

# Health styles and outcomes 2009-2019 among Emirati adults living in Dubai, analyzing data of three successive household health surveys-trend analysis approach

## Abstract

**Background:** Health behavior is almost about people's own attitudes and habits, to resist or accept diseases. Social as well as behavioral change in public health known as social and behavior change communication (SBCC). Continuous efforts kept focusing on disease prevention to save costs at health care. This is particularly important in low and middle-income countries, where health interventions have come under increased scrutiny because of the cost.

**Objectives:** To study the epidemiological transition in health behavior among adults emirate living in Dubai 2009-2019.

**Methodology:** Secondary data of three success house hold health surveys carried out in Dubai(2009, 2014,2019) in cooperation between Dubai Health authority and Dubai statistics center, sampling, survey design, data collection, data weighting and data analysis has been carried out based on advanced statistical and epidemiological applications to ensure the validity and reliability of the survey outcomes.

**Results:** The present study showed that obesity among adults Emirati living in Dubai 2009 was 24% while in 2019 was 39.9%, adequate intake of fruits & vegetable in the same groups 2009 was 53.8% and 47% in 2014 while 36.1% in 2019. As for tobacco use, the current study revealed that 8.6% in 2009, 7.2% in 2014 and 14.3% in 2019. As for physical activity the result showed that physical active adult emirate living in Dubai 2009 was 19.3%, 2014 13% and 2019 23%. There were clear difference between 2009 and 2019 prevalence of behavioral risks be from 8.6% to 14.3% in tobacco use, 19.3% to 23.6% for physical activity and from 24% to 9.9% in obesity, while adequate consumption of fruits and vegetables dropped down from 53.8% to 36.1%. In regards to diabetes mellitus the current study revealed that prevalence of diabetes among adult emirate living in Dubai increased from 13.1% to 19.3 from 2009 to 2019 and prevalence of hypertension increased from 16.9% to 23.20%.

**Conclusions:** The study concluded that most of the health behavior risks enrolled in the current study(Tobacco use, obesity, physical activity, consumption of fruits and vegetables, hypertension and diabetes) showed clear deterioration and stepped down to non-healthy attitude, practice and approaching among adults emirate living in Dubai during the last 10 years from now.

**Keywords:** health styles, outcomes, Dubai

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**Abbreviations:** SBCC, social and behavior change communication

## Introduction

Health behavior is almost about people's own attitudes and habits, to resist or accept diseases.<sup>1</sup> Social as well as behavioral change in public health known as social and behavior change communication (SBCC).<sup>2</sup> Continuous efforts kept focusing on disease prevention to save costs at health care.<sup>3</sup> It is important particularly in low and middle-income countries, e.g. Ghana where health interventions have come under more scrutiny due to the cost.<sup>4</sup> Three behaviors such as

(non-healthy diet, less physical activity, and smoking), are well known to lead to major diseases e.g. (heart disease/stroke, diabetes, cancer, pulmonary disease), which consist of 50% of deaths worldwide. Thus, emphasis in public health interventions focusing on changing behaviors and early intervening to decrease the negative impacts that come with these behaviors<sup>5</sup>. Such successful intervention, can for sure lead decreasing healthcare costs by a drastic amount, as well as general costs to society (morbidity and mortality). Public health intervention is not defined by created results, but by also the number of levels it hits on the socio-ecological model including<sup>6</sup> (individual, interpersonal, community and/or environment). Generalizability is the main the challenge facing public health interventions: what may work

in one community may not work in others. However, Healthy People 2020 that has national objectives aimed to accomplish in 10 years to improve the health of all Americans. Hence, Behavior modification contributes to the success of self-control, and health-enhancing behaviors. Moreover, Risky behaviors can easily be eliminated such as physical exercise, weight control, preventive nutrition, dental hygiene, condom use, or accident prevention. Usually Health behavior changes may refer to the motivational, volitional, and action linked processes of abandoning similar health-compromising behaviors.<sup>7-9</sup> There are overwhelming evidences, that changing people's health-related behavior can have a major impact on some of the largest causes of mortality and morbidity.<sup>10</sup> The Wanless 2004<sup>10</sup> mapped a position in the future in which levels of public engagement with health are high, and the use of preventive and primary care services are optimized, helping people to stay healthy. Likelihood scenario, identified in the report as the good option for future organization and delivery of health services, requires changes in behaviors and their social, economic and environmental context to be at the heart of all disease prevention strategies.<sup>10</sup>

### Objectives

To study the epidemiological transition in health behavior among adults emirate living in Dubai 2009-2019. (Health behavior factors covered by this study includes (Physical activity, Tobacco Use, adequate consumption of fruits & vegetable and obesity) as well as diabetes mellitus and hypertension).

