**Supplementary Material 2**

***Sample codes for Bayesian quantile regression in BayesX***

The following are the codes that demonstrate how quantile model for underweight in men was estimated within BayesX (v 3.0.2). Note that, in case of overweight, codes were similar to that of underweight, only the quantile value that for the overweight was used.

> logopen using D:\ BayesX\Quantile\Logs\underweight\logb.log

> dataset d

> d.infile, maxobs = 150000 using D:\BayesX\Quantile\Data\data\_male.txt

> map m

> m.infile using D:\BayesX\Quantile\Maps\India\_district\_map.bnd

> m.reorder

> mcmcreg b

> b.outfile = D:\BayesX\Quantile\Results\underweight\male

> b.hregress bmi = district(spatial, map=m) + age(pspline) + urban + ever\_married + prim + sec + high + non\_hindu + sc + st + obc + poorer + middle + richer + richest + smok + chew + smok\_chew + alcohol + green + fruits + milk + pulse + eggs + fish + meat + fried + aerated, iterations=35000 burnin=5000 step=20 setseed=123 family = quantreg quantile = 0.1974 predict=full using d

> b.getsample

> logclose