SHS is unlikely to increase their avoidance behavior to SHS. Thus, intervention strategies that only provide knowledge on SHS are insufficient to increase avoidance behavior to SHS. Policy interventions improving avoidance behavior to SHS should focus on the cultural setting and gender difference in our social context.
Research Title:

Factors associated with female smoking at selected Universities in Dhaka

Tanmoy Sana is studying Master of Public Health at the Daffodil International University. He has completed his Bachelor of Pharmacy (Honors) and Master of Pharmacy from the Jahangirnagar University. His research interest covers the areas that promotes community health and reduces the burden of diseases.
Factors associated with female smoking at selected Universities in Dhaka

Author: Tanmoy Sana

Background: While smoking prevalence is generally higher among males, the rate of increase among female smokers is a cause for concern. In developed countries more young women than young men smoke. Till now, very little is known about the pattern and prevalence of smoking in general and specifically among the young female adults in Bangladesh who are the target of the expanding tobacco market. Objective: This study was conducted to identify the factors influencing smoking among young female students in five universities of Dhaka city. Methods: Both quantitative and qualitative approaches were adopted for this study. A total of 1,003 representative female students were interviewed from five selected universities using a semi-structured questionnaire for quantitative approach and also five in-depth interviews were conducted in the same areas. All the respondents were full time students of the five selected educational institutions. Univariate analysis was done to find out the proportion of variables and bivariate analysis was done to find out the association between dependent and independent variables. Results: The prevalence of female smoking was 10.1%, and a majority (92.1%) was daily smokers. Curiosity (57.4 %), frustration (41.6%) and desire to fit in with friends (13.9%) were the factors influencing female smoking. Among the smokers, a majority started their smoking after enrolling into the university (58.9%) while a little over one-quarter of smokers started before university enrollment (27.7%). Almost all of the female respondents have knowledge about harmful effects of smoking. It was also found that smoking among female students was significantly associated with their age group, type of institutions and educational level (p<0.05). Respondents' monthly family expenditure and personal income (p<0.001); and their smoker family members including smoker friends (p<0.001) were significantly associated with their practice of smoking. Conclusion: Study results suggest that the number of female smokers at the university level is increasing as compared to studies documented elsewhere although the students claim to have a sound knowledge of the harmful effects of smoking. Factors associated with smoking are age group, type of university, monthly family and personal income, presence of smoker family member and friends. A comprehensive public health approach towards tobacco control is necessary to reduce tobacco use among the general population including female students.
Research Title:
Adult smokers' views about tobacco warning labels on cigarette packages:
A study in Dhaka city

Umme Habiba Sultana is a student of Master of Business Administration (MBA) program at the Faculty of Business Studies in Jahangirnagar University with focus on Accounting and Information System. She has undertaken several surveys and analytical works and also has experience in market research of various products of Bangladesh.
Adult smokers’ views about tobacco warning labels on cigarette packages: 
A study in Dhaka city

Author: Umme Habiba Sultana

**Background:** Tobacco warnings such as text and pictorial warnings on cigarette packages are an important source of information about the harms of smoking and tobacco use, especially in developing countries like Bangladesh. Effective tobacco warning labels can provide important information about the health risks from tobacco products. **Objective:** The objective of the study was to identify the effect of tobacco warning labels on cigarette packages among adult smokers. **Methods:** A descriptive cross-sectional study was conducted in Dhaka city of Bangladesh during February and October 2015 using quantitative methods including deployment of observational list. The study included a sample of 424 adult smokers, who were selected from different areas of Dhaka city. Face-to-face interviews were conducted using a semi-structured questionnaire. Univariate and bivariate analyses were conducted. **Results:** Most of the participants had knowledge about the harms of smoking and illnesses caused by smoking. Media was the first source of information. They received warning about the harms of tobacco use while warning labels were the second most common source that provided anti-smoking information. Though most people were familiar with health warning messages on cigarette packs, a majority of smokers (66%) stated that the current health warning label does not provide sufficient information about the health risks of smoking or about the risks associated with being exposed to secondhand smoke, and are even not explicable to the users who are illiterate. The respondents opined that current warning labels barely helped to motivate health behavior change and suggested stronger and more graphic pictorial health warnings to be included as soon as possible. **Conclusion:** Smokers already demonstrate a relatively high level of awareness of the text-only labels and there was a moderate effect of current text-only health warning messages in motivating health behavior change. For more effective warning labels on cigarette packets, successful modification such as inclusion of fear arousing pictorial warnings are needed.
Research Grant Recipients 2015 and their Abstracts

