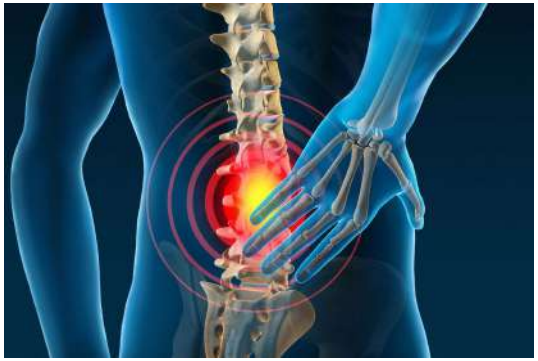
LBP in Adult Bangladeshi Population: A Cross-sectional National Survey



Dr. Muhammad Shoaib Momen Majumder

MBBS, FCPS (Medicine), MD (Rheumatology), FACP (USA)

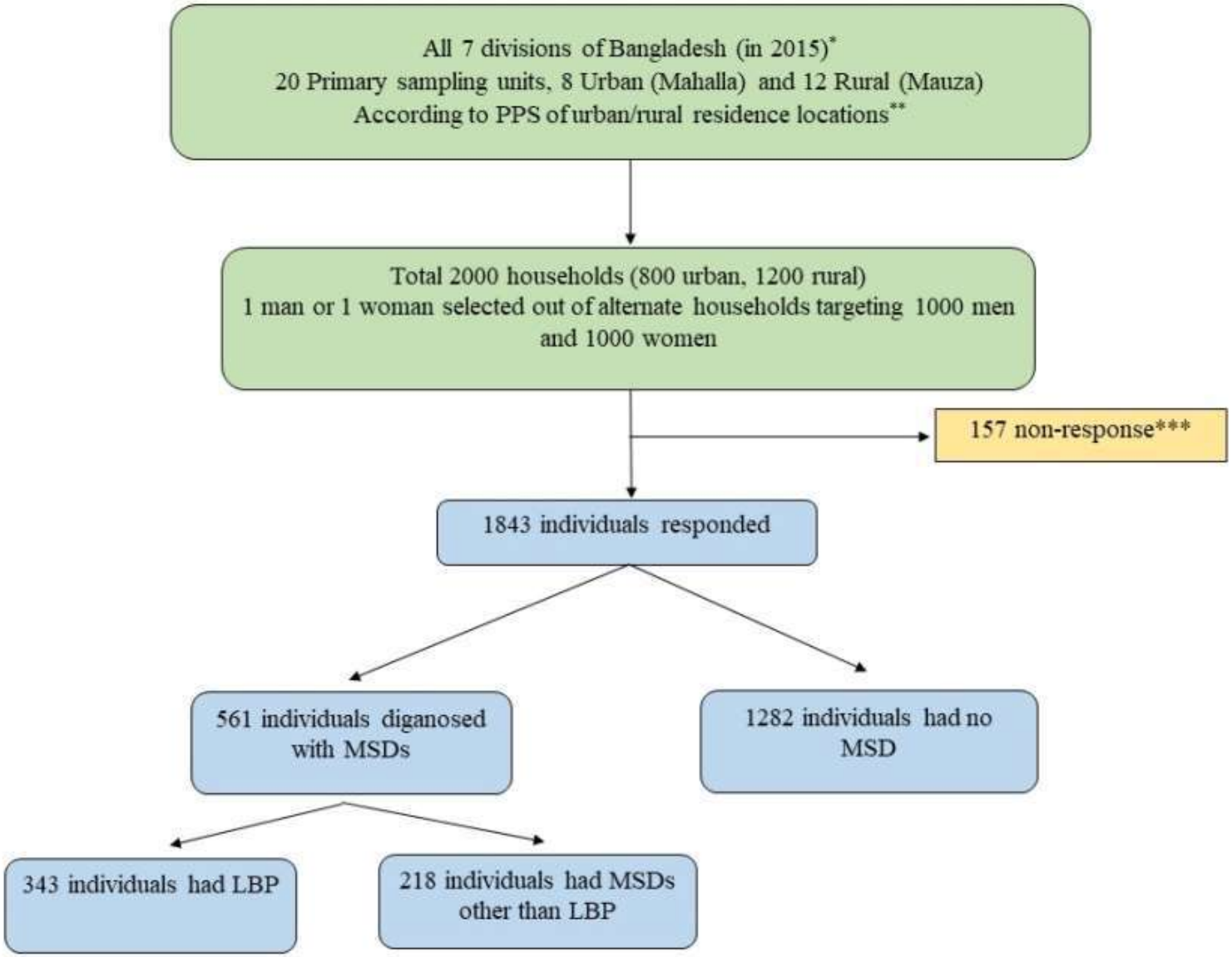
Medicine and Rheumatology Specialist

Bangabandhu Sheikh Mujib Medical University

- LBP is the most frequent medical problems globally
- Defined as pain and stiffness localized below the costal margin and above the gluteal folds
- Upto 84% of adults suffer from LBP at some point of life
- Globally the topmost cause of disability