### Methodology

Secondary data of three success household health surveys carried out in Dubai (2009, 2014, 2019) (full surveys reports published on Dubai health authority websites) in cooperation between Dubai Health authority and Dubai statistics center, sampling, survey design, data collection, data weighting and data analysis has been carried out based on advanced statistical and epidemiological applications to ensure the validity and reliability of the survey outcomes. More than 400 health indicators were covered by these surveys, among which health behavior factors e.g. (Physical activity, Tobacco Use, adequate consumption of fruits & vegetable and obesity) as well as diabetes mellitus and hypertension), WHO operational definitions for the abovementioned factors were used for the purpose of current study.

### Results

The present study showed that obesity among adults Emirati living in Dubai 2009 was 24% while in 2019 was 39.9%, adequate intake of fruits & vegetable in the same groups 2009 was 53.8% and 47% in 2014 while 36.1% in 2019 as reflected by Figure 1. As for tobacco use, the current study revealed that 8.6% in 2009, 7.2% in 2014 and 14.3% in 2019. As for physical activity the result showed that physical active adult emirate living in Dubai 2009 was 19.3%, 2014 13% and 2019 23%. Figure 2 showed that there were clear difference between 2009 and 2019 prevalence of behavioral risks be from 8.6% to 14.3% in tobacco use, 19.3% to 23.6% for physical activity and from 24% to 9.9% in obesity, while adequate consumption of fruits and vegetables dropped down from 53.8% to 36.1%. In regards to diabetes mellitus the current study revealed that prevalence of diabetes among adult emirate living in Dubai increased from 13.1% to 19.3 from 2009 to 2019 and prevalence of hypertension increased from 16.9% to 23.20% as shown by Figure 3.

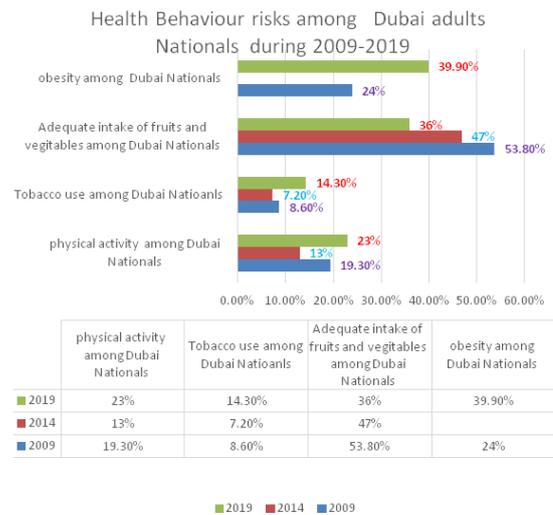


Figure 1 Health Behavior risks among adults emirati living in Dubai 2009-2019.

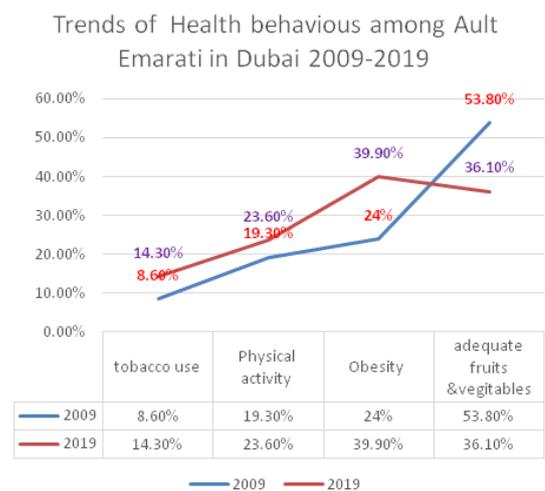


Figure 2 Trends of health behavior risks among adults emirati living in Dubai 2009-2019.

