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Pos-pandemic era inquiry tendency for substances prohibited in sports: Data analysis of Taiwanese anti-doping services.

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INTRODUCTION:

World Anti-Doping Agency (WADA) updates its prohibited list(1) annually according to the latest research and reports, making it difficult for sports and medical professionals to keep track of all the latest information and memorized which healthcare products contain substances prohibited in sports. To assist Taiwanese athletes and people concerned, anti-doping authorities in Taiwan provide services utilizing website search tools, APP, and online professional consultation. Analysis data collected from these services allow us to identify the population in need and the types of issues or substances that athletes may encounter in daily life, improving the efficiency of sports-prohibited substance misuse prevention.

METHODS:

The study collects over 30,000 data from the search history of anti-doping APP and inquiries submitted for prohibited substances consultation from 2021 to 2022 which contain the identity (i.e. occupation or relationship to athlete) of anonymous users. The prohibited substances in the data were categorized according to WADA's prohibited list(1) and routes of administration. The information on the users' population and healthcare products was also calculated and categorized.

RESULTS:

The majority of users are athletes (44.0%), much more than any other group in the user population (all below 20%). For healthcare products in the database, 60.4% are western medicine (21.9% containing prohibited substances), 28.2% are traditional Chinese medicines (35.9% contain prohibited substances), and 11.4% are nutritional supplements (58.3% high risk of containing prohibited substances). Prohibited substances in modern medicine include S1 anabolic agents (1.6%), S2 peptide hormones (0.5%), S3 beta-2 agonists (6.7%), S4 metabolic modulators (1.7%), S5 diuretics (3.1%), S6 stimulants (52.4%), S7 narcotics (4.9%), S9 glucocorticoids (25.3%), P1 beta-blockers (3.8%); prohibited substances in traditional Chinese medicines include S3 beta-2 agonists (44.4%), S6 stimulants (51.4%), S8 cannabinoids (4.2%).

CONCLUSION:

Athletes are the population most likely to utilize anti-doping services to search for information about whether healthcare products contain substances prohibited in sports. Approximately 50% of prohibited substances in inquiries are from category S6, this might contribute to that substances listed in this category are often used for the treatment of common cold and Covid-19 symptoms. Inquiries about traditional Chinese medicines and nutritional supplements products have a higher percentage containing prohibited substances than western medicines. This may be attributed to the complexity of the composition, manufacturing process, and source material within products of the above two categories.

REFERENCES:

1. World Anti-Doping Agency 2023 Prohibited List. 2023; Available from: https://www.wada-ama.org/sites/default/files/2022-09/2023list_en_final_9_september_2022.pdf.

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