From Science 2 School: Sustainably healthy – active & veggy

First Results from the survey of the prevalence of vegetarian & vegan diets linked to sports & PA among Austrian pupils of secondary levels I and II

Background & Objective

Health is a major topic for the future in education, pairing the **UN Sustainable Development Goals: #3 "Good Health and Well-Being" and #4 "Quality Education".**[1]

Physical inactivity and overweight/obesity are two of the most powerful influencers of preventable, chronic disease risk (so-called non-communicable diseases) and are ranked as the 4th and 5th risk factors of global mortality, with 6 % and 5 % of premature deaths respectively[2,3]. **In Austrian children/adolescents:**

- **73 – 85 % fail to meet the recommended 60 min/day of physical activity (females > males)[4,5]**
- **up to 30 % overweight/obese prevalence (males > females)[4,5,6]**

Physical activity (PA; especially through sports & exercise) **and nutrition** are recognized as **"medicine"** in general.[11,13-15] Health behavior is known to follow consistent patterns over time, and good or poor health behaviors will continue from childhood and adolescence into adulthood.[6,16] 10% of Austrians currently consume vegetarian/vegan diets (880,000).[7] However, there **is no information about the plant-based diet trends of Austrian pupils and teachers**. An active lifestyle coupled with a healthy plant-based diet as a dual approach could provide the individual with the most impactful health behaviors for preventing chronic, non-communicable disease.

Objective. **Therefore,** *From Science 2 School* is the first study that aims to assess plant-based diets in connection with PA, sports, and exercise at Austrian schools of secondary levels I and II. along with multiplieers and decision makers.

Methods

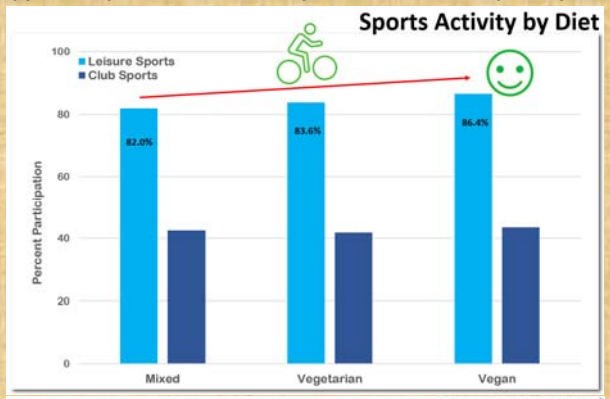
Granted by the TWF (Tiroler Wissenschaftsförderung) and supported by the Federal Ministry of Education, Science and Research (BMBWF), and approved by all 9 Austrian Federal Education Authorities in Austria, this study was conducted in the school year 2019/2020 with a **basic sample size of 860,768 Austrians, inclusive 771,525 pupils & 89,243 teachers/principals,** invited to participate, according to the following details:

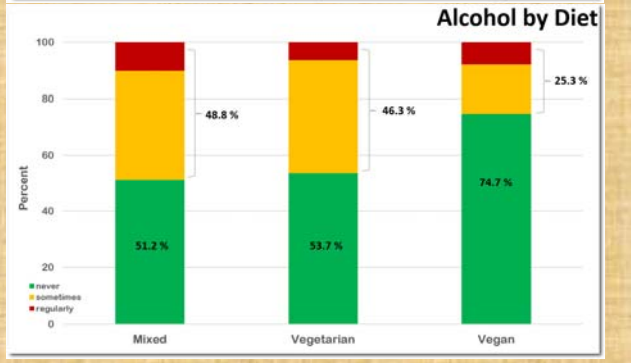
- *Approach:* interdisciplinary, cross-sectional, representative, Austria nation-wide
- *Mandatory:* approval by 9 federal educational authorities (04-08/2019) & principals at 2,688 schools
- *Data Collection:* 28.October 2019 – 10. July 2020
- *Survey:* Short standardized online survey in German (2 different versions for pupils and adults) consists of 5 parts with questions (including control questions) about **(1) person, (2) sports, (3) nutrition, (4) health, and (5) miscellaneous**: https://www.science2.school/en/#Questionnaire
- *Target Information:* quantitative records and consequent qualitative data (potential associations between study variables and age, sex, diet types, PA level, etc., across 2 study populations
- *Statistical Analysis:* descriptive methods, non-parametric ANOVA, MANOVA/regression analysis, etc. considering sex, age, BW/BMI, school level, diet, sports, urban vs. rural, etc.

Results

A total of 8,845 pupils (1.1 % response rate) of the total Austrian pupil sample completed the survey. Vegan diet (7.2%) compared to vegetarian (8.5%) and omnivorous diet (84.3%) prevalence in pupils is associated with significantly …

(1) higher days with sports (3.2 vs. 2.9 vs. 2.8 days/week, p<0.01)
(2) higher leisure sports (86.4% vs. 83.6% vs. 82.0%, p=0.003)
(3) more vegans never drink alcohol (74.7% vs. 53.7 vs. 51.2%p<0.001)





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Conclusions

From Science 2 School is the first nationwide school study to survey the current prevalence of omnivorous, vegetarian, and vegan diets in connection with physical activity levels in Austrian secondary schools among pupils, teachers, and principals. This study will provide a major contribution to:

(1) overcome the lack of information about vegetarian diets at Austrian secondary school to justify the dual approach for decision-makers as highly effective for pupil health but also safe and low-cost;
(2) aid in transferring the results to healthy actions in the school setting, such as cafeteria or canteen, interdisciplinary events, and more;
(3) develop sustainable action readiness and health-oriented action competence to put the power of good health in the pupils' hands for a long-term, sustainable, and healthy future.

Take home message. This basic approach to healthy living includes behaviors that occur everyday naturally, and by putting together the healthy behaviors early in life, a healthy lifestyle will follow:

[plant-based diet] + [daily sports & exercise] = 'super' medicine

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