

## News and Views

### 5<sup>th</sup> Young Scientists Congress Secretariat, Bangladesh Academy of Sciences (BAS) National Science and Technology, at 25-27 November 2022, attended 2022, Complex, Agargaon, Dhaka, Bangladesh

#### Abstract

**BETTER CLIENTS SATISFACTION REVEALED WITH NUTRITION SERVICE DELIVERED BY PRIVATE/NGO RUN PRIMARY HEALTH CARE FACILITIES COMPARED TO THAT OF GOB-RUN HEALTH CARE FACILITIES IN URBAN AREAS IN BANGLADESH.**

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**Background:** Nutrition service was mainstreamed into maternal, neonatal and child health (MNCH) services from 2010 under the leadership of GoB run National Nutrition Services (NNS). However, since inception, certain lacks & gaps that prevailed in transferring knowledge on client satisfactions in terms of nutrition service delivery were improved in health care facilities in urban Dhaka in private sector.

**Objectives:** Client satisfaction on nutrition service delivery was assessed in the study areas.

**Method:** This cross-sectional study was conducted in April-July 2019 in Dhaka City. Thirty-three health facilities were randomly sampled, of them 11 from each category of public, private and NGO health facilities. Client's satisfaction was assessed utilizing exit interviews with pregnant women (n=165) and caregivers of 0-24 month-old children (n=162) in out-patient care in urban primary care health facilities. Linear regression was employed to identify factors (age, gestational age of pregnant women, type of health facility, reason for using health facility and number of nutrition service received) were associated with overall satisfaction among respondents. Data were analyzed using SPSS version 25.

**Results:** The mean satisfaction with service delivered was 4.3 for ANC visits and 4.0 for Pediatric visits (range 1-5). During ANC visit, client satisfaction was significantly associated with the number of nutrition services received (p=0.001). Participants had significantly lower

satisfaction who attended public health facilities compared to those in private and NGO health facilities.

**Conclusion:** The clients were more satisfied with services at private facilities compared to public health facilities. Client satisfaction in health facilities can be improved by promotion of quality nutrition counseling in health facilities. Despite of higher score of satisfaction among users, there are gaps in terms of quality of waiting area and waiting time, especially for public facilities, which needs to be improved so that mothers can avail nutrition services in comfort and are motivated to use the facilities.

**Keywords:** Health facilities, nutrition services, satisfaction, quality, urban

#### Abstract

**MAJOR DETERMINANTS OF POOR BONE MINERAL DENSITY AMONG BANGLADESHI ADULT POPULATION IN AN URBAN HOSPITAL**

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**Background and Objectives:** Osteoporosis is a progressive bone degenerative leading to disease bones becoming weaker and brittle. It not only causes long term morbidity but also strikingly decline quality of life (QOL) of victim. Among different developing countries, the prevalence rate of osteoporosis remains alarming in the face of poor management and grows awareness on its risk factors. Several chronic medical conditions, medications, and life style factors affect bone mineral density. An effective way to prevent osteoporosis to measure bone mineral density (BMD), determine major risk factors to be associated with osteoporosis and lack of consciousness about bone health. We, therefore, tried to define association of gender specific QOL with BMD as major risk factor to develop osteoporosis.

**Methods:** This cross-sectionally designed retrospective study was undertaken from the Scintigraphy Division of National Institute of Nuclear Medicine and Allied Sciences (NINMAS), Bangabandhu Sheikh Mujib Medical University (BSMMU) in late 2018. Of total 50 patients, attending at the radiology department at BSMMU for Dual-emission X-ray absorptiometry (DXA) scan, were studied. All the relevant data was collected through questionnaires and lab/X-ray report. Data analysis was undertaken by using SPSS version 16.

**Results:** Our findings revealed 26% had normal BMD while 34% had osteopenia and 40% osteoporosis; the female's being higher 40 (80%) than the male counterpart 10 (20%). Drinking tea ( $p < 0.04$ ), doing exercise ( $p < 0.02$ ), exposure to sun ( $p < 0.06$ ), wearing a hijab ( $p < 0.04$ ) were positively correlated with BMD.

**Conclusions:** We found that females are most likely to be at risk of osteoporosis than their male counterpart. Early screening is a must to detect early decrease in BMD, particularly among the people susceptible to fragility/fracture. We advocate Vit-D intake to prevent BMD. We feel that it is an imperative to increase mass public awareness on this very issue of BMD.