Researcher Category
Research Title:
Factors influencing farmers to turn to tobacco cultivation in Khulna division of Bangladesh

Mr. Khan Mehedi Hasan has more than 8 years experience in teaching and supervising research at graduate and postgraduate level. Currently he serves as an Assistant Professor of Economics Discipline of Khulna University. He has experience of working as Consultant and Co-Researcher with different NGOs and development agencies including DFID, USAID, UKAID, The Asia Foundation, etc. Mr. Hasan has published 5 articles in the Peer Reviewed Journals.
Factors influencing farmers to turn to tobacco cultivation in Khulna division of Bangladesh

Author: Khan Mehedi Hasan

**Background:** Bangladesh is an agro-based country where tobacco is being selectively cultivated in certain regions. In Khulna division of Bangladesh, tobacco has been cultivated for a few decades along with other crops. Although in recent years, there has been a tendency for some farmers to switch from tobacco cultivation to alternate crops, however, each year new farmers take up tobacco cultivation and there are a number of reasons why new farmlands are used for tobacco cultivation. **Objective:** This study identifies factors that influence farmers to take up tobacco cultivation. **Methods:** The study used a mixed method approach. Primary data were collected from 285 tobacco farmers and 174 alternative crop growers of Khulna division using a simple random sampling technique. Three Focused Group Discussions (FGDs) were carried among local people to get a greater insight of issues concerning farmers. Along with descriptive statistics, the research conducted cost-benefit analysis between tobacco growers and non-tobacco farmers. A logistic regression was done to identify the independent influences of the key explanatory variables. **Results:** Study findings indicated that profit per decimal of land in tobacco farming is statistically higher than for alternative crops. In addition to profit, total land holdings, incentives given by the industry, the existence of a pre-fixed price of tobacco leaves, the demonstration effect on the production of tobacco cultivation by a neighbor and sales-production ratio have significant influence on the probability of cultivating tobacco. Results also showed that the contractual tobacco growers enjoyed higher selling price, higher productivity and higher profit than non-contractual tobacco growers. The tobacco company encouraged tobacco cultivation while higher labor cost and negative impact on health were the most commonly perceived reasons for giving up tobacco cultivation. Tobacco farmers also reported getting a generous amount of cash when they sell their final product to the tobacco companies. **Conclusion:** This research identified the indirect and hidden costs associated with tobacco farming. The Government needs to patronize cultivation of other highly profitable crops by providing seeds, trainings and other support to the farmers who are willing to give up tobacco cultivation once and for all.
Research Title:
Smoking among the employees and barriers to smoke-free initiative in four medical college hospitals in Bangladesh

Dr. Md. Hafiz Ehsanul Hoque works as a Lecturer of Community Medicine in Sylhet MAG Osmani Medical College, Sylhet. He completed his Master of Public Health from the National Institute of Preventive and Social Medicine (NIPSOM) in 2004 and Doctoral in Public Health from Kyoto University, Japan in 2009. He has several publications in national and international journals. Research and teaching in Public health is his passion.
Smoking among the employees and barriers to smoke-free initiative in four medical college hospitals in Bangladesh

Author: Dr. Md. Hafiz Ehsanul Hoque

**Background:** To reduce harmful effects of exposure to secondhand smoke (SHS), WHO Framework Convention on Tobacco Control (FCTC) recommends implementation of 100% smoke-free environments. And so, hospitals should play an exemplary role in implementing smoke-free policies. The Bangladesh Government signed the WHO FCTC and introduced legislation banning smoking in public places but the ban needs to be implemented effectively. Though challenging in a developing country setting, placing the hospital as a role model for the society may also be important for smoking cessation. **Objective:** This study aimed to find out the smoking behavior of the employees and the barriers to smoke-free hospitals in four public and private medical college hospitals in Bangladesh. **Methods:** Using a mixed method approach, the study was set in Sylhet and Dhaka through 1268 face-to-face interviews proportionately distributed across the employees, and key informant interviews among the administrative personnel of the medical colleges and hospitals. Univariate and bi-variate analyses were carried out and content analysis was done to identify the barriers to smoke-free hospitals. **Results:** Smoking behavior varied greatly with gender with more males (34.8%) and low paid employees (28.7%) likely to be current smokers. About two-thirds of the current smokers smoked at their workplace. More than half of the respondents were exposed to SHS at work. Most of the respondents agreed that smoking can cause serious illness. Most of the respondents mentioned that smoke-free hospital is possible while two-thirds of them opined that there were barriers to making a hospital smoke-free. Qualitative results indicated that there was lack of routine monitoring of the smoking situation in the hospitals. All the participants told that lack of awareness was the main barrier towards implementing smoke-free hospitals. **Conclusion:** Though smoking is prohibited in the hospital which is a public place, the study results documented that two-thirds of the current smokers smoke in hospital which is their workplace and many of their colleagues get exposed to SHS. Smoke-free initiative should be launched at the medical colleges and hospitals and should be institutionalized. The study results also revealed that respondents possess negative attitude towards smoking in hospitals, which is bound to contribute positively towards making the hospitals smoke free.
Research Title:
Effects of maternal smokeless tobacco use on birth weight and gestational age: A case control study in rural Dhaka, Bangladesh

