



Faculty of Health and Medical Sciences



Use of anti-asthmatics among ethnic minority adolescents: from multilevel analysis to interview insights



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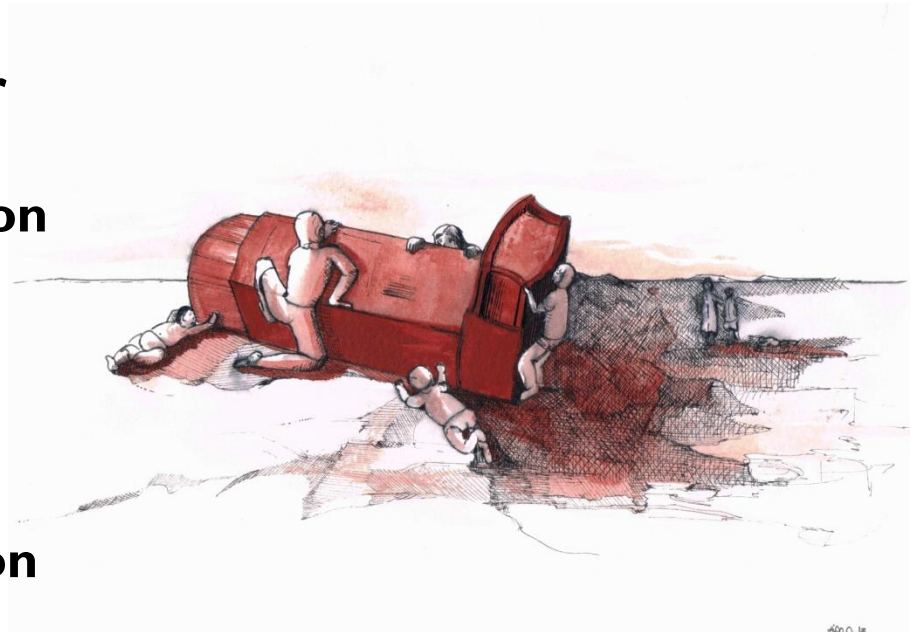
Content

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Background

1. **Lack of adherence to asthma medicine regimes continues to be a public health problem among young people.**
2. **Adolescents with immigrant or ethnic minority background suffering from asthma receive on average less appropriate anti-asthmatic medication (AAM) than the majority population** (*Cantarero-Arévalo et al. JECH 2013*).
3. **Parental socioeconomic position and place of residence cannot explain alone the problems related to suboptimal adherence** (*Cantarero-Arévalo et al. JECH 2013; Cantarero-Arévalo et al. PDS 2013*).



Aim

- **By performing a multilevel analysis, we aimed to evaluate if MCOB by itself accurately identifies adolescents with inappropriate AAM use over and above individual socioeconomic and medical factors.**

Cantarero-Arévalo et al. SJPH 2016

Methods

Study population

- **782,857 adolescents born between 1988 and 1991 residing in Sweden the year they turn 17 (12.8% non-ethnic Swedes)**

Registers

- **Medical Birth Register**
- **The Register of the Total Population**
- **Swedish National Prescription Register**

Outcome measures

- **Use of anti-asthmatic medication:**
 - **Relief, non expensive**
 - **Preventive, expensive medication**

Methods

Statistical procedure

- **Multilevel logistic regression analysis (781,632 adolescents nested within 62 Mother COB)**
- **Measures of association (odds ratios, (OR)) and measures of variance (Intra-class correlation (ICC))**
- **Constructed an equation that predicted the probability of using anti-asthmatic medications at the age of 17 based on medical needs for AAM and parental socioeconomic factors (risk score)**

	Level 1	Level 2	Variables
Model A	Adolescent	Mother COB	Null
Model B	Adolescent	Mother COB	Risk score
Model C	Adolescent	Mother COB	World Bank income + risk score

- **Adjusted for GDP per capita of COB (World Bank Classification)**



The RS corresponds to the predicted probability of using anti-asthmatic medication as a function of the variables included in the model:

Logit (use of anti-asthmatic medication) =

Mother {
Mother with asthma diagnosis
Mother with respiratory diagnoses

Gestation {
Father/mother farmer
Maternal age
Gestational age, weeks
Maternal smoker status

Delivery {
Child's weight
Delivery
Apgar at 5 minutes
Parity

Socioeconomic {
Income father
Income mother
Father/mother education
Number of children in father/mother household
Time in Sweden (mother/father)
Social allowance mother/father
Parents living together

Results

Multilevel logistic regression analysis

Odds Ratio (OR) with 95% (CI) for use of asthmatic medication

	Relief	Preventive
	OR (CI-95%)	OR (CI-95%)
Low income (World bank)	0.83 (0.54-0.93)	0.59 (0.44-0.71)

Intraclass correlation coefficient (ICC) with 95% (CI)

ICC (%)	Model A	Model B	Model C
Relief	2.51 (1.26-4.40)	2.30 (1.06-4.25)	1.55 (0.36-3.35)
Preventive	3.49 (1.84-5.93)	3.00 (1.64-5.06)	2.19 (1.01-4.00)

Conclusions

- **Mother's COB are associated with adolescent use of AAM suggesting the existence of ethnic inequalities in access to asthma treatment among Swedish adolescents.**
- **However, the small ICC indicates that MCOB is an inaccurate categorization for identifying inappropriate use of AAM among Swedish adolescents.**

Aim

- **By performing a qualitative-based study, we aimed to explore the role of self-efficacy and religion in adherence to asthma medicine treatment.**

Drue Dahl et al. Pharmacy 2018

Methods

- **10 Muslim minority women (14–24 years of age) living in Denmark.**
- **10 individual interviews and 1 focus group**
- **Data analysis was deductive using Bandura's theory of self-efficacy and modes of agency.**

Results

- **Young women reported changes in self-perceived self-efficacy during the holy month of Ramadan.**
- **Praying was used as an alternative to medicine for controlling asthma symptoms.**
- **Young women did not perceive religion and treating asthma with medicine as mutually exclusive, but rather as coexisting for the shared goal of controlling asthma symptoms.**

Conclusions

- **It is important for healthcare professionals to be aware of the link between self-efficacy, religion and adherence to asthma medicine treatment.**
- **This awareness can aid HCPs in giving advice regarding adherence to asthma treatment, and when monitoring treatment to improve the quality of asthma care for young Muslim minority women**

Tak!