Methods

- Adults ≥18 years were enrolled in the study
- Mutli-stage cross sectional study
- The sampling frame was based on 2001 Bangladesh Census
- Calculated sample size 1978, rounded to 2000
- A Bangla version of modified Community Oriented Program for Control of Rheumatic Diseases (COPCORD) questionnaire was used
- A team of trained field workers, rheumatology residents and rheumatologists collected the data


All 7 divisions of Bangladesh (in 2015)*
20 Primary sampling units, 8 Urban (Mahalla) and 12 Rural (Mauza)
According to PPS of urban/rural residence locations**
Total 2000 households (800 urban, 1200 rural)
1 man or 1 woman selected out of alternate households targeting 1000 men and 1000 women
157 non-response***
1843 individuals responded
561 individuals diganosed with MSDs
1282 individuals had no MSD
343 individuals had LBP
218 individuals had MSDs other than LBP

Statistical analysis

- Data entry were done on Microsoft Excel and statistical analysis done by Epi Info Version 7.1.5.2.
- We estimated the prevalence of LBP with 95% CI
- Nonparametric test (Krushkal-Wallis test) was used to analyze non normal data
- Univariate logistic regression analysis was done to obtain unadjusted odds ratio
- Finally logistic regression analysis was done to identify factors associated with LBP

- The age-adjusted prevalence of LBP was 19.4% (95% CI 14.0-24.8)
- Prevalence higher is women (27.2%, 19.3-35.1) then men (14%, 8.7-19.3)
- The prevalence persistently increased from age group 18-34 years (12.8%, 8.5-17.2) to >55 years (23.5%, 16.0-31.0)
- People with no education had the highest prevalence (35%, 25.4-44.6)
- The prevalence did not differ between urban and rural residential locations

Sociodemographic characteristics

Sociodemographic characteristics	Total (n=343)*	Man (n=126)	Woman (n=217)
	Number (percent)	Number (percent)	
Age in years, mean (standard deviation)	44.2 (13.8)	48.8 (13.0)	41.6 (13.6)
18-34	91 (26.5)	14 (11.1)	77 (35.5)
35-54	168 (49.0)	70 (55.6)	98 (45.2)
55-99	84 (24.5)	42 (33.3)	42 (19.4)
Occupation			
Homemaker	180 (52.5)	0 (0.0)	180 (82.9)
Laborer†	83 (24.2)	75 (59.5)	8 (3.7)
Business professional	22 (6.4)	22 (17.5)	0 (0.0)
Service holder	11 (3.2)	7 (5.6)	4 (1.8)
Others†	47 (13.7)	22 (17.5)	25 (11.5)
Education			
No formal education (0)	150 (43.7)	46 (36.5)	104 (47.9)
Any primary education (1-5)	71 (20.7)	33 (26.2)	38 (17.5)
Any secondary education (6-10)	97 (28.3)	38 (30.2)	59 (27.2)
Above secondary (≥11 years)	25 (7.3)	9 (7.1)	16 (7.4)
Married‡	334 (97.4)	123 (97.6)	211 (97.2)

Odds ratio of risk factors for LBP

Factors	Odds ratio (95% confidence interval)	
	Unadjusted	Adjusted
Age group, years	2.2 (1.7–2.9)**	2.5 (1.8–3.4)**
(35–99=1, 18–34=0)	1.0	1.0
Sex	1.9 (1.5–2.4)**	2.4 (1.8–3.2)**
(woman=1, man=0)	1.0	1.0
Labourer†	0.9 (0.7–1.1)	-
(yes=1, no=0)	1.0	-
No formal education	1.9 (1.5–2.5)**	1.5 (1.1–1.9)*
(yes=1, no=0)	1.0	1.0
Low wealth index	1.3 (1.0–1.6)	-
(yes=1, no=0)	1.0	-
Strenous physical activity‡	0.7 (0.5–0.9)*	1.0 (0.7–1.4)

Odds ratio of risk factors for LBP

Overweight (body mass index ≥25 Kg/m^2)	1.3 (1.0–1.7)	-
(yes=1, no=0)	1.0	-
History of physical trauma	1.9 (1.3–2.7)**	1.9 (1.3–2.8)*
(yes=1, no=0)	1.0	1.0
Current tobacco user	1.1 (0.9–1.4)	-
(yes=1, no=0)	1.0	-
Hypertension	1.7 (1.3–2.4)**	1.4 (1.0–1.9)
(yes=1, no=0)	1.0	1.0
Diabetes mellitus	1.1 (0.6–1.9)	-
(yes=1, no=0)	1.0	-

LBP: low back pain; MSD: musculoskeletal disorder

* $P<0.05$

** $P<0.001$

What this study add?

- This was the first national-level study on musculoskeletal disorders using the primary sampling units of the Bangladesh Bureau of Statistics
- Four risk factors were identified for LBP
  - Age
  - Female sex
  - Absence of formal education
  - History of trauma

- One in five adult Bangladeshi population suffer from LBP
- Education and trauma are modifiable risk factors that warrant intervention
- Appropriate clinical services, health education, and risk reduction strategies can reduce the burden of LBP

The End