Dr. Md. Khalequzzaman is an Assistant Professor at the Department of Public Health and Informatics of the Bangabandhu Sheikh Mujib Medical University. He completed his doctoral from Nagoya University, Japan in Occupational and Environmental Health. Dr. Khalequzzaman has more than 10 years experience in environmental health research mainly focusing on air and water pollution. Dr. Khalequzzaman is currently involved in conducting a research in collaboration with the Nagoya University, Japan on Non-Communicable Diseases risk factors in urban poor in Bangladesh as the Principal Investigator.
Effects of maternal smokeless tobacco use on birth weight and gestational age: A case control study in rural Dhaka, Bangladesh

Author: Dr. Md. Khalequzzaman

**Background:** Tobacco exposure is the single greatest preventable cause of morbidity and mortality. About six million people die each year as a result of tobacco use. Along with smoking, use of smokeless tobacco (SLT) is also prevalent in many parts of the world, including many low- and middle-income countries. The nicotine in SLT readily crosses the placental barrier with high concentration into the fetal serum and amniotic fluid and may have adverse effects on the fetus. While nationally representative prevalence data on SLT use illustrate the magnitude of SLT use in Bangladesh, the adverse effect of SLT on pregnancy outcomes such as pre-term birth of babies and low birth weight are poorly understood. **Objective:** To examine the potential effects of SLT use during pregnancy on the birth weight and gestational age of babies. **Methods:** A case-control study design was used to examine the potential effects of SLT use during pregnancy on birth weight and gestational age of babies. Mothers who gave birth to babies weighing less than 2500 gm were considered as cases and mothers who gave birth to babies weighing more than the weight mentioned were considered as controls. Study was conducted in Ashulia, Savar which is a rural area of Dhaka between March to July, 2015 with a sample size of 448 respondents, where 138 were cases and 310 were controls. A retrospective medical record review was conducted to find out the singleton deliveries during 2010 and 2014 at a specialized rural hospital located in Ashulia, Savar used by pregnant women. By using the hospital record books, the field interviewers went to the houses of the respondents to conduct face-to-face interview by using pre-tested semi-structured questionnaire. Differences in the distribution of socio-demographic characteristics, pregnancy-related outcomes, and use of smoked and smokeless tobacco, exposure to secondhand smoking by the respondents during pregnancy were examined using chi-square tests; t-tests were used to compare means. Logistic regression was used to generate crude odds ratio and 95% confidence intervals. **Results:** Although not statistically different, the mean age for mothers at delivery was higher in controls than cases. In our study, 8.0% of the cases and 13.0% of the controls were SLT users. The association between low birth weight (LBW) and SLT use was not statistically significant but the association between LBW and exposure to secondhand smoke was found to be significant (p<0.001) even after adjustment. There was association of SLT use with the occurrence of pre-term delivery with an OR 3.57, 95%CI 1.85-6.88 (p<0.001). **Conclusion:** This study could not establish the association of birth weight and SLT use in rural area of Dhaka, Bangladesh. Effect of SLT was observed in the increase in pre-term delivery.
Research Title:

Compliance with tobacco control law in public places: A survey in Dhaka city

Md. Shahriar Shafiq is an Assignment Coordinator at the Institute of Child and Human Development (ICHD). He has keen interest in education and research for the advancement of national education system and social transformation. He worked with various organizations and enriched himself as a potential worker in the field of education and development.
Compliance with tobacco control law in public places:
A survey in Dhaka city

