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Abstract. Based on the methods of literature, questionnaires and mathematical statistics, the health status and physical fitness activities of Tibetan plateau people are studied based on environmental factors. In response to the existing problems, it is recommended that the management department rationally and scientifically avoid environmental unfavorable factors in the context of “precise poverty alleviation” and “counter aid construction”, and take measures to promote the physical health and physical fitness activities of the Tibetan plateau masses. We will promote the implementation of the national fitness program in Tibetan areas and accelerate the poverty alleviation in Tibetan areas.

1. Research objects and methods

1.1. Research object
The research on the health and physical fitness of the plateau from 16 years to 65 years old in some counties and cities of 7 autonomous prefectures (counties) in Amdo Tibetan Area.

1.2. Research methods

1.2.1. Literature Method. By reading domestic and foreign related research results and books, and consulting the core journals of China Knowledge Network, the selected literature and data are screened, analyzed and organized to lay a theoretical foundation for research.

1.2.2. Questionnaire method. The research team distributed a total of 3,060 questionnaires in seven Tibetan autonomous prefectures during the summer vacation and winter vacation in 2018, and collected 2,878 questionnaires with a recovery rate of 94.05% and 2,768 effective questionnaires with an effective rate of 90.46%.

1.2.3. Field inspection method. Field visits and inspections were conducted in each survey area of the Tibetan area, and local information and data on the health and exercise of the masses were recorded as the basis for the study.
2. Research results and analysis

2.1. Age characteristics of the plateau masses
In the survey of 2,768 people who were over 16 years old in the Tibetan area participating in physical fitness activities, 2,441 people participated in at least 1 or more sports activities per week, accounting for 88.19%. From the age distribution of 2441 people, the participation rate of people aged 16-25, 56-65 and 65 years old was higher, accounting for 22.63%, 22.02% and 26.65% respectively. The 26-35, 36-45, and 46-55 age groups had lower participation rates, accounting for 11.55%, 9.12%, and 8.03%, respectively.

Table 1. Age Characteristics of Highland People

![Graph showing participation rate by age group.]

2.2. Occupation and education level
According to the survey results, among the people who participated in physical fitness activities in the Tibetan Plateau, farmers, herdsmen and students accounted for the largest proportion, accounting for 33.31% and 22.0% respectively, followed by science and education, management, workers and others, each accounting for 16.0% and 13.0%, 13.0% and 2%. Among these people, the level of education is low and there are significant differences. Universities (including junior colleges) account for only 22% of the total number, with the highest proportion of high school (including secondary school), accounting for 26%, 21% for junior high school, 16% for primary school, and even illiterate people accounted for 15%.

Table 2. The occupations in Tibetan plateau (%)

![Bar chart showing occupations and their percentages.]

| Occupation          | Number | Percentage |
|---------------------|--------|------------|
| Farmer              | 817    | 0.33       |
| Student             | 527    | 0.22       |
| Science education   | 398    | 0.16       |
| Management          | 329    | 0.13       |
| Worker              | 322    | 0.13       |
| Other               | 48     | 0.02       |
### Table 3. Education level of people in Tibetan Plateau

2.3. Physical health status
Among the surveyed population, the prevalence rate of Tibetan plateau people was as high as 62.68%. According to the type of disease, the top three were digestive diseases accounting for 32.48%, rheumatoid joint diseases accounting for 30.07%, and respiratory diseases. Accounted for 18.89%. Among them, the prevalence rate of herders was as high as 86.47%, and the prevalence rate of students was the lowest, at 10.80%. The high incidence of digestive diseases is related to the eating habits of the people in the Tibetan Plateau. Tibetans in Tibetan areas mainly eat meat and milk. Under the environment of high and cold anoxic climate in agricultural and pastoral areas, ultraviolet burns are strong, average temperature, long temperature difference between morning and evening, and long wind season. Long-term grazing damages human skin and joints.

2.4. Time to participate in physical fitness activities
From the time characteristics, most of the time for physical exercise in Tibetan areas is in the morning, accounting for 75% of the total number, followed by evening, accounting for 38%, and noon accounting for 9.3%. The choice of sports and fitness time period must take into account the special climate and geographical environment factors of the Tibetan plateau. The average altitude of the Tibetan area is 2500-4500 meters, while the average temperature of the plateau hinterland above 4500 meters above sea level is also below 0 °C. The warmest average daily temperature is below 10 °C. The main climatic features are plateau continental monsoon climate, high cold and dry, thin air, low pressure and oxygen deficiency, large temperature difference between day and night, and strong UV burning ability. The environmental characteristics of the plateau have a great impact on the human body. Scientific physical fitness must consider environmental factors, and the choice of time is especially important.

3. Conclusion

3.1. Influenced by environmental and geographical factors, economic development is relatively lagging behind, and sports resources are insufficiently allocated.
The economy of the Tibetan area is mainly based on agriculture and animal husbandry. The development is relatively lagging behind. The local government has limited financial revenues. There are only a handful of sports facilities. Most of the venue equipment is donated to support provinces, sports lottery and welfare lottery. National requirements.

3.2. Lack of professional instructors and effective management
The number of national fitness pathways and social instructors in Tibetan areas is seriously inadequate. Some of the personnel who act as social instructors are not professionally professional and have low
professionalism. The lack of Tibetan-Chinese bilingual instructions for fitness equipment has made it difficult for many farmers and herdsmen to read and use instructions, resulting in low usage rates. Affected by the special climatic conditions of the plateau and improper use of humans, the fitness equipment is damaged and there are many safety hazards, and maintenance has not been followed up in time.

