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Pathway 2036 or the holistic Hungarian volleyball strategy for long-term youth development
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INTRODUCTION:

In alignment with its long-term strategic framework (*The Strategy of Hungarian Volleyball 2022–2034*), the Hungarian Volleyball Federation initiated comprehensive system-level reforms in 2025 aimed at enhancing sustainable performance development and international competitiveness. Central to these reforms is the systematic strengthening of coaching expertise, recognized as a key determinant of national team success. Accordingly, a four-year, multi-level coach education reform was launched, built on unified methodological principles and incorporating contemporary sport science and performance-oriented pedagogical approaches. The program has been accredited by the European Volleyball Confederation (CEV), ensuring international alignment and recognition. In parallel, youth athlete development pathways were restructured through the integration of youth national teams into senior domestic competitions during the 2024–2025 season, increasing competitive exposure and facilitating the transition to elite performance levels. These national initiatives were further shaped by long-term CEV age-category and competition reforms extending to 2038, prompting a comprehensive evaluation of domestic competition structures. Collectively, these measures informed the development of an evidence-based, Olympic-oriented competition and athlete pathway strategy aligned with international performance standards.

METHODS:

For data processing, the SPSS 21.0 Statistical Program was used, while descriptive statistics and analysis were applied to characterize the samples and determine the differences of age groups and positions respectively by ANOVA Fischer's LSD post hoc and Hayters' correction method. For the age groups and positions homogeneity measurement the chi-square contingency table was used. The chi-square value is $p=0,45$, therefore the material is homogenous. The significance level was set up $p<0,05$.

RESULTS:

The study analysed a total of 7,492 youth volleyball players across the U10–U20 age groups, including 1,751 male and 5,741 female athletes. Match exposure data revealed that 231 players participated in an exceptionally highly competitive load, playing between 50 and 81 matches per 9 months long season. This volume substantially exceeds the recommended 30–40 matches per age group typically advised for youth competitions. Such elevated match frequency was associated with a markedly increased potential risk of non-contact injuries due to cumulative physical stress and insufficient recovery time. The distribution and intensity of competition suggest a structural imbalance in the current development system, indicating that the present competition model is neither sustainable nor optimally effective for long-term athlete development and health preservation.

CONCLUSIONS:

This sport science-driven project establishes a long-term, evidence-based framework that will fundamentally shape youth player competition structures over the next 12 years. By defining age-specific annual match exposure, integrating systematic performance assessments, and tracking progressive development through objective metrics, the program creates a transparent and measurable pathway for athlete development. The model aligns competition load, evaluation, and performance progression into a unified national system. Importantly, the framework also functions as an Olympic action plan, strategically preparing Hungarian volleyball for international competitiveness. As such, the project provides a scalable and data-informed foundation to support Hungary's presence at a potential home-hosted Olympic Games in 2036.