Author: Md. Shahriar Shafiq

**Background:** Tobacco related illnesses are a major problem in Bangladesh and pose considerable challenges to the country's overall economic development. Evidence from different studies indicates that a strong tobacco control policy can help to reduce smoking rates. Bangladesh enacted a tobacco control law in 2005 with some of the provisions of the WHO Framework Convention on Tobacco Control (FCTC) Guidelines, and then introduced an amendment in 2013. Some recent studies, newspaper reports and observation by researchers in Bangladesh found violations of the tobacco control law in public places in the country. **Objective:** The study aimed to investigate compliance with the current tobacco control law in selected public places. **Methods:** The study was conducted in 28 selected places from 7 different categories of public places covering the jurisdictions of Dhaka South and Dhaka North City Corporations. A total of 588 respondents were drawn for face-to-face interviews from 3 categories and included both smokers and non-smokers—visitors, dwellers and authoritative figures. An observation protocol was used to triangulate the findings. **Results:** The survey found that more than 85.0% of respondents from all categories know about the tobacco control law in public places. Among the respondents, a majority that is 71.7% visitors and more than half of the city dwellers did not see any smoke-free signage in public places. Over one-fifth of respondents observed smoking in public places during the study period. In case of smokers, most (96.0%) mentioned they have never been punished for smoking in public places, nor did they see other people being punished for violating the law. Moreover, the authoritative figures were not fined for negligence of their duty. The study also found tobacco buying/selling activities in certain places including by/to minors, which is non-compliant with the law. Violation of the law took place mostly in different places of the cinema halls, public transportation, stations and shopping malls. Lack of punishment and inadequate monitoring were the main causes for violating the law. **Conclusion:** Regular monitoring, proper punishment for violating the law along with training for authorities and increased awareness among the general public is necessary to ensure compliance with the current tobacco control law. In addition, future tobacco control policy should consider comprehensive smoke-free public places with no exemptions and provisions for violation.
Dr. Mohammad Kamruzzaman Khan

Research Title:
Knowledge and attitudes regarding the national Tobacco Control Law and smoking behaviors among Bangladesh police

Dr. Mohammad Kamruzzaman Khan is a Public Health Specialist and Lecturer in the Department of Community Medicine of Mymensingh Medical College, Bangladesh. He obtained MBBS and MPH from the University of Dhaka. At the beginning of his career he worked for USAID for two years and joined the Government Cadre Service in 2003. He is contributing to the field of Public Health through teaching and research.
Knowledge and attitudes regarding the national Tobacco Control Law and smoking behaviors among Bangladesh police

Author: Dr. Mohammad Kamruzzaman Khan

**Background:** Tobacco use is an important public health issue in Bangladesh which has high levels of both cultivation and consumption. The Government of Bangladesh has taken several initiatives to reduce tobacco use. Police are engaged in enforcement of the tobacco control law. For effective enforcement of the Tobacco Control Law, they should have a sound knowledge of the law and positive attitudes toward enforcing the law. **Objective:** The objective of the study was to assess the knowledge and attitudes regarding the law and smoking behaviors among Bangladesh Police.

**Methods:** The descriptive cross-sectional study was conducted among 440 members of the Bangladesh Police during March–October, 2015. Police personnel of different ranks were interviewed purposively from the selected Police Superintendents’ (SP) offices, police lines, police stations and police camps. A semi-structured questionnaire was used to conduct face-to-face interviews of police personnel regarding their behavior on tobacco consumption and their knowledge and attitudes towards the law. **Results:** Among the respondents most were male (94.1%). About half of the respondents (48.6%) never smoked in their life and there were no females among the smokers. There was a lack of knowledge among police personnel regarding various rules and clauses of the law. Most of the respondents (98.6%) showed positive attitudes regarding the rationale of prohibiting smoking in public places and public transports. Most of the respondents were against the selling of tobacco products to minors and wanted proper implementation of the law. Nearly half of the respondents (48.4%) thought that smoking among police were one of the obstacles to effective implementation of the law. Almost all of the respondents (99.1%) were of the opinion that police personnel should be a role model for the public by not smoking tobacco and thought that an orientation or training program on the law should be arranged for police personnel. **Conclusion:** Lack of knowledge regarding various rules and clauses of the law was a barrier to effective enforcement of the tobacco free police station initiative. Positive attitudes of police personnel towards the law will help with effective implementation of the tobacco control law. Orientation or training programs for police personnel on enforcement of law would improve the operational effectiveness in implementing the law in Bangladesh.
Palash Chandra Banik