3.3. Low level of education, lack of correct understanding of physical fitness activities
The basic education links in Tibetan areas are relatively weak, resulting in a low level of cultural education in the plateau. Their understanding and understanding of sports are influenced by traditional concepts, especially for some modern sports. Most of the surveyed people lacked the demand for sports resources, and had insufficient understanding of the role and function of sports. Subjectively, it restricted the development of mass sports in Tibetan areas.

3.4. In the Tibetan Plateau environment, the choice of physical fitness time is unreasonable
The choice of the plateau masses for the period of physical fitness did not take into account the characteristics of the plateau climate, and fully obeyed the habits. Most of the physical fitness hours were in the morning and evening. In the Tibetan Plateau environment, the temperature in the morning period is low, the exhaust emissions of the vehicles are serious, the winds are frequent at noon, the ultraviolet rays are strong, and the PM10 content in the air is large, which is not suitable for exercise.

4. Promotion measures for the masses in the Tibetan Plateau to participate in physical fitness

4.1. Reasonably avoiding the influence of environmental factors and continuously strengthening the construction and scientific management of sports infrastructure in Tibetan areas
The construction of sports infrastructure in Tibetan areas depends on the self-construction of the local government and the support of the provincial and municipal governments, as well as the active introduction of various social forces. The research and development and distribution of equipment should be combined with the special nature of the Tibetan Plateau's natural environment to improve the quality of equipment. The aided construction unit cooperates with the manufacturer to produce more equipment related to traditional Tibetan sports. The local sports management department shall set up a special management organization, establish a professional management team, establish a scientific management of the GIS system on the fitness path and layout by the village as a unit, and perform real-time monitoring of the fitness equipment and fitness field usage data for the later stage. Data analysis of the placement, safety inspection and maintenance of fitness equipment.

4.2. In the context of the national "precise poverty alleviation" and "counter-assisted aid" policies, develop a strategic plan suitable for the development of sports in Tibetan areas
"Precision poverty alleviation" is a strategic development model based on China's and local conditions. It benefits the Tibetan people's sports from the perspective of material and financial resources. The support of material and financial resources is the catalyst for the rapid development of the mass sports in Tibetan areas. In recent years, the country has made great efforts in "supporting the construction of counterparts". The aid construction involves all aspects of social, economic and cultural construction. Tibetan areas should seize the opportunity of policy, scientific planning, ensure the implementation of funds, and build the necessary national fitness centers and infrastructure facilities in rural areas. In addition to the fitness path, purchase some Tibetan traditional sports fitness equipment and build some simple indoor venues.

4.3. Based on the special natural environment of the Tibetan Plateau, scientifically arrange sports and fitness time
Based on the analysis of environmental factors, combined with the human comfort index in the plateau environment, it is recommended to choose indoor venues in the winter and spring seasons when the
plateau mass sports. In outdoor physical exercise, environmental science knowledge should be applied reasonably. In the Tibetan plateau, the cold, lack of oxygen, low morning temperature, air pollution in the exercise place, climate change have obvious plateau characteristics, small air humidity, and large wind and sand. From the perspective of environmental science, use air cooling index WCI=4.184 (10+10.45-V) (33-Ta) and human comfort index KSSD=1.8t-0.55×(1.8t-26)×(1-r/100 ) - 3.2 × v 1/2 + 32 for calculation, the WCI in Tibetan areas are above "very cold", most of the time Kssd is 1 (very cold), kssd is 5 (comfortable) time is only 38.3 days per year, kssd The average time for 6 (warm) is 20-40 days. Therefore, the time period should be chosen from 5 pm to 7 pm, and appropriate physical exercise prescriptions should be scientifically formulated according to their own conditions.

4.4. Using regional resource endowments to expand the mass sports and fitness channels in Tibetan areas, and accelerate the social poverty alleviation in Tibetan areas

Relying on the endowment of regional resources, we will rationally develop sports tourism resources with ethnic characteristics, broaden the traditional sports culture market in Tibetan areas, and stimulate the vitality of Tibetan national sports. Develop sports IP with Tibetan customs. Visitors can participate in this experience and provide opportunities for Tibetan plateaus to interact with tourists and exchange and collide with foreign cultures. Visitors leave their own sports and cultural information and bring Tibetans Bringing out the sports culture and taking it out will help accelerate the pace of poverty alleviation in Tibetan areas.

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References
[1] Zhao Fuxue, Cheng Chuanyin et al. Investigation on the current situation of the National Fitness Path Project in Anduo Tibetan Area under the background of "Sports Aid Tibet" [J]. 2016, 12: 12.
[2] Xie Lina. Brighton Women and Sports Declaration and Women's Sports [J]. Sports Culture Guide, 2002, 1: 48.
[3] Gao Jike. Opportunities and breakthroughs in the development of mass sports in Tibetan areas of Gansu Province [J]. Sports Culture Guide, 2014, 7:41.
[4] Wang Zhihui. Social Differences between Gender Differences and Mass Sports Participation [J]. Journal of Wuhan Sport University, 2013, 7: 17-18.
[5] Yang Jiancheng. “Protection” and “Regulation” of Mass Sports Rights [J]. Sports and Science, 2015, 6: 88-90.
[6] Chen Yani. Impact of high altitude cold environment on human body function and prevention [J]. Occupation and Health, 2014, 5: 14.
[7] Ministry of Agriculture of the People's Republic of China. Guidance on Further Strengthening Farmers' Sports Work [EB/OL].Http://www.moa.gov.cn/, 2018-01-16.
[8] Liu Xia. Anthropological Analysis of Regional Culture [J]. Thought Front, 2005, 5: 67-68.