

KidsTUMove wintercamp: A pilot project for children with congenital heart diseases

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Projects accompanying children with congenital heart diseases (CHD) throughout their daily life are important. Winter time very often implements less activity therefore the pilot project kidsTUMove "wintercamp" was established with "kinderherz Südtirol". In the camp, winter activities (e.g. skiing) were accompanied by an interdisciplinary team and tested in a protected field. Through the experience in "wintercamp", it is possible to take part in offers of social life. There is no literature on CHD and its impact at altitude, neither in sports activities nor at altitudes >2000hm.

Methods: 9 children (13, 44 years \pm 2,46) with CHD participated. To examine the effects from altitude oxygen saturation (SaO₂) and reaction time (TDS) was measured at ground level (1000m) and at altitude level of 2200 m. Also SaO₂, blood pressure (RR) and pulse was measured pre and post skiing. Health-related quality of life (hQL, KINDL questionnaire) was measured before and after "wintercamp".

Results: Altitude: SaO₂ decreased in CHD ($p < 0,001$) and skiing ($p < 0.01$). Reaction Time increased ($p < 0.001$).

Pre-Post skiing: Children with diseases have significantly lower SaO₂ before as well as after skiing ($p < 0.01$). After skiing RR and pulse were higher than before ($p < 0.001$; $p < 0.001$).

hQL had higher values after the "wintercamp" ($87,5 \pm 6,7$, $81,4 \pm 10,3$; $p = 0.001$). Also the physical well-being was higher after the "winter camp" ($81,3 \pm 11,7$; $74,3 \pm 11$; $p < 0.05$).

Conclusion: Since SaO₂, RR and pulse are important parameters for daily life activities in CHD and since they have changed in altitude with/without sport activities, these parameters should be regularly checked in altitudes >2000 hm. Moreover, since the winter camp has an effect in hQL and since it gives an impulse for an active lifestyle during wintertime it is important to provide interdisciplinary prevention offers to CHD (like kidsTUMove). In addition such offers give an opportunity to take part in social activities which are in common in kindergarden, school and families activities also in the season of winter.