#### Abstract

### COMPARATIVE ASSESSMENT IN FOOD BEHAVIOR, NUTRITIONAL STATUS AND HYGIENE-SANITATION BETWEEN RURAL BANGALI AND TRIBAL SANTALI ADOLESCENTS OF PANCHAGARH

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**Background:** Adolescents are high-risk groups in Bangladesh being neglected nutritionally who are transformed into alarming state of malnutrition and/or micronutrient/vitamin deficiency resulting in diet-related diseases, yielding lower BMI among 75% boys and 59% girls. Since none/few public health/nutritional research have been conducted in rural-Panchagarh, we compared adolescent's health/nutrition in two analogous communities of native-Bengali and tribal-Santali in rural Panchagarh, aiming to determine if perceived knowledge on dietary pattern is associated with the status of adolescents in respective communities.

**Methods:** This one-point survey was performed in 16 villages of Panchagarh, involving 292 adolescents (159

Bangali and 133 Santali) employing a hybrid-designed (open-closed ended) questionnaire and standard anthropometric-measurements. All verified/checked data were analyzed employing SPSS V. 22.0 using required statistical-methods.

**Results:** Mean age of respondent adolescents was  $15.3 \pm 1.7$  years. Overall 67% were had low-income (29% Bangali and 36% Santali) belonging to average mid-income-families. Though 34% Bangali and Santali both remained under-nourished, more Santali (9.8%) had overweight while more Bangali (1.3%) were obese, though dietary knowledge revealed insignificant difference ( $P < 0.45$ ). While 40% Bangali and 45% Santali knew about balanced-diet, more Bangali than Santali could mention source of food-energy, significantly ( $P < 0.001$ ), though both their knowledge on main protein source was less. Bangali adolescents were less unaware on food-components responsible for growth significantly than Santali ( $P < 0.01$ ). Hand-hygiene practice was also lower both in Bangali (31%) and Santali (28%), ( $p < .01$ ), but surrounding environmental hygiene was significantly better in Bangali-villages as observed ( $P < 0.01$ ). Though overall nutritional knowledge remained slightly-better among Santali, practicing those in day-to-day life was not appropriate.

**Conclusions:** Since concepts/practice on diet/ food-behavior/nutrition both among Santali and Bangali adolescents remain low alike awareness/practice on personal-hygiene. It is imperative that proper hands-on training/education in these fields be targeted immediately under stringent policy to establish a positive impact on community-health and improved-nutrition among these adolescents.

#### Abstract

### FOOD BEHAVIOR AND NUTRITION OF CKD-PATIENTS ON MAINTENANCE HEMODIALYSIS: RECENT SYNOPSIS FROM ONGOING STUDY

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**Background and Objectives:** Globally, Chronic Kidney Disease (CKD) pose serious public health issues leading to destined fatality that often creates enormous family/societal financial-burden, particularly in developing countries. This fact haunted us some of the BSc Research Team to unveil how much does socio-economic and nutritional factors remains associated with CKD-patients on maintenance-hemodialysis.

**Methods:** This hybrid-designed observational study was conducted among 87 CKD-patients from hemodialysis units of two urban hospitals, administering an interviewer-assisted face-to-face pre-tested

questionnaire, prospectively, and checking relevant clinical sheets/laboratory reports, retrospectively.

**Results:** Mean age of 87 patients, studied so far, was 50.9±12.7 years (ranging 41-50), 48 being males and 38 females, having mean BMI of 23.3 differing higher among elderly ( $p < .02$ ) but had no gender difference ( $p < .19$ ), ~84% belonging to mid-class ( $p < 0.02$ ) and not related to family history. Males were more from AWMCH while females from HFRCMCH ( $p < 0.01$ ). Of prevailing comorbidities: 47% patients had Diabetes, 24% UTI, 22% CVD and, 91% had hypertension (BP fluctuated in 81.6% during dialysis). Notably, of 70% patients who followed hospital prescribed diet, 64% reported to have benefitted while 30% didn't. When duration of dialysis was crossed with certain CKD-aggravating foods was significantly associated with Malta-fruit ( $p < .05$ ), junk foods ( $p < 0.01$ ) and fast foods ( $p < 0.01$ ). Importantly biochemical-parameters were found higher, like: *Mg* (mean=57.5±41.7), *Phosphate* (mean=9.9±18.6), *S. ferritin* (mean=1290.3±867.3), *urea* (mean=108±76.6), *albumin* (mean=18.2±16.9), *triglyceride* (mean=190±29.6). Finally, during dialysis some patients faced issues like itching, headache, body pain/muscle-cramp, etc. and 20% had fluctuating BP, 7% palpitations, and 4-5% each had respiratory problems, numbness, seizures, though >57% had no complain.

**Conclusion:** Cross-sectional findings of this study revealed middle-class people were more prone to CKD but not to malnourishment since their BMI was normal. We recommend further large-scale study to yield prudent recommendation towards better management & cure of CKD as effective public health interventions.

