

Lifestyle Medicine: An Emerging Healthcare Trend That Inspires

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LM001: TOBACCO USE AMONG ADOLESCENTS IN QATAR: ANALYSIS OF GLOBAL YOUTH TOBACCO SURVEYS OVER A DECADE

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Purpose

The objective of this analysis was to identify any significant trend in the use of tobacco among adolescents in the State of Qatar using data from three standardized surveys. Accordingly, the results of such analysis would enable stakeholders to plan and implement effective and targeted interventions for combating this public health threat.

Background

The use of tobacco has become a global health concern. In the Eastern Mediterranean Region, nearly one-third of adolescents have reported consuming tobacco and the burden is anticipated to grow in the future. Furthermore, the use of tobacco among adolescent students in the Eastern Mediterranean Region is expected to become a major public health issue.

Methods

The current study analyzed retrospective data from three Global Youth Tobacco Surveys conducted in Qatar during 2004, 2007, and 2013. The samples taken were nationally representative and based on a standardized methodology along with the statistical analysis. ⁽¹⁻³⁾

Results

There were 2229, 943, and 1716 students (13 and 15 years old) who participated in the 2004, 2007, and 2013 surveys respectively. An overall increase was observed in the prevalence of smoking from 6.4% in 2004 to 9.8% in 2013. Regarding the accessibility and the availability of cigarettes, there was an increase in the percentage of students who reported buying them from 40.2% in 2004 to reach 66.1% in 2013. The percentage of participants who desired to stop smoking dropped from 53.9% in 2004 to 43.9% in 2013. The percentage of students exposed to secondhand smoke dropped from 30.2% in 2004 to 24.2% in 2013. The proportion of those reporting “*awareness of tobacco use on television, videos, or movies*” dropped from 95.4% in 2004 to 63.5% in 2013.

Discussion

The main findings revealed that between 2004 and 2013, there was an overall increase in the prevalence of smoking, a drop in the role of the media through promoting anti-tobacco messages, a decline in second-hand smoking exposure, and a decrease in smoking cessation among the participants. Regarding the strengths of the study, it represents the first in Qatar in which weighting methodology was utilized to adjust

for non-response. On the other hand, the self-reporting by students in the GYTS makes it prone to non-response bias.

Conclusion

A multidisciplinary approach is vital in the planning of tobacco prevention and control programs by the local authorities in Qatar to limit the growing tobacco epidemic among the adolescent cohort.

Key take-home messages

- Conduct awareness campaigns on the health hazards of tobacco use targeting the adolescent age group, with an emphasis on the more accessible method of communication (social media).
- The provision of adolescent-friendly smoking cessation services at the different levels of healthcare, as well as at schools.
- The need to conduct the GYTS in 2019 to update the previous data and indirectly evaluate the recently implemented anti-tobacco measures in Qatar.

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LM003: SUPPLEMENTATION OF GRAPE SEED AND SKIN EXTRACT TO ORLISTAT THERAPY PREVENTS HIGH FAT DIET-INDUCED MURINE SPLEEN LIPOTOXICITY

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Purpose

The purpose of our study was to evaluate the spleen's immuno-protective and anti-inflammatory effect of GSSE and orlistat in obese rats. The spleen plays a critical role in immune function. The dysfunction of the spleen is not well documented in the case of obesity. Therapeutic strategies for the treatment of obesity have been developed. Indeed, the pharmacological agent, orlistat (Xenical™) is the standard anti-obesity drug approved by the US Food and Drug Administration. Grape seed and skin extract (GSSE) exhibited a variety of health-promoting effects including cardioprotective, anti-cancer, antioxidant, anti-inflammatory, antiviral, antimicrobial, neuroprotective and hepatoprotective properties.

