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# Evaluation of a targeted intervention to most at risk populations of tobacco users through a teashops community signage program

The, "Leaving No One Behind" report to address the sustainable development goals,[1] recommends approaches to reduce long-term vulnerability and generate sustainable, meaningful change. Evidence from Bangladesh points to a higher burden of tobacco related morbidity and mortality in "most at risk populations" with vulnerability due to social and economic disparities.[2] Low awareness of health harms and higher smoking prevalence is evident in vulnerable groups, particularly those suffering social stratification linked to gender, age, educational and income disparities, regional differences and other social inequalities.[3] Tobacco diseases also place a disproportionate burden of spending on other essential family needs with illness of the principal breadwinner due to tobacco also causing significant deterioration in living standards among the poor.[4] Given the challenges in accessing health information to build knowledge about health harms, targeted interventions to vulnerable groups in community settings may provide cost-effective approaches to address some of these inequalities.

### DESIGN / METHODS

Graphic pre-tested signs, showing a lung cancer patient were placed on 55 tea stalls in 12 locations in and around slum areas of Dhaka city where tobacco users frequented. A street-intercept survey was designed to evaluate the tea-shop signage, comprising a sample of 600 male and female tobacco users, aged 18–55 years, randomly selected from 24 data collection points in the slum areas, as well as in control areas where the signage was not present. Measures included recall of the tobacco control signage and differences in knowledge, attitude and intentions to tobacco use of tea-shop signage "recallers" and "non-recallers."

## Results

The majority of respondents were male (95%), daily smokers (89%) with 65% with income below 15000 Taka per month [USD$180pm]. There was high recall (84%) of the tea shop signage with respondents residing in the intervention areas. Recallers of the tea shop signage showed strong agreement with tobacco related attitudes such as: *Makes tobacco users see the real harms of their tobacco use* (96 %); *Discuss the message with others* (62%); *Know about serious illnesses caused by tobacco* (44% - 94%); *Try to persuade others to stop smoking/using smokeless tobacco* (87.7%); and, *Makes me more confident to try to quit tobacco* (76%). Comparisons of cessation related behaviours by recall of the signage showed significant improvements in quit attempts by recallers who; *Tried to stop smoking during the past 2 months* (59% vs 40%; ‹95%); *Tried to stop smokeless tobacco* (49% vs 36%; ‹95%). Exploration of knowledge, attitude and intentions according to vulnerability indicators such as literacy, income and geographic locations, also found a number of positive correlations (≤95%).

Amongst recallers belonging to the lowest-income group, 64%* agreed *smoking causes cough in children*, 54%* agreed that it *smoking causes heart disease*, 67%* agreed that *smoking causes asthma attacks in children*, 84%** agreed that *tobacco causes oral cancer*, 71%* agreed that *tobacco causes serious illness in vital organs*. Moreover, 72%* of participants also said that t*he message made me feel uncomfortable*, 64%* agreed; *I gained new information*, 72%* *the message made me stop and think*. 60%* of the lower income recallers also agreed that; *I discussed the messages with others*, whereas 80%* agreed that: *I intend to quit*.

Vulnerability factors in terms of geographical location, showed that of the recallers who lived in slum areas (58%), 95% agreed *that tobacco use causes a wide range of illness from strokes to cardiovascular diseases to cancer*.[5] 86.3%* of slum recallers also believed that they are at a *high risk of getting seriously ill from smoking*. 66%* while smokers in the same geographic area felt *concerned about smoking on their health*. 64%** agreed that *the messages made them feel uncomfortable* whereas, 71%** agreed that *the messages were relevant to their lives*. In terms of the effectiveness in message delivery, 72%** *stopped to think* about the information conveyed through the messages. The message also prompted 70%* of recallers residing in either slum or non-slum areas to express *an intention to quit*.


***Tea-shop signage located in low-income areas of Dhaka city in Bangladesh.***

[1] UN agencies. (2016). The Sustainable Development Goals. Available from https://unstats.un.org/sdgs/report/2016/leaving-no-one-behind
[2] Driezen, P, Abdullah,AS, Nargis, N, et al. (2016). Awareness of Tobacco-Related Health Harms among Vulnerable Populations in Bangladesh: Findings from the International Tobacco Control (ITC) Bangladesh Survey. *Int J Environ Res Public Health*.13(9):848. doi: 10.3390/ijerph13090848
[3] Hosseinpoor AR, Bergen N, Kunst A, et al. (2014). Socioeconomic inequalities in risk factors for non communicable diseases in low-income and middle-income countries: results from the World Health Survey. BMC Public Health.12:912. doi:10.1186/1471-2458-12-912
[4] Efroymson D, Ahmed S, Townsend J, et al. (2001). Hungry for tobacco: an analysis of the economic impact of tobacco consumption on the poor in Bangladesh. *Tob Control*.*10*(3):212-7.
[5] CI=confidence interval: *p≤.05, **p≤.01; ***p≤.001.

## CONCLUSION

Targeted interventions to most at risk populations of tobacco users, through pre-tested messages on community signage, can provide cost-effective adjuncts to population level communication campaigns to change attitudes and increase personal risk-perceptions toward tobacco use and promote cessation related behaviors. Subject to availability of campaign budgets, behavioral impact may be improved through the use of a broader media platform of synergized tobacco control messaging.


AUTHORS

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