#### Abstract

### PERCEIVED KNOWLEDGE AND ATTITUDINAL TREND OF JUNIOR PHYSICIANS ON CLINICO-EPIDEMIOLOGICAL AND MOLECULAR DIAGNOSIS OF CHILDHOOD NEURO-METABOLIC DISORDERS IN BANGLADESH

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**Background and Objective:** NMD are a group of inherited metabolic disorders mainly affect the brain, often underestimated being unaware &/or diagnostic

errors though it affects world's ~6-8% population. No such data is available in Bangladesh. We conducted this baseline KAP-study to gauge perceived- knowledge and attitudinal-trend of junior physicians on childhood-NMD.

**Methodology:** This is a cross-sectional KAP-study is being conducting at the Ad-din medical college hospital since October'2002 administering a respondent- depended hybrid-designed questionnaire to assess the level of Knowledge of junior physicians on the basic issues of childhood NMDs as they can refer to neurologists for better treatment. It is important to educate junior physicians on NMD which are very less taught in MBBS course.

**Results:** Of 84 junior doctors (mean age 25.4 years), 62.6% knew NMD as inherited/genetic, 81% opined it as causally-associated with metabolism & brain-function(s). While 63% thinks parental-consanguinity increases NMD-risk, 45% knew its main presentation, whereas majority didn't know its specific presentation of different NMD-types. Around 63% optioned some screening-test to diagnose in BD; MRI of brain is essential (70%) but 12% out-listed those. 81% of thought molecular diagnosis as the best to identify childhood-NMD but most lacked knowledge on mol.-diagnosis. While 49% feel all be aware about NMD. Around 28% think mol.-diagnosis, 28% targeted gene-sequencing as the best, but 13% considered RT-PCR. Most doctors remain unaware of institutions that perform mol.-diagnosis, 38% agreed cost of mol.-diagnosis is expensive. Most doctors (>90%) proposed training on molecular diagnosis and development of rapid diagnostic kits for NMD and suggested a national surveillance program for childhood NMD in Bangladesh.

**Conclusions:** Our finding suggests further steps to be taken to assist our policy makers and public health planners towards a better strategic planning to raise perceived knowledge and up-bring attitudinal trend of junior physicians on childhood NMD in Bangladesh.

#### Abstract

### EMERGING INFECTIOUS DISEASE: WHERE DOES BANGLADESH STAND? GLIMPSES ON MEDIA COVERAGE OVER THE LAST 6 MONTHS

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**Background and Objectives:** Emerging infectious diseases (EID) remain a public health threat since long. EID is associated with sociocultural-norms, poverty and

urbanization-which UNDP-HCH Report-2022 linked to exacerbate inequality/gaps in human-development. We, report here, three Infectious-diseases that swept-over Bangladesh in 2022.

**Methods:**This retrospective study on emerging-infections of dengue, cholera and hand-foot and mouth disease/HFMD affecting Bangladesh, was conducted by reviewing popular newspaper reports over the past 6 months, which were analyzed using descriptive statistics.

**Results:**Clinico-epidemiological features of Em-IDs: dengue (caused by *DEN-Virus*), Cholera (caused by *V. cholerae*) and HFMD (caused by either *Coxsackie* or *Enterovirus*) were excerpted from The Daily Star, Prothom-Alo, Kaler-Kontho, Daily Ittefaq& The Business Standard (June-Nov'2022).

Daily Star and Prothom-Alo covered 3 Em-IDs- cholera, Dengue and HFMD in whole-country, it covered **cholera** from Dakshin-khan, Mirpur, Md-pur, Jatrabari, Sabujbagh, Tongi, Gulshan, and Gazipur. For **cholera-outbreak**, 11,126 patients were admitted in icddr, b (Daily Star). However, Daily Ittefaq covered outbreak news on DEN in Bangladesh, but concentrated

on Dhaka-city and 67 deaths are listed till 8<sup>th</sup> October, 2022, alike, The Business Standard which covered only HFMD mostly in Dhaka and Gazipur. While Cholera and Dengue were observed in all ages, children suffered from HFMD more but no death is observed in case of HFMD.

**Expert opinion** on 2022 outbreak of these three emerging infections, are:

- Breach in WASA-water cross-contaminated with sewage-line led to cholera
- Failing to cope with climate-change (temp~27-32°C with intermittent-rain assisted in breeding *Aedes aegypti*) yielding DEN, coupled with rapid-urbanization/ city-development.
- Childhood HFMD (by *Coxsackie B-16* and *enterovirus EV-7*) may have spread out in this monsoon.

**Conclusion:** Recent large-outbreaks of infectious-diseases ring our warning-bell to address climate-change in without no time loss. All relevant government-organizations must take necessary actions to tackle adverse-effect of rapid-urbanization and seizing all types of environmental-pollutions from the country.