Rats were fed a high fat diet (HFD) for six months to induce obesity. During the last three months, they were treated daily (ip: Intraperitoneal injection) with orlistat, GSSE or both. At the end of the treatment, animals were euthanized and their spleen and blood were collected. Studies were made on oxidative stress, cytokine profile, transition metal assay and related enzyme activities, signaling mediator, lipid profile, histology and immunohistochemistry. HFD provoked the accumulation of lipid and glycogen into the spleen, increased oxidative stress. Orlistat alone did not improve the effect of HFD. However, Combining GSSE with Orlistat prevented fat-induced spleen lipotoxicity, oxidative stress and inflammation, and should find potential application in other related spleen diseases.

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Purpose

Targeting social determinants of tobacco initiation and continuation for smoking cessation and reducing negative health consequences.

Background

Tobacco use is the leading preventable cause of death worldwide and is a major risk factor for cardiovascular disease (CVD). Both prevention of smoking uptake among young people and smoking cessation among established smokers are key for reducing smoking prevalence and the associated negative health consequences.

Methods

Literature review of observational studies for tobacco cessation and evaluation of health policy measures.

Results

Over 100 studies have shown that higher taxes on cigarettes produce significant reductions in smoking, especially among youth and lower-income individuals. Smoke-free workplace laws and restrictions on advertising have also shown benefits. Tobacco control efforts are associated with averting an estimated 8 million premature deaths and extending the average life expectancy of men by 2.3 years and of women by 1.6 years. But there is a long way yet to go: approximately 5.6 million adolescents under the age of 18 are expected to die prematurely as a result of an illness related to smoking.

Discussion

The medical consequences of tobacco use, including secondhand exposure, make tobacco control and smoking prevention crucial parts of any public health strategy. Since the first Surgeon General's Report on Smoking and Health in 1964, communities have made efforts to reduce initiation of smoking, decrease exposure to smoke, and increase cessation. Prevention can take the form of policy-level measures, such as increased taxation of tobacco products; stricter laws (and enforcement of laws) regulating who can purchase tobacco products; how and where they can be purchased; where and when they can be used (i.e., smoke-free policies in restaurants, bars, and other public places); and restrictions on advertising and mandatory health warnings on packages.

Conclusion

Proven tobacco cessation treatment includes pharmacotherapy and behavioral support, which are most effective when provided together. First-line medications (varenicline, bupropion, and nicotine replacement) are effective and safe for patients with CVD. Clinicians who care for patients with CVD should give as high

a priority to treating tobacco use as to managing other CVD risk factors. Broader tobacco control efforts to raise tobacco taxes, adopt smoke-free laws, conduct mass media campaigns, and restrict tobacco marketing enhance clinicians' actions working with individual smokers.

Key take-home messages

Successful evidence-based interventions both by policy level measures and education at school or community level aim to reduce or delay initiation of smoking, alcohol use, and illicit drug use, and otherwise improve outcomes by reducing or mitigating modifiable risk factors and bolstering protective factors. Medications are effective and safe for smoking cessation. Clinicians and other health workers should place a higher priority on substance abuse in their daily practice.

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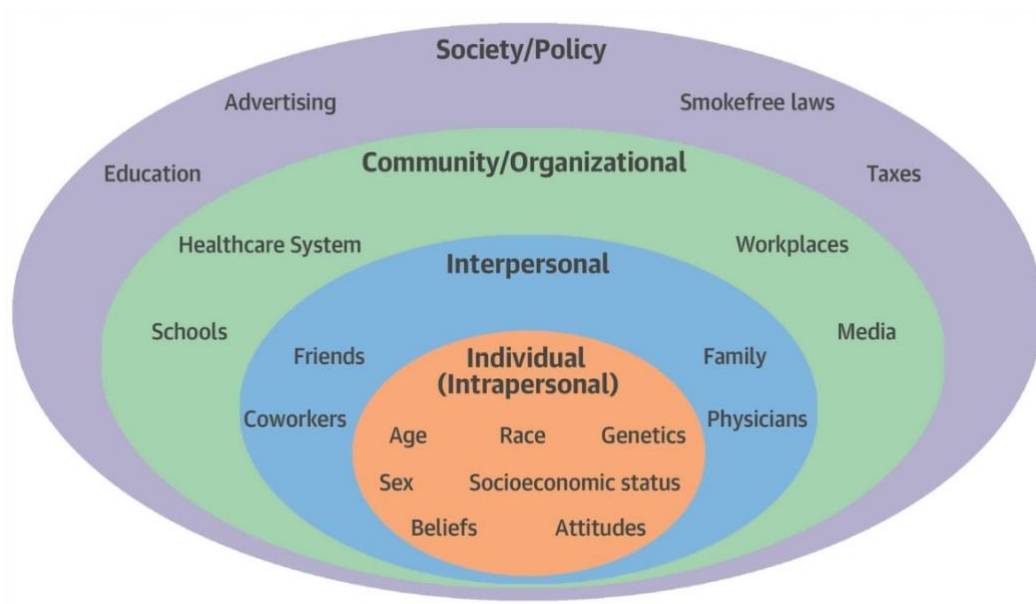


