INTRODUCTION TO THE SALT REDUCTION TOOLKIT FOR THE EASTERN MEDITERRANEAN REGION

Consuming too much sodium has a huge impact on health, leading to approximately 2 million deaths worldwide in 2019 [1]. Excess sodium consumption raises blood pressure and is linked to several non-communicable diseases (NCDs), including cardiovascular disease (CVD) and kidney disease [2]. CVD is the leading cause of death in the Eastern Mediterranean Region (EMR), with age-standardised CVD mortality rates considerably higher than the global average, especially in lower-income countries where access to healthcare is more limited [3]. Although high blood pressure and CVD events occur most frequently after the age of 40 years, there is clear evidence that blood pressure tracks from childhood into adult life [4],[5]. Dietary salt is the largest contributor to sodium intake in humans. Salty taste perception is also a learned experience, and individuals who reduce their salt intake for a few months subsequently prefer a lower-salt diet [6],[7]. Population-level strategies to reduce salt intake would be more successful if children do not develop a taste for salt in the first place.

As a result, the World Health Organization issued guidelines in 2012 stating that adults should eat less than 5g of salt per day, adjusted downwards for children based on their energy requirements relative to adults, to reduce the risk of NCDs [8]. Globally, no country has yet met the recommended salt intake and in common with other regions, salt intake in the EMR is in excess of the recommendations, averaging more than 10g/day, twice the recommended intake [9],[10]. Bread and dairy products have been found to be major contributors to salt intake in EMR countries, alongside processed meats, rice and cereal-based products, spices and condiments, salted fish, tomato pastes and eggs [11]. Specifically, in Egypt, Iraq, KSA, Kuwait, and Lebanon bread and other bakery products, processed foods, ready meals, processed meats, as well as cheeses and dairy products, have been identified as the main sources of salt in adults' diets. In Iran, bread, cheese, and snacks were found to be key contributors to children's salt intake, and in Morocco, cereals and cereal-based products, followed by spices and condiments, dairy products, and meat products were identified as major contributors to salt intake amongst adolescents [12].

Significant social and economic changes in the Eastern Mediterranean have influenced diets in the region [13]. Countries that experienced rapid increases in household income at the beginning of the 21st century, like Saudi Arabia, saw a nutrition transition with an overall increase in food supply [14]. Similarly, in some countries like Iran, the last four decades have seen major changes to the food system, with increased use of processed foods, due to industrialization and rapid urbanisation [15]. More than 96 countries now have some form of salt reduction programme in place, including the United Kingdom, South Africa, Brazil, Argentina, Iran and Australia [16]. The majority of programmes to reduce sodium are aimed at reducing dietary salt, i.e. sodium chloride, which is the largest component of sodium in diets. Another source of sodium in the diet can come from monosodium glutamate, used as a condiment in many parts of the world. The UK's salt reduction programme is frequently cited as a successful example, predominantly based on setting voluntary targets for the salt content of processed foods and achieving gradual, across-the-board salt reformulation, all of which resulted in significant falls in population salt intake and systolic blood pressure (1.4 g/d and 2.7 mmHg, respectively, between 2003 and 2011) [17] . Since then mandatory salt reduction targets for processed foods have been implemented in Argentina [18] and South Africa [19], with convincing evidence for the effectiveness of this approach. For EMR countries, like Iran, where table and cooking salt are leading sources of salt intake [20], a multi-pronged approach including consumer education, behaviour change communication, nutrition labelling and settings-based interventions in schools and workplaces, in addition to the implementation of salt reduction targets for food reformulation are required to reduce salt intake.

Salt reduction is a highly cost-effective strategy, identified by the WHO as a 'best buy' intervention [1]. Alongside known health benefits, reduced NCDs will ultimately lead to reduced health costs and reduce the burden on healthcare services while enabling a more productive workforce. By reducing population salt intake, countries can make progress towards reducing CVD's including premature mortality and the Sustainable Development Goal 3 (SDG3) to ensure healthy lives and promote wellbeing for all at all ages.

There is a clear and urgent need to reduce salt intake in EMR Region countries, and worldwide. This tookit contains simple, practical and easy-to-use protocols. It has been designed to support WHO Country Office staff, counterparts and other stakeholders with a single source of information to gather essential baseline data, such as population salt intake, knowledge, attitudes and practices towards salt and sources of salt in population diets, and to guide the development of interventions to achieve salt reduction, including setting salt reduction targets, and innovative approaches to reducing salt levels in the out of home sector.

The WHO EMR comprises 21 Member States, with a population of nearly 679 million people:

- Afghanistan
- Bahrain
- Djibouti
- Egypt
- Islamic Republic of Iran
- Iraq
- Jordan
- Kuwait
- Lebanon
- Libya
- Morocco
- Oman
- Pakistan
- Palestine
- Qatar
- Saudi Arabia
- Somalia
- Sudan
- Syrian Arab Republic
- Tunisia
- United Arab Emirates
- Yemen

Key Health Statistics [21]:

- Cardiovascular disease (CVD) is the leading cause of disease burden in the Region
- 33 million years of life were lost due to premature mortality or disability from CVD in 2015
- More than 1.3 million people died from cvd in the region in 2015, accounting for around one third of all deaths
- On average, one in four adults in the Region has raised blood pressure
- Salt intake in the EMR is in excess of the recommendations, averaging more than 10g/day i.e. twice the recommended maximum intake

The protocols were developed by World Action on Salt, Sugar and Health (WASSH), in close collaboration with the World Health Organization's Eastern Mediterranean Office. The protocols build upon a similar set of documents that WASSH were commissioned to develop for the WHO South East Asia Office.

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