



CORRESPONDENCE

A quicksand called health literacy



The concept of health literacy comes from the illuministic idea that disease development is merely due to ignorance about its determinants and, consequently, to involuntary risk exposure. This idea gave rise to many educational programs focused on improving medical knowledge, that is, health literacy, which is expected to produce behavioral changes in terms of primary (i.e., lifestyle) and secondary (i.e., screening) prevention. Knowledge improvement is assumed to automatically improve awareness, which results in prevention-oriented behaviors.

Ueno and colleagues¹ elegantly reported that oral health-related behavior and oral health literacy were associated. There is no doubt that, on average, the higher the knowledge, the higher the awareness. Such an association is corroborated by a plethora of studies in all health fields, along with many examples of educational programs that were effective in improving, on average, health outcomes at population levels.

So, why could health literacy be quicksand? The problem lies in the recurrent phrase “on average”. If we implemented an oral health educational intervention in the study population of Ueno and colleagues¹ and had a time machine, at the follow-up survey we would observe an improvement in oral health literacy level, “on average”, an associated improvement in oral health-related behavior, “on average”, and an unbalanced improvement in oral health outcomes between different socioeconomic strata.

This apparent speculation has a solid basis, called Inverse Equity Hypothesis (“good quality public health measures for improving health are more utilized by individuals or families who need them least”), and its effects are not easy to eradicate. An example in the field of oral health are the oral cancer awareness campaigns implemented in Ireland and the United States, where population-based messages were expected to induce at-risk individuals to undergo free oral cancer screening. Both campaigns were effective, “on average”. However, an in-depth analysis showed that while oral cancer risk in males is double that in females, inversely, the number of females who underwent free screening was

double that of males.^{2,3} The situation in the UK, where oral cancer awareness campaigns are frequent, was the same. People with five risk factors were one-fourth less likely to undergo regular oral cancer screening than people with no risk factor at all.⁴

Campaigns based on health literacy improvement could increase inequities between different social strata and mask their paradoxical effect behind average improvements in knowledge, awareness, and even health outcomes. Bad news are not finished, as even systematic reviews assessing the effectiveness of health interventions do not consider the effects in terms of health inequalities. Indeed, only 10% of 224 systematic reviews on health interventions reported whether the interventions under investigation produced or decreased health inequalities.⁵ Yet, systematic reviews are frequently used by decision and policy makers because they are practical and reliable. Therefore, it is likely that health interventions with evidence of effectiveness could be implemented, although they could produce health inequalities.

We think that assessing the health literacy level—as Ueno and colleagues¹ elegantly did—is one thing, whereas implementing health interventions solely based on health literacy improvement is another thing, because they could increase inequalities.

Conflicts of interest

The authors have no conflicts of interest relevant to this article.

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