Figure 1. Social Determinants of smoking inhalation and continuation

LM006: PATTERNS OF PATERNAL BEHAVIOR IN ANTENATAL CARE AND DELIVERY- A REVIEW FROM THE GULF REGION

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Purpose

The dearth of information on paternal support during pregnancy is made more complicated by a lack of understanding of what Arabic men really know during their wives' pregnancy. This review investigates how the upbringing of boys, gender segregation, religion and culture influence Arabic men's knowledge and behavior during their spouse's pregnancies.

Background

Recently, the benefits of paternal involvement in pregnancy has been widely recognized, in both developing and developed countries(1). In the Gulf, traditional norms still deems pregnancy as a 'female affair', but some evidence suggests societal attitudes are gradually changing and receiving acknowledgement from both Arabic men and their wives(2,3).

Methods

A systematic review search was done on studies from the Gulf and other Arab countries only. The electronic data bases used are Pubmed and Google Scholar. The search and selection of studies was done through keyword searching along with gathering articles related to our topic from the reference list (snowballing).

Results

The review demonstrated that while the status of women has improved significantly since the pre-Islamic age, the importance of women's health has not gained prominence among Arabic men, leading to poor understanding of the value of paternal support during pregnancy. Indeterminate contributions from culture and religion on gender segregation has perpetuated the notion of pregnancy as a 'female affair'. Higher standards of healthcare, especially from private hospitals, increased wealth, travel and education are now fostering a transition into family-centered pregnancy care.

Discussion

The weak participation of husbands in maternal health due to barriers still remaining in the Gulf region, especially where gender segregation in its strictest sense is adhered to, makes it impossible for fathers, both to understand and make a meaningful contribution to their spouses' pregnancy experience. If current constraints that arise from cultural norms, religious concerns and a lack of education are all adequately addressed, it will enable more men to fully engage with the spouse's pregnancy without hesitation.

Conclusion

In this review we have followed the historical patterns of paternal behavior in the gulf region and evaluated the current factors that are driving the gradually changing attitudes of fathers in their contribution to antenatal services. This review highlights that while men in the Gulf region have an important role in maternal health as the key decision-makers, their role may be ineffective if they remain unengaged and uneducated on women's health issues.

Key take-home messages

- Paternal involvement in its different features improves maternal health outcomes and is actually considered a key determining factor in enhancing the maternal mortality and morbidity rates.
- Arab men and women in the Gulf are very keen to build a healthy, modern, and advanced society, but not at the expense of their traditions and values.
- Education of pregnant women, husbands, and health workers is important to enable more men to fully engage in maternal health.

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LM008: EFFECTIVE MANAGEMENT OF GESTATIONAL DIABETES THROUGH LIFESTYLE INTERVENTIONS. A RETROSPECTIVE STUDY

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Purpose

We aim to demonstrate our successful experience in the management of gestational diabetes exclusively through lifestyle interventions over the past eight years.

Background

Over one sixth of the pregnant women in Qatar develop gestational diabetes in their pregnancies (1). The International Diabetes Federation website shows that 14.1% of the adult population of Qatar has diabetes. Our community caters to a multiethnic population of more than 60 different nationalities, the majority of whom are of Middle Eastern, South Asian or South East Asian ethnicity.