Research Title:
Tobacco knowledge, attitudes and practices among adults attending outpatient departments of public hospitals in Bangladesh

Mr. Palash Chandra Banik completed his MPhil degree in Non-Communicable Diseases (NCD) from the Bangabandhu Sheikh Mujib Medical University under the Faculty of Preventive and Social Medicine in collaboration with University of Oslo, Norway in 2012. He is a NOMA (Norad’s Programme for Master Studies) scholar. He has been working as a Faculty Member at the Department of Non-Communicable Diseases of Bangladesh University of Health Sciences (BUHS) since 2014. He is a young professional in the field of NCD. He works as a Co-investigator in a research project titled ‘Perceptions on National Health Insurance among Potential Consumers, Opinion Leaders and Policymakers to Achieve Universal Health Coverage in Bangladesh’ which is funded by icddr,b and Rockefeller Foundation, USA. He has 10 publications in different reputed national and international journals.
Tobacco knowledge, attitudes and practices among adults attending outpatient departments of public hospitals in Bangladesh

Author: Palash Chandra Banik

Background: Tobacco smoking is a major cause of preventable morbidity and mortality. While tobacco smoking rates have decreased in many developed countries in the last 20 years, they remain high in developing nations. Adults attending a hospital outpatient department can be directly or indirectly affected by tobacco. By law, hospitals are no smoking zones in Bangladesh but sometimes this law is broken by the physicians, other hospital staff, patients and patients’ attendants either knowingly or unknowingly. The knowledge, attitudes and practices among the adults attending a hospital has not yet been assessed which is very important as it is known that smoking also has an environmental impact due to secondhand smoking along with its active effect. Objective: The study was aimed at assessing the knowledge, attitudes and practices regarding tobacco consumption among adults attending Outpatient Departments (OPD) of public hospitals in Bangladesh. Methods: This was a cross-sectional study where 1140 adults between 15 to 65 years of age were selected from the outpatient departments of government hospitals purposively chosen from seven divisions of Bangladesh in 2015. Data were collected through face-to-face interview using a semi-structured pretested questionnaire. Univariate, bivariate and multivariate analyses were conducted using SPSS. Ethical clearance was obtained from the ethical review committee of Bangladesh University of Health Sciences. Results: The prevalence of tobacco use among the respondents was 35.1%; among them almost half of the respondents (47.5%) used smoking tobacco, 43.0% used smokeless tobacco and 9.5% used both forms of tobacco, smoke and smokeless. Most of the smokers smoked cigarettes (92.9%) whereas 67.8% smokeless tobacco users consumed Jarda. The mean age of initiation of smoking and smokeless tobacco was 19.5 (±4.5) and 26.03 (±9.7) years respectively. Significant differences in tobacco consumption (p<0.05) were found for sex, age group, educational level and occupational status. Almost all respondents had knowledge of health hazards due to tobacco consumption, which they learned from the mass media. Significant differences (p<0.05) were found for knowledge regarding health hazards of tobacco use by age group, educational level, occupational status, monthly income and expenditure. Family members, friends, community and media influence in smoking habit. Female gender, productive age group 25-64 years, respondents who completed SSC and above, and monthly family income were significantly associated with tobacco consumption (p<0.05). Conclusion: Almost all the respondents had very good knowledge on health hazards related to tobacco consumption irrespective of gender but they were not that much motivated which is reflected in their practices. This study finding has some policy implications such as on the effectiveness of the anti-smoking policies, like higher excise taxes and VAT on cigarettes, youth access restrictions, and import restrictions.
Dr. Shamim Jubayer

Research Title:
Level of compliance with the Tobacco Control Act 2005 in relation to exhibition of vigilance notice at public places in Bangladesh

Dr. Shamim Jubayer is working with the National Heart Foundation of Bangladesh as a Research Fellow. He also serves as the Program Manager of 'Capacity Building of Primary Care Physicians for Treatment of Tobacco Dependence in Bangladesh'. He is very committed towards protecting people from the harmful effects of tobacco use, building awareness among the people against tobacco use, and offering help to quit tobacco. He has progressive experience and accomplishments as a public health worker with a demonstrated interest in fieldwork. He also worked as a Research Fellow at the Institute of Epidemiology Disease Control and Research (IEDCR), Ministry of Health and Family Welfare, Government of Bangladesh.
Level of compliance with the Tobacco Control Act 2005 in relation to exhibition of vigilance notice at public places in Bangladesh

