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BRIEF NOTE

# Physical inactivity, sedentary behaviors and dietary habits among Moroccan adolescents in secondary school

*Inactivité physique, habitudes sédentaires et habitudes alimentaires chez les adolescents marocains du second cycle*

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## KEYWORDS

Physical inactivity;  
Dietary habits;  
Sedentary behaviors;  
Adolescents;  
Morocco

## Summary

**Objectives.** – The present study was designed to assess physical activity, sedentary behaviors and dietary habits among adolescents in Morocco and to define the correlates of physical inactivity (PI).

**Summary of facts and results.** – This school-based cross-sectional study of 346 secondary-school boys (160) and girls (186), aged 14–19 years, demonstrated an overall prevalence of PI of 58.8% (50.0% for boys and 66.6% for girls). Almost one third of adolescents spent more than 2 h/d on screen time. The majority of adolescents did not daily consume fruit and vegetables, while a considerable proportion frequently showed unhealthy dietary habits. Computer use, less fruit and fast foods consumption and increase in consuming milk/dairy products and doughnuts/cakes remained associated with higher odds of PI.

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## MOTS CLÉS

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Maroc

**Conclusion.** – These results show important associations between modifiable environmental factors with PI. The promotion of healthy lifestyles including active living should be a national public health priority.

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## Résumé

**Objectifs.** – La présente étude a examiné les niveaux d'activité physique, les habitudes alimentaires et les habitudes sédentaires chez les adolescents marocains et a aussi défini les facteurs de risque liés à l'inactivité physique.

**Synthèse des faits et résultats.** – Trois cent quarante-six élèves (160 garçons et 186 filles), âgés de 14–19 ans, ont participé dans cette étude. La prévalence de l'inactivité physique était de 58,8 % (50,0 % chez les garçons et 66,6 % chez les filles). Un tiers de ces adolescents participants passe plus de 2 h/j devant les écrans. Les habitudes alimentaires malsaines sont plus fréquentes et la majorité des adolescents ne consomment pas quotidiennement les fruits et les légumes. L'usage des ordinateurs, la consommation faible des fruits et *fast-foods*, la consommation excessive des produits laitiers et des pâtisseries/gâteaux représentent les facteurs associés à l'inactivité physique.

**Conclusion.** – Ces résultats montrent des associations importantes entre l'inactivité physique et des facteurs environnementaux modifiables. La promotion de modes de vie saines, y compris la vie active doit être une priorité nationale de santé publique.

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## 1. Introduction

Physical inactivity (PI) among adolescents represents a global health concern because it is strongly associated with many major diseases, such as obesity, diabetes, and cardiovascular disease. Practicing physical activities helps children and adolescents to build and maintain healthy bones and muscles and joints, control body weight, reduce fat, and develop efficient functioning of the heart and lungs.

The increased prevalence of PI and sedentary behavior is not restricted to western countries. The rate of PI is increasing in Arab world, where cultural and economic patterns are distinct from those of developed countries. Recently, the Arab Teens Lifestyle Study (ATLS), which is a school-based, was conducted in the Arabian Peninsula [1]. According to ATLS data, PI ranged from 24.1% to 44.5% among boys aged 14 to 19 years in five Arab countries (Kuwait, Iraq, Jordan, Saudi Arabia and Oman), compared with 60.8% to 78.1% among girls. However, in Morocco (Kenitra city), PI was 8.6% among boys and 32.9% among girls [2]. This difference in results leads us to reevaluate PI among adolescents using same measure. Therefore, the purpose of the present study was to report on the prevalence of PI, sedentary behaviors and dietary habits among moroccan adolescents aged 14–19 years, using representative sample drawn from central region city, Taza. It was also the intent of this study to examine the correlates of PI.

## 2. Methods

The present study is a school-based cross-sectional study. The sample came from adolescent males and females

enrolled in secondary schools from Taza city in Morocco during May 2014. The ATLS validated questionnaire was used to collect the data [1]. In the Kenitra city study, the PI prevalence was 21% [2]. Based on this value, the minimum required sample size was determined so that at least a difference of 10% in the PI prevalence from the Kenitra study could be observed. The sample size was then estimated to give a 95% confidence level with a statistical power of 80%. The total sample required was 392. All participants gave informed consent. The consent of each participant and the authorization of the National Ministry of Education were obtained.

The data are presented as adjusted means along with 95% confidence intervals in relation to various dependent variables. The  $\chi^2$  test or Fisher's test was used to test associations between nominal variables; the Student's *t* test was used to compare means. Logistic regression analysis was used to determine odds ratios and test crude and adjusted associations of lifestyle habits with PI in adolescents.

## 3. Results

From the 400 collected questionnaires, 54 presented missing responses, which were excluded from the analysis. Only 346 students from selected secondary schools in Taza city participated in this study (53.8% female; mean age: 16.3 years) (Table 1). Overall, the level of physical activity differed significantly between genders; on average boys were more physically active than girls. The total MET-min score per week was significantly higher in boys than in girls ( $P < 0.001$ ). A significantly ( $P = 0.002$ ) higher proportion of boys (50%) than girls (33.3%) met the recommended moder-

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