Methods

We carried out a retrospective study to measure the impact of non-pharmacological management of GDM on the outcome, in terms of blood glucose levels control throughout the pregnancy and the pregnancy outcome. Lifestyle interventions were prescribed in the form of dietary restrictions and exercise. Women were given dietary tailored advice to suit their traditional practice and locally available ingredients. Maternal fasting and postprandial values as well as maternal weight were monitored every week. Blood glucose levels were measured four times daily in the first two weeks after the onset of the diagnosis.

Results

- In Al Khor clinic over six years of the study between 2012 and 2017, there were 1074 pregnancies, of which 126 women (11.73%) had a diagnosis of gestational diabetes.
- In Doha clinics, between January 2010 and January 2018, 1634 cases of gestational diabetes were diagnosed.
- Lifestyle interventions in the form of tailored exercise prescription and restricted diet have proved to be effective in the management of 95% of cases.

Discussion

Gestational diabetes is the most common metabolic disorder seen among pregnant women in the community. In Qatar, with a high prevalence of type 2 diabetes, gestational diabetes is routinely screened for. There is strong positive correlation between obesity, gestational diabetes and fetal macrosomia. Early lifestyle intervention in women with a high BMI or a previous history of diabetes can significantly decrease the incidence as well as adverse outcomes (3).

Conclusion

Management of gestational diabetes involves early identification of high-risk groups, targeted intervention - individualized counseling on diet, physical activity, and weight control. At routine antenatal visits, opportunistic reinforcement of healthy lifestyle practices and creating “calorie awareness” in pregnant women improves glycemic control. Women who have gestational diabetes, have a two to three-fold increased lifetime risk of developing type 2 diabetes (4). Diet and lifestyle changes introduced in pregnancy are therefore continued in the puerperium and beyond with emphasis on activity and optimal BMI targets.

Key take-home messages

Paternal involvement in its different features improves maternal health outcomes and is actually considered a key determining factor in enhancing the maternal mortality and morbidity rates. There are strong cultural beliefs regarding diet control and rest in pregnancy, particularly among Middle Eastern and South Asian women. Targeted education, exercise prescription and reassurance from the obstetrician helps in achieving adequate blood glucose control and consequent favorable pregnancy outcome.

Providing a target weight gain of less than 6 kg at booking for all pregnant women with a BMI greater than 30 and reinforcing this message at every antenatal visit helps improve both maternal and fetal outcomes.

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LM010: PHYSICAL ACTIVITY AND INACTIVITY PROFILE OF ADOLESCENCE IN THE STATE OF QATAR

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Purpose

To assess the physical activity and inactivity behaviors among secondary school adolescents in the state of Qatar.

Background

Physical activity has long been associated with a wide range of physical and mental health benefits. Physical activity and fitness are considered important components of public health measures. According to the World Health Organization (WHO), most risk factors of non-communicable diseases (NCDs) are closely related to diet and physical activity.

Methods

Self-administered questionnaires were filled out by 1232 randomly selected students aged 15 to 18 years.

Results

The prevalence of inactivity (< 1 times/week) was ranged from 9.3 to 42 % among different type of activities, while the prevalence of active adolescents (≥ 5 times /week) ranged from 1% to 12% among different type of activities. The sedentary behaviors, which were measured by total screen time, was 65% which indicates a high prevalence rate of inactivity according to the recommendations of the American Academy of Pediatrics (AAP). The mean body mass index (BMI) was 25.5 kg/m² and 23.9 Kg/m² for males and females respectively. Waist circumference was 78.1 cm and 73.8 cm among males and females respectively. Walking and/or running was the most participated in exercise by adolescents (76%) followed by volleyball and bowling (64%), while self-defense exercise was the lowest activity participated in(16%). The most common reason for being physically inactive was lack of time (62.5%). Participation in all types of physical activity was lower among females than males, except for work around the home (gardening, floor cleaning and car washing).