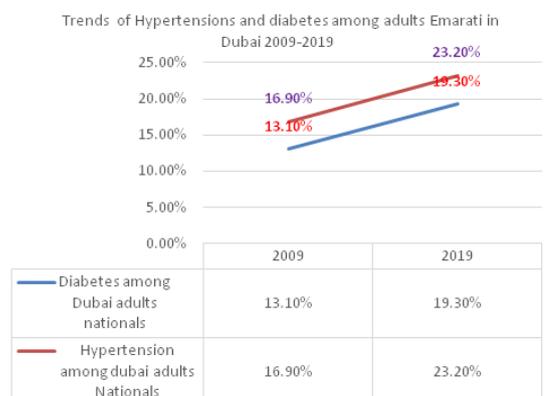


Figure 3 Trends of hypertension and diabetes among adults emirati living in Dubai 2009-2019.

## Discussions

the study concluded that most of the health behavior risks enrolled in the current study (Tobacco use, obesity, physical activity, consumption of fruits and vegetables, hypertension and diabetes) showed clear deterioration and stepped down to non-healthy attitude, practice and approaching among adults emirate living in Dubai during the last 10 years from now prevalence of health behavior risk and outcomes in this study revealed similar findings comparing to some of the GCC countries like Oman and Qatar, but lower than Saudi and Kuwaiti, yet it is higher comparing to other studies in India which showed that, high blood pressure as (overall: 22.5%; men: 24.5%; women: 20.7%) was comparable to similar studies of other researchers.<sup>11-20</sup> Kokiwar & Gupta studies<sup>12</sup> that revealed the overall prevalence of raised blood pressures as 19.04%, (23.4%) was in women and 14.4% in men. More or less a study by Rajasekar et al.,<sup>13</sup> reflected that, overall prevalence was 19.1%, 19.6% in men and 18.5% in women. Moreover, Kannan & Satyamoorthy<sup>14</sup> showed that the overall prevalence as 25.2%, 22.6% in men and 27.4% in women Madhukumar et al.<sup>15</sup> Many similar studies, conducted in UK, revealed even some worst results concerning healthy life style, around 22% of men reported one lifestyle risk factor. Independently, physical inactivity was the most frequently occurring (10%) followed by diet (8.1%). Current study results suggest that such behaviors are the best buy for single lifestyle behavioral lay out. On the contrary, study participants, who smoked and reported none of other lifestyle risk factors estimated for 1.5% of the participants, for those reporting alcohol only accounted as 2%. In spite of such risk factors not prominent in isolation, yet showed highly predictive of all unhealthy behaviors. About, 94% of smokers and 93% of men revealed alcohol recommendations reported additional lifestyle risk factors. Not only that, but there were evidences to claim that interventions focused on addressing single behavior were more effective in altering a targeted behavior compared to multiple interventions, this study reflected, that men rarely present risk factors in isolation. Unhealthy behaviors are often interconnected; therefore interconnected approaches to their prevention and treatment may be required. Over all, three-quarters of the study sample reported unhealthy behaviors in combination. Framing the linkages is a complicated challenge. The highest prevalent combination of lifestyle risk factors e.g. physical inactivity co-occurring with a diet low in fruit and vegetables. As such, 30% of the sample reported this particular combination and 56% reported this combination alone or with additional risk factors.<sup>21</sup> Better to mention that the three health surveys outcomes revealed that health behavior risks were consistently increasing over decades of life. The present study would recommend furthering handling and addressing of concurrent multiple risk factors in future studies.<sup>22</sup>

## Conclusions

The study concluded that most of the health behavior risks enrolled in the current study (Tobacco use, obesity, physical activity, consumption of fruits and vegetables, hypertension and diabetes) showed clear deterioration and stepped down to non-healthy attitude, practice and approaching among adults emirate living in Dubai during the last 10 years from now.

## Recommendations

The Behavioral Insights Team or 'Unit' advocates for changes in health behavior through manipulations of psychosocial environmental

cues. To 'make every contact count' recognizes the opportunity that practitioners have to improve public health through supporting behavior change in the millions of people with whom they come into contact. Recent advances in behavioral science in the battle against the rising tide of NCDs threatening to engulf us.

## Ethical issues

Ethical standard has been applied through all stages of conducting research.

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None.

## Conflicts of interest

All authors declared that there are no conflicts of interest.

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