Author: Dr Shamim Jubayer

**Background:** The prevalence of smoking is high in Bangladesh and the Government is committed to curb use of tobacco in the country. According to the Tobacco Control Act 2005, a prescribed vigilance notice have to be displayed in public places. A well-designed compliance study can help assess the effectiveness of comprehensive laws and highlight the potential need for improved implementation and enforcement of the law. **Objective:** The current study was conducted to determine the level of compliance with the Tobacco Control Act 2005 in terms of display of 'No Smoking' signage at public places and to determine knowledge and attitudes toward the Act in terms of display of this signage in public places by assigned authorities and general people of Bangladesh. **Methods:** A cross-sectional survey was conducted and data were collected through direct observation of 394 public places in 28 upazilas selected from seven divisions of Bangladesh. Separate questionnaires were used to collect information from the managers and the visitors of the public places. Results were expressed as frequency distribution and percentage and statistical analyses were done. **Results:** Among the facilities visited, just over one-quarter had “No Smoking” signage displayed in visible places and less than one-quarter of signage complied with the Law in relation to size and color. Of the facilities, one-fifth that is 18.5% had “No Smoking” signage at the point of entry or exit. A majority of respondents (94.4%) knew about the existence of the Tobacco Control Act 2005 including 62.7% about the signage. In general, 86.0% of the respondents knew that smoking was banned at public places but only three-quarters knew that violation of the law would result in monetary fine as punishment. **Conclusion:** This study identified that compliance with the law in relation to the display of “No Smoking” signage in public places is low. This is one of the potential areas of violations that need attention from enforcement agencies and policymakers.
Research Title:
Child labor in bidi factories: Current situation and the way forward

Sushanta Kumar Singha has been working for Jamuna Television as a Senior Reporter since November 2013. Earlier, he worked at ATN News and Ekushey Television for about seven years as a Reporter. In his entire career as a Reporter, he produced numerous television news reports on tobacco and published articles in different newspapers. He also worked with the Japan International Cooperative Center. He already has some experience in tobacco control research as he was involved in a research titled ‘Bidi in Bangladesh: Myths and Reality’ as a Co-Researcher. It was the first country-based investigative research report on local handmade tobacco product in association with Campaign for Tobacco-Free Kids in 2012. He attended “Bangladesh Tobacco Control Leadership” in 2013 which was conducted by BCCP with technical assistance from the Johns Hopkins Bloomberg School of Public Health.
Child labor in bidi factories: Current situation and the way forward

Author: Sushanta Kumar Singha

**Background:** Working at a tobacco factory can exert hazardous effects on health. Bidi is one of the major tobacco products consumed in Bangladesh with about 65,000 people employed in 117 bidi factories in the country. A significant proportion of these workers are children. In this context, it is important to explore the child labor situation in bidi factories to highlight the need for regulating this harmful sector not only as a priority area for tobacco control but also to ensure that children are protected from hazardous child labor in light of the prevailing laws and policies of the country.

**Objective:** The purpose of the study was to explore the child labor situation in bidi factories in Bangladesh and recommend ways to regulate the sector by preventing child labor. **Methods:** The study was conducted in four region of Bangladesh with highest concentration of bidi factories which are the districts of Rangpur, Kushtia, Tangail and Barisal. A total of 160 child laborers (aged 7-14 years) that is 40 children from each area were selected through snowball technique and interviewed by a semi-structured survey questionnaire. In addition, the parents/caregivers of those 160 children were also interviewed. For qualitative part of the study, in-depth interviews were conducted among 16 experienced workers who were not included in the quantitative survey, 8 factory owners or management staff, and 4 local health practitioners e.g. medical doctors. Quantitative data were analyzed using univariate technique and qualitative data were analyzed using standard textual analysis techniques. **Results:** Survey findings revealed that most of the children were from poor families with an income of less than Tk. 5,000 per month. About half of the respondents’ children were working in the factories for 2-4 years. Number of working days for the children varied across regions; 4 out of 10 children worked over six hours a day and 8 out of 10 children worked over three hours a day. A quarter of the working children had dropped out of school. The low wage rate was one of the important reasons that make bidi factory owners interested in employing child laborers. The survey revealed that more than 8 out of 10 child workers felt sick (headache and breathing problems) during their work. More than three-fourths of them expressed their willingness to quit their job at the bidi factory; however, alternative opportunities to supplement their family’s income were extremely limited. **Conclusion:** To stop child labor in bidi factories, enforcement of a strong policy with legislative bindings is necessary. Alternative employment opportunities and government support in the form of safety-net programs can be introduced. Finally, people, particularly the parents, need to be aware of the adverse effects of working in bidi factories. Government, media and NGO-CSOs should work collectively to stop child labor in bidi factories.
Research Title:
The role of mass media in tobacco control