Conclusion

Qatari adolescents are more likely to be inactive due to a lack of time, suitable place and/or facilities, as well as lack of awareness about the health benefits of exercise. Healthcare providers, along with school teachers, have a vital role in promoting physical activity among adolescents in the State of Qatar.

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LM011: FOOD HABITS AND INTAKES ASSOCIATED WITH OBESITY AND OVERWEIGHT AMONG ADOLESCENTS IN THE STATE OF QATAR

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Background

In Arab countries, and particularly in Qatar, there has been a nutritional transition in food choices and dietary habits have changed from a healthy diet pattern to an unhealthy fast food pattern. As a result, the number of people who are overweight or obese are increasing to alarming figures.

Methods

A cross-sectional study of 1225 adolescents (males and females), aged 15 to 18 years, was randomly selected from 21 secondary schools in Doha, Qatar. A self-reporting questionnaire that included questions on their eating/drinking habits and anthropometric measurements was used, and the significance level set at $P < 0.05$.

Results

Healthy foods intake (fruits, milk, energy drinks per week) was significantly higher among males, while intake of unhealthy foods (sweets, french fries and cake/doughnuts) was higher among females. Males were significantly more obese (25.3%) than females (12.6%), while being overweight was significantly higher among females (21.0% compared to 16.3%). When being overweight & obese were combined, the prevalence was significantly higher among males (25.6%) than in females (23.7%). Central (abdominal) obesity was significantly higher in males than in females.

Discussion

High prevalence of obesity among both genders was related to unhealthy food habits and intakes. Undesirable eating habits are common among adolescents in Qatar; this finding was consistent with data from the 2009 National Youth Risk Behavior Surveillance conducted in the United States, which showed that about 78% of high school students have unhealthy food habits. Skipping breakfast more than three times a week is a common habit among males (34.7%) and females (35.1%).

Conclusion

Obesity and being overweight is prevalent as a result of unhealthy food habits, which are common among adolescents.

Key take-home messages

Nutrition and health educational programs are required to reduce the tendency towards being overweight or obesity. Promotion of healthy eating among Qatari adolescents is highly recommended. Further research is required to assess the environmental and socioeconomic factors associated with obesity and lifestyle among adolescents.

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LM016: ARABIC TRANSLATION AND CULTURAL ADAPTATION OF THE SLEEP HYGIENE INDEX

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Purpose

The purpose of this study is to translate and culturally adapt the Sleep Hygiene Index (SHI) into the Arabic language.

Background

Sleep is necessary for health. However, poor sleep hygiene contributes to the development of insomnia.^{1,2} Sleep hygiene consists of a combination of behavioral practices and environmental conditions which improve sleep.³ The SHI is a tool developed to assess sleep hygiene, but currently, it is not available in the Arabic language.⁴

Methods

The SHI was translated into Arabic following the forward-backward method recommended by the International Society for Pharmacoeconomics and Outcomes Research (ISPOR).⁵ This method consisted of i) forward translation; ii) reconciliation; iii) backward translation; iv) back translation review; v) cognitive debriefing; vi) review of the cognitive debriefing results and instrument finalization.

Results

An Arabic version of the SHI was produced and piloted among 10 participants to assess the understandability and interpretability of the questions. Individuals included in the cognitive debriefing were from seven countries, with varying ages (16 – 53) and educational levels. The participants found the instrument to be simple, clear and brief. The psychometric properties of the Arabic version of the SHI will be determined after administering the instrument to a sample of university students.

Discussion

The cognitive debriefing indicated the suitability of the instrument for administration to Arabic-speaking populations. To the best of our knowledge, this is the first sleep hygiene instrument available in the Arabic language. The pilot testing of the instrument indicated a high level of comprehension and cultural appropriateness of the items. The availability of this instrument in the Arabic language will contribute to the advancement of sleep and behavioral research in Arab countries.

