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Nutrition-related health taxes: setting expectations

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The COVID-19 pandemic and the availability of effective vaccines have highlighted the need for robust evaluations of population health interventions, from vaccines to interventions for obesity. The robustness of these evaluations, and the identification of effective interventions, often rely on evidence from randomised controlled trials (RCTs) and, more so, on comparative evidence across interventions whereby effect sizes can be pooled. Excessive reliance on RCTs as the guidance for public health interventions has been previously criticised,[1] yet the field of economics recently pointed to experimental evidence to guide policy and development.[2]

Multipronged actions including societal responses are required to counter the global pandemic of obesity.[3] National nutrition-related tax policies (eg, sugar taxes) are now in place in several countries. Tax policies are not introduced in a vacuum or a perfect scenario, but in complex environments with multiple factors at play; the context of such policies ought to be clearly considered, understood, and described if we are to anticipate their net impacts and benefits. In other words, we should not expect a constant effect magnitude as often obtained from well-controlled pharmacological RCTs.

We take the point that nutrition-related health taxes should be rigorously evaluated, using robust methods. Yet, if we were to contrast taxes against pharmacological interventions, we anticipate four areas where the complexity of implementing and evaluating taxes could hamper comparability: outcome (effect), magnitude of effect, previous exposure, and responses over time.

Which outcomes should be considered? Many taxes will have impacts on multiple dimensions of human behaviour, from purchasing behaviours to labour and wages, and even on health indicators in different populations and timeframes. Therefore, evaluations will be hard to compare when they focus on distinct response measures or outcomes. It is important to acknowledge that some outcomes are more proximal than others. For example, obesity might be considered a more distal outcome; taxes alone, at least at the rates currently implemented, will probably not divert populations from their current trajectories in the short term and, therefore, it is important to capture more proximal outcomes such as purchasing and consumption. Beyond the impact of taxes on direct consumption and health, taxes also have other repercussions that must be considered. For tax policy makers, impacts on the economy, equity, revenue, and employment are essential considerations. Evidence to date indicates that health taxes can play an important role in revenue-raising, have minimal effects on employment, and can be designed to maximise equity and revenue.[4] However, health evaluations, given the systemic nature of public health interventions,[5] often overlook these effects.

Is the magnitude of effect of a tax policy the same across different contexts? Not necessarily, because the policy scenario is complex and, whereas RCTs use standard of care as comparators, taxes are by definition population-wide. Even within populations, people with higher income tend to show lower elasticity of demand. The single average estimate in any evaluation in any given population might hide a range of effects, where the impact might be different according to various characteristics of the population—eg, market penetration, family structure and health behaviours, or local cost of living, among others. As a result, evaluations must be designed to consider a range of potential effect modifiers.[6] Evidently, reactions to these nudging strategies will not be the same either, as purchasing power differs by socioeconomic group, including by urban or rural area, and consideration of the design of the tax intervention is important.

Are the taxes being introduced in tax-naive environments? It is critical to characterise the policy landscape within which taxes are introduced, as some taxes can have a longer history than others, as exemplified by Peru's sugar-sweetened beverage tax, which amended a pre-existing tax.[7] In addition, when comparing different tax policies it is important to ask whether the amount being taxed is the same. This will not always be the case; for example, Peru's sugar-sweetened beverage tax was, in practice, an 8 percentage-point increment over a previously existing tax of 17%, whereas in Mexico it was a new 10% tax. Furthermore, inflation rates might counteract and nullify the intended effects if the tax is too small.

Does the duration of a tax policy have a bearing on the magnitude of its effect? Would the intensity of the response vary over time? Are these one-off interventions or should they be revisited from time to time? A related

issue is the adaptive response by industry. As the tax effects can be observed only if there is an underlying change in consumption, industry responses can be strong enough to neutralise the anticipated effects, therefore resulting in the tax being ineffective. This can, in turn, be used to suggest that interventions do not work, when the real question could be whether the intervention was strong enough to change the landscape to a point in which industry was unable to buffer it.

In addition, although taxation might be particularly visible and controversial, it is just one of several interventions for the prevention of obesity and nutrition-related non-communicable diseases. Interest in front-of-pack (FOP) labelling policies, based on comprehensive nutrient profiling models, is rapidly growing. There is great potential for linking labelling and tax interventions to enhance the impact of both; for example, using the FOP label or the same underlying nutrient profiling model as the basis for broad-based taxation of unhealthy foods.[8] Notably, many of the issues raised in this Comment also apply in the evaluation of FOP labelling interventions and, for that matter, to any complex population-wide public health intervention. It is important to recognise that, with any such intervention, different policies in different contexts might not be identical. In the case of FOP labelling policies, the warning labels have, for example, different texts or threshold values, and are mandatory in different spaces (eg, schools, media). Some of the impacts of FOP labelling are related to the way it is intertwined with other policies, including, for example, the banning of products with FOP labels in schools and channels of advertisement.

Nutrition-related health taxes can be very effective. In the future, many more countries will engage in similar initiatives to counter the global pandemic of obesity and diet-related conditions. Rather than jumping the gun and claiming that taxes work or do not work, here we raise several questions to critically inform how the evidence should be generated and summarised over time. The evaluation of nutrition-related health taxes will most likely not be amenable to being studied under traditional RCTs. The fields of public health and economics will have to move beyond their reliance on RCTs as the sources of best evidence, and continue providing robust methods,[9] including natural experiments and quasi-experimental methods, and frameworks that favour theory-driven evaluations of these policies in real-world scenarios,[10] while understanding the complexity upon which taxes are implemented.

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