Ms. Tahsina Sadeque is a Television Journalist. Currently, she works as a Reporter with Somoy Television, a private 24-hour news channel. She has completed Bachelor of Social Science and Master of Social Science in Public Administration from the University of Dhaka. In her career in journalism, she received many prizes and fellowships for her contribution in acid violence, population control and tobacco control in Bangladesh. She is also an active member of Anti Tobacco Media Alliance (ATMA).
The Role of Mass Media in Tobacco Control

Author: Tahasina Sadeque

Background: The strength of evidence for mass media campaigns within the context of a comprehensive tobacco-control program continues to grow mass media provide effective tools for convincing tobacco users not to use tobacco, because they can communicate prevention messages directly to people. Mass media campaigns can directly influence an individual's decision about quitting; smokers view or hear campaign messages, gain new insights and reflect on the implications on their own behavior. Bangladeshi media has been playing an active role in tobacco control and literature shows that the quality of tobacco control coverage in media is gradually improving.

Objective: The objective of this study was to investigate the role of mass media in tobacco control.

Method: Both primary and secondary qualitative data were used. The secondary data used were media content; the primary data were collected through the Key Informant Interviews (KII) among 39 employees from 13 media houses and in-depth Interviews of government officials and politicians. Five national newspapers were selected for their popularity; two online news portals and six TV channels were selected through Television Rating Point. Qualitative content analysis methods were used to examine the role of these media outlets in discouraging tobacco use.

Results: Mass media was found to play a strong role in support of the amended Tobacco Control Law; its implementation; creation of public support against tobacco farming, exposing tobacco companies’ tactics and other tobacco control activities including passing of Tobacco Control Rules. In controlling tobacco supply and demand effectively, media has been assisting the government and anti-tobacco activists productively. Key informants opined spontaneously on tobacco control program publicity, interference of tobacco organization on media people, activities and influence of anti-tobacco organization on media, awareness building activities, Tobacco Control Law 2005 and Amendment 2013. Overall, the study shows evidence that mass media coverage of tobacco control issues is influencing the context of comprehensive tobacco control programs.

Conclusion: To reduce tobacco consumption, along with strict enforcement efforts, media should be used to assist with the implementation of the Tobacco Control Law. A sustained nationwide campaign to educate the masses against the dangers of smoking and smokeless tobacco is needed and media can play an important role in creating awareness about the dangers associated with tobacco consumption.
Research Title:
Patterns of electronic-cigarette use and users’ beliefs about its harmful effects

Dr. Tithi Das is working as a Lecturer at the Department of Public Health of the Atish Dipankar University of Science and Technology. She started her career as a Lecturer in Bangladesh University of Health Sciences. She did her Master of Public Health from North South University with a major in Epidemiology and completed her graduation in Dental Surgery from University Dental College. Dr. Das received the grant to conduct a research on ‘Patterns of electronic cigarette use and user’s beliefs about its harmful effects’.
Patterns of electronic-cigarette use and users’ beliefs about its harmful effects