Conclusion

A systematic approach was followed in the Arabic translation and cultural adaptation of the SHI. The results of pilot testing among selected and diverse Arabic-speaking individuals indicated that the translated

instrument was simple, understandable and culturally appropriate. The psychometric properties of the Arabic version will be validated after administering it to a selected sample of university students in Qatar.

Key take-home messages

- There is a need for studying sleep hygiene practices in Arab populations to determine the prevalence of unhealthy sleep habits.
- Key steps are necessary for the translation of psychometric instruments so that they are suitable to be administered in populations other than those originally designed for.
- Pilot testing of translated and culturally adapted instruments provides preliminary evidence of their psychometric properties (validity and reliability).

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LM017: SLEEP HYGIENE: WHAT WE KNOW AND WHAT WE APPLY? AN INSIGHT INTO THE PERSPECTIVE OF HEALTHCARE PROFESSIONALS IN HAMAD GENERAL HOSPITAL, QATAR

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Purpose

- To assess the perspective and awareness of healthcare professionals (HCPs) in Hamad General Hospital regarding sleep hygiene.
- To investigate whether HCPs are able to successfully apply what they know about sleep hygiene in their daily lives.
- To explore whether HCPs discuss sleep hygiene with patients.
- To identify gaps in knowledge regarding sleep hygiene for potential future education via workshops, personalized sessions, and reminders to improve quality of sleep.
- To examine the possibility of incorporating holistic lifestyle changes such as healthy nutrition, increased exercise, stress management, cessation of bad habits to further enhance sleep quality and positively impact health by amending unhealthy behaviours.
- To assess whether a planned intervention could facilitate deeper communication between patients and their healthcare providers in the realm of sleep health.

Background

The current submission is the first part in a planned series of projects centered on Hamad General Hospital and its environs designed to assess the knowledge of HCPs, primarily physicians and nurses, regarding sleep hygiene, their personal sleep practices and how this impacts both their personal productivity and mental health as well as the conversations they have with their patients regarding the subject. Previous studies confirmed inadequate and poor-quality sleep is common among HCPs, impacting their clinical and cognitive performance, psychosocial health, and patient safety[1]. Improving sleep hygiene would thus enable us to improve sleep quality, optimize professional performance, reduce medical errors and consequently, maximize the quality of healthcare.

Methods

Physicians and nurses (n=70) were randomly sampled in this prospective cross-sectional study via anonymous questionnaires. Questions were pooled from or inspired by a number of popular tools including the Pittsburgh Sleep Quality Index (PSQI)[2], Epworth Sleepiness Scale[3], Sleep Hygiene Index[4], Patient Health Questionnaire-2 (PHQ2)[5] that addressed mental health. Questions added prominently featured assays of HCP awareness regarding sleep hygiene, evaluated HCP belief regarding patient interest in discussing sleep practices and whether HCPs educated patients about the subject. Baseline characteristics were aggregated and the data was analyzed to establish simple correlations with regards to

sleep hygiene awareness in HCPs, adherence to sleep hygiene, and perceived impact of inadequate sleep on enthusiasm, productivity, patient safety, emotional well-being and sleepiness.

Results

72% of HCPs reported awareness of sleep hygiene practices, however, 54% believed they have inadequate information. 43% declared that sleep hygiene is not often discussed with patients and 24% reported to have never discussed this subject. 61% believe it is difficult to convince patients regarding good sleep habits. 79% reported inadequate sleep (76% slept less than 7 hours on average), 57% had poor quality sleep, with the majority reporting increased fatigue on their shift work schedule (90%). The survey illustrated that HCPs believe lack of sleep negatively impacts their enthusiasm (87%), productivity (90%), and patient safety (93%). 47% had experienced depressed mood and anhedonia over the preceding two weeks. 64% disavowed knowledge of fatigue management strategies.

Discussion

This study reveals that HCPs' knowledge regarding sleep hygiene is inadequate, especially given their role in educating the patient population. Neither are HCPs satisfied with their current knowledge regarding sleep hygiene practices as are common in the literature. HCPs believe that impaired sleep negatively impacts their professional performance, personal wellbeing and patient safety. It is also concerning that 28% of HCPs screened positive (score of ≥ 3) on the PHQ-2[1] with significant depressed mood and anhedonia, which in a general population would warrant further evaluation for depressive disorders.

