
Zaključak: Vrlo je važno educirati i informirati liječnike o pravilnom skladištenju cjepiva, posebice u ljetnim mjesecima i za vrijeme velikih vrućina. U slučaju nepravilnog skladištenja, velika je opasnost od smanjene učinkovitosti cjepiva, što može dovesti do neadekvatne zaštite cijepljene djece.

Ključne riječi: Cjepivo, stabilnost, visoka temperatura, učinkovitost, djeca

DECREASE IN EFFICACY OF CHILD VACCINES DUE TO HIGHER ENVIRONMENT TEMPERATURES

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Abstract

Introduction: During summer months, many medicines are exposed to inadequate storage temperatures, which can decrease their efficacy. Vaccines are listed among the group of medicines that are most sensitive to storage in high temperatures.

Methods: A list of mandatory childhood vaccines was obtained from the Croatian Institute for Public Health. Those vaccines have been compared with regard to their described stability at different environmental temperatures, according to information from the World Health Organization.

Results: Majority of vaccines are most stable and best stored at temperatures between 2 and 8 °C. At high temperature exposure, the most sensitive vaccine is the inactivated vaccine for poliovirus, which can remain stable for only a few weeks if stored at temperatures of 20°C or higher. When stored at 37°C, the MMR vaccine is stable for two weeks, while the Pertussis vaccine retains its effect for only a week. At that temperature Hepatitis B vaccine loses 20% of its effectiveness. At 45°C it lasts no more than a few days, while other listed vaccines are either completely unstable, or inadequately effective at temperatures that high. Out of the listed vaccines, the most stable is the tetanus and diphtheria toxoids one which can be stored at temperatures of up to 55°C.

Conclusion: It is of utmost importance to educate and inform physicians about proper ways of storing vaccines, especially during the summer months. In case of inappropriate storage, there is a risk of diminished effect of vaccines, which can lead to inadequate immunization of children.

Key words: Vaccine, stability, high fever, efficacy, children

KONDUKTIVNI POREMEĆAJ MEĐU DJECOM S PREKOMJERNOM TJELESNOM MASOM I DEBLJINOM: SUSTAVNI PREGLED LITERATURE I META-ANALIZA

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Sažetak

2016. je godine procijenjeno kako je broj djece i adolescenata s prekomjernom tjelesnom masom (ptm) i debljinom (deb) u zadnjih 40 godina porastao čak 10 puta. Mladi koji pate od prekomjerne tjelesne mase i debljine češće obolijevaju od psihičkih poteškoća. Neke studije su pokazale povezanost između konduktivnog poremećaja i debljine, no druge studije ne pokazuju takav rezultat. Cilj je ovog sustavnog pregleda i meta-analize bio proučiti povezanost konduktivnog poremećaja s ptm i deb među djecom i adolescentima. Sustavno je pretraživanje literature provedeno 31. listopada 2019. u bazama: MEDLINE preko OVID-a, PsycINFO i PsycARTICLES preko EBSCOhost, SCOPUS i OpenGrey. Uključene su

presječne i kohortne studije iz bilo koje države ukoliko sadrže podatak o omjeru šansi (OR) za konduktivni poremećaj među ptm i/ili deb djecom i/ili adolescentima, ili iz kojih se ti podaci mogu izračunati, studije u kojima su korišteni validirani psihijatrijski testovi te one u kojima ispitanici imaju trenutnu dijagnozu konduktivnog poremećaja. Kriteriji za isključenje su bili: studije provedene na kliničkim uzorcima ispitanika, ispitanicima starijim od 21 godinu te ispitanicima koji imaju morbidnu debljinu. Ekstrakciju podataka uključenih studija vršila su dva istraživača neovisno (DN i JM) prema unaprijed pripremljenom obrascu. Podaci su analizirani pomoću programa Comprehensive Meta-analysis. Statistička heterogenost među studijama je procijenjena pomoću I^2 testa i Cochran Q statističkog testa. Podaci su analizirani prema modelu slučajnih učinaka. Ukupno 10 studija je uključeno u meta-analizu, koje su sadržavale podatke o 73 903 ispitanika. Postoji statistički značajna povezanost između ptm i deb u djece i adolescenata i konduktivnog poremećaja (OR 1.34 [95% CI, 1.16- 1.54]). Meta-analitički rezultati pokazuju postojanje značajne varijacije u veličinama učinaka među studijama ($Q=79.75$; $df=8$; $I^2=89.97$). Postoji značajna razlika u veličinama učinaka među djevojčicama u odnosu na dječake ($Q=10.94$; $df=1$; $p<.01$). Prekomjerna tjelesna masa i debljina su rizični čimbenici za konduktivni poremećaj među djecom i adolescentima, s tim da su dječaci češće pogođeni. Bilo bi korisno uvesti probir na konduktivni poremećaj u ovoj populaciji.

Ključne riječi: prekomjerna tjelesna masa; debljina; djeca; adolescenti; konduktivni poremećaj; meta-analiza

CONDUCT DISORDER AMONG THE OVERWEIGHT AND OBESE CHILDREN AND ADOLESCENTS: A SYSTEMATIC REVIEW AND META-ANALYSIS

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Abstract

In 2016 it is estimated that in just 40 years the number of school-age children and adolescents with obesity has risen more than 10-fold. Overweight (ow) and obese (ob) young individuals are more likely to experience psychiatric and psychological disorders. Some studies pointed out the association between conduct disorder (CD) and obesity, but others did not. The aim of this systematic review and meta-analysis was to analyse the association between ow/ob and CD among the children and adolescents. A systematic literature research was conducted in MEDLINE via OVID, PsycINFO and PsycARTICLES via EBSCOhost, SCOPUS and OpenGrey on 31 October 2019. The inclusion criteria was cross-sectional or cohort studies from any country if they provided odds ratio for CD among ow/ob children and adolescents or from which they could be calculated, usage of validated psychiatric tools and the current CD diagnosis. The exclusion criteria was studies performed on the clinical samples, participants older than 21 years or morbidly obese. Data extraction was performed by the two authors independently (DN and JM) according to predesigned data extraction form. Data were analyzed using the program Comprehensive Meta-analysis. The amount of statistical heterogeneity among the studies was assessed by computing the I^2 and Cochran's Q-statistic. Data were analyzed using a random-effects model. A total of 10 studies were included in the meta-analysis comprising 73 903 of participants. There was a statistically significant relationship between childhood and adolescent ow/ob and CD (OR 1.34 [95% CI, 1.16- 1.54]). Meta-analytic results showed that there was a large degree of variance in the study effect sizes ($Q=79.75$; $df=8$; $I^2=89.97$). There was a significant difference in effect sizes between samples consisting entirely of boys or entirely of girls ($Q=10.94$; $df=1$; $p<.01$). Overweight and obesity are risk factors for conduct disorder among children and adolescents, boys are more often affected. This population should be screened for CD.

Keywords: overweight; obesity; children; adolescents; conduct disorder; meta-analysis