Author: Dr. Tithi Das

Background: E-cigarettes deliver nicotine-containing aerosol (vapor) to the user by heating a solution typically comprised of propylene glycol, nicotine and flavoring agents. It also contains carcinogens, including nitrosamines, toxic chemicals such as di-ethylene glycol and tobacco-specific components suspected of being harmful to humans. Objective: The aim of this study was to explore the reasons for and patterns of e-cigarettes use and users’ beliefs about its harmful effects. Methods: This descriptive cross-sectional study was conducted in seven divisional cities in Bangladesh during March and November 2015 through a non-probability snowball sampling technique for selecting the respondents. During nine months of study period a total of 200 e-cigarette smokers were interviewed using a pretested semi-structured questionnaire in face-to-face interviews. Descriptive analysis of all relevant variables was done within/between variables. Data analyses were done using Statistical Package for Social Sciences (SPSS) and analysis was done targeting the study objectives by considering the indicators. Results: The respondents were between 23 and 32 years of age; the mean age of the study respondents was 28 years. One-fourth of the respondents smoked e-cigarettes for longer than one year and most of them used it within half an hour of waking up. More than 80% of the respondents had completed their education up to higher secondary level and a very few have completed only primary education. Out of two hundred respondents, 84.5% of the respondents currently smoked conventional cigarette parallel to the electronic cigarette. More than half of the respondents usually smoked inside their homes assuming that it may be harmful for both children and pregnant women. Close to 50% of the respondents believed that e-cigarettes were safe for their health; and in comparison to conventional cigarettes, e-cigarettes were safer. On the other hand, 50% reported short term effects from using electronic cigarettes including throat irritation, heart burn and dizziness. Conclusion: This study has demonstrated that users harbor misperceptions about the health risks, addictive properties, and ease of cessation associated with electronic cigarettes. Such misperceptions have the potential influence to initiate, thereby increasing the number of e-cigarette smokers in Bangladesh. Without correct information about e-cigarettes, users are unable to make informed decisions about their smoking behavior. Therefore, it is vitally important that long-term health and cessation effects of e-cigarettes are examined and communicated to the public.
Research Findings
Dissemination
Conference

List of Research Studies
List of Research Studies conducted as of 2015

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Other Activities
BCCP also organizes and facilitates various capacity building programs for the Government of Bangladesh, Bloomberg Initiative (BI) partners and grantees, different public and private universities and NGO professionals involved in tobacco control. It also provides need-based technical assistance services to the Ministry of Health and Family Welfare, BI partners and grantees, Leaders in Tobacco Control-Alumni Association, and Bangladesh Tobacco Control Research Network in Bangladesh.

**Capacity Building Initiative**
Since 2015, BCCP has built the capacity of more than eight hundred development professionals, faculties and students of various public and private universities to increase their knowledge and leadership skills in relation to research methodology, message development, community mobilization, effective presentation and report writing.

**Provide Technical Services**
BCCP provides technical assistance to the Ministry of Health and Family Welfare by designing and developing BCC materials for World No Tobacco Day. It works closely with the National Tobacco Control Cell, and in-country BI partners including the World Health Organization, Campaign for Tobacco-Free Kids and International Union Against Tuberculosis and Lung Disease for tobacco control advocacy in Bangladesh. BCCP also provides need-based support to the BI grantees and other organizations working in tobacco control in relation to message and material development and facilitation of workshops/trainings. BCCP collaborated with the World Lung Foundation based in New York, USA to implement the 'Sponge', 'Alive' and 'Smoke' Mass Media Campaigns in Bangladesh.

BCCP provides technical assistance to the Leaders in Tobacco Control-Alumni Association which was formed with the Bangladeshi participants of Global Tobacco Control Leadership and Certificate Programs to act as an Advocacy Group to promote tobacco control program in Bangladesh. BCCP also acts as the Secretariat of the Bangladesh Tobacco Control Research Network.

At the request of the Institute for Global Tobacco Control, BCCP provided technical assistance to Muhammadiyah Tobacco Control Center (MTCC) at the Muhammadiyah University Yogyakarta, Indonesia to manage their Research Grant Program. Along with other activities, the BCCP team, through a number of technical assistance visits, helped MTCC to conduct a number of Mentoring Workshops for their research grantees so that they were able to conduct high standard research.
Learning from the Experts: A Course for Healthcare Professionals

Learning from the Experts: A Course for Healthcare Professionals is an online course developed by the Johns Hopkins Bloomberg School of Public Health for the Bloomberg Initiative to Reduce Tobacco Use. It offers a broad introduction to the global public health problem related to tobacco consumption. This course is designed for busy healthcare providers as a time-saving alternative for those who otherwise would not be able to complete longer tobacco control trainings. The course is free and open to anyone who is already working in a healthcare profession and is interested in learning more about tobacco control.

The course is especially beneficial for doctors and other healthcare professionals including post-graduate medical, dental and nursing students, deans, principals, and professors of medical colleges and universities.

For more details, please visit: globaltobaccocontrol.org

In 2015, BCCP with technical support from the Institute for Global Tobacco Control organized four symposiums to introduce the online course. The symposium produced a strong outcome, as many participants were registered for the course on site. As an immediate outcome of the symposiums, number of enrollments in the online course from Bangladesh has significantly increased.