Conclusion

In conclusion, sleep hygiene is an oft ignored yet essential component of the biopsychosocial framework that deserves much attention. Inadequate awareness regarding sleep hygiene components has left physicians and other HCPs unable to assist or educate their patients in this vital arena whilst also impacting their own personal wellbeing and possibly their professional development.

Future studies are planned to focus on reassessing HCPs' awareness, impact on their sleep quality, productivity and emotional health following implementation of well-designed educational strategies. Ancillary studies are planned to assess the patient perspective as a reflection of the local population to evaluate whether a large-scale public awareness campaign is warranted.

Key take-home messages

HCPs are willing to learn and our recommendation is to initiate a targeted campaign to enhance their knowledge regarding sleep hygiene practices to enable them to improve themselves and to have better-informed conversations with their patients regarding the subject. The patient perspective remains to be explored - an endeavor potentially allowing us to advance public awareness of the issue.

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LM018: GEOGRAPHIC, DEMOGRAPHIC, AND MEASUREMENT VARIATIONS OF PHYSICAL ACTIVITY AND SEDENTARY BEHAVIORS IN THE MIDDLE EAST AND NORTH AFRICA: A SYSTEMATIC OVERVIEW, META-ANALYSIS, AND EVIDENCE GAP MAPPING

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Purpose

Synthesize the evidence on physical activity (PA) and sedentary behaviors among adults and youth in the Middle East and North Africa (MENA).

Background

Increasing PA is one of the core pillars of lifestyle medicine.

Methods

We systematically searched the PubMed/MEDLINE database from 2008-2017. No language restriction was applied. Two reviewers evaluated the eligibility of the systematic reviews (SRs) and extracted data both from them, and also from primary studies on PA and sedentary behavior from the 20 MENA countries. The quality of each SR and reported outcomes were assessed using the AMSTAR tool and a developed quality tool for PA behavior studies, respectively. Separately, a random-effects meta-analysis was utilized to pool PA prevalence estimates for adults and youth. Meta-regression and subgroup analyses were performed to identify factors associated with higher PA prevalence measure.

Results

Forty-four studies reported by five SRs and involving 78,621 participants from 13 MENA countries were included. In MENA after 2000, 53.9% of adults were sufficiently active with country-level PA pooled prevalence ranging from 35.1% in Kuwait to 85.6% in Tunisia. Among young people, the prevalence was 28.1%, with country-level pooled prevalence estimates ranging from 8.3% in Egypt to 55.1% in Kuwait. Females and young people appear less physically active than males and adults. Validated questionnaires were associated with higher PA prevalence measures compared with non-validated questionnaires. A wide variability and inconsistency in sedentary behavior measurement was found.

Discussion

Limited data on PA behaviors was available for MENA countries with the exception of the Gulf Cooperation Council countries. The age-related differences could be explained by differences in PA recommendations. The recognition of sedentary behaviors as a public health issue in the MENA region remains unclear, mainly due the absence of guidelines for its quantification and interpretation.

Conclusion

The global epidemic of physical inactivity is also prevalent in MENA countries. Since physical inactivity is a key risk factor for lifestyle-related diseases, such as obesity and diabetes, focused interventions should be implemented to encourage young people and adults to adhere to recommended levels of PA and reduce sedentary behavior. This could improve their overall quality of life and longevity. Measuring both behavior trends using valid and reliable measurement tools consistent at national and international levels, is essential to allow meaningful comparisons and implement effective interventions.

Key take-home messages

Public health efforts to increase PA and decrease sedentary time, particularly among young people, need standardized PA surveillance procedures to be implemented broadly and at repeated intervals in the MENA region. Identifying PA barriers specific to the MENA populations are essential for adapting national health strategies and policies to address physical inactivity.