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The cross-contextual communication of biopower: From the angle of the prevalence of dietary supplements in Chinese society

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Abstract. Dietary Supplements (DS), rooted in Western medicine's microscopic agent, have permeated Chinese society from the late Guangxu period to the present. From domestic inception to global proliferation of the DS, conceals its commercial attributes behind the façade of a Eurocentric health concept, specifically the "add-on" theory of surplus health. Rooted in Western medicine discourse, this concept has been contextually transferred and has succeeded in infiltrating Chinese society, which represents a choice to exploit indigenous knowledge for the commercialization of medical culture. Foucault's insights in *The Birth of Clinic* reveal how classical medicine gave way to clinical medicine, elucidating the convergence of "science" and "power" that governs modern societies. Accordingly, DS, as well as addressing the consequences of this high-tech intervention pose critical questions about biopower. Its infusion into Chinese society, driven by social and economic factors, may lead to uncertain biological efficacy of DS when used as a public good, and the potential for intergenerational epigenetic shifts. However, all of those uncertainties, combined with the absence of research tailored to diverse ethnic groups and personalized intake programs are often going unnoticed by the general public while DS has gained popularity as both a cultural and commercial product.

Keywords: Dietary Supplements, Biomedical Intervention, Medical Power Transmission, Biopower, Eurocentric Health Concept.

1. Introduction

The uneven global development of biomedical technology and knowledge, a legacy of the colonial era, frequently results in the transfer of medical power from one social system to another in contemporary societies. Foucault explains in *The Birth of Clinic* why classical medicine was replaced by clinical medicine, thereby revealing the logic of modern society, in which "science" and "power" combine to rule a society or group of people [1]. Dietary Supplements (DS), a type of nutraceutical based on the microscopic agent of Western medicine that emerged in the U.S. and Europe, entered and flourished in Chinese society from the end of the Guangxu period to the present. However, when this Western medical product, with its attributes permeating Chinese society under the influence of social and economic factors to the point of social violence brought about by the imbalanced lifestyle of the developed world, two contradictions arise: when DS are used as a public good across contexts, it is impossible to prove whether their biological activity has a positive effect on another group; if the positive effects of DS

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cannot be proven conclusively, their microscopic route as an exotic intervention may result in intergenerational epigenetic shifts. Then why does Chinese society embrace DS despite its unproven medicinal value under such an infusion? What opportunities does such embrace provide biopower to increase its influence over the bodies and populations of Chinese society? These are the questions that this paper will discuss.

2. Chinese Society and the History of Western-centric Nutritional Supplements

"Add-on" or surplus medicine has a long history in China, possibly starting from the saying "medicine and food have the same origin" in the Yellow Emperor's Classic of Medicine [2]. And in modern times Chinese hospitals are still flooded with prescriptions for daily medication to help patients improve their health, and relying on microscopic compositional analyses derived from the anatomy of living organisms to help treat difficult miscellaneous diseases [3]. Prior to the development of modern medical biotechnology, the Chinese approach to food therapy was to recommend the supplementation of nutrition with a general and holistic notion of plants and animals, similar to the modern "functional food" argument, rather than due to the trace elements or components they may contain.

However, in the first half of the 20th century, the discovery of vitamins and their medical value by European medical practitioners seemed to provide a combination package for the world's middle class and above who wanted to improve their health [4]. The term "functional food" was soon replaced by "vitamin supplements" brought about by the chemical synthesis of vitamins, which signaled the launch of the nutritional supplements industry under the commercialization of the modern healthcare system [5]. After 1970, the knowledge of more microscopic agents in Europe and the U.S. was linked to public health policy as a means of reducing malnutrition and chronic disease in low-income nations. China is a prime example of a society susceptible to the seduction produced by the Eurocentric approach to promoting the portability of commercialized biomedical knowledge. From Dr. Williams' Pink Pills for Pale People in the late Qing Dynasty [6] and the rise of "ginseng and royal jelly" at the time of China's reform and opening up [7] to the massive and rapid take-up of foreign DS in the early 21st century, the traditional "add-on medicine" culture of "medicine and food have the same origin" has undergone a shift in perception, with the Chinese fully embracing the immature, unproven, modernized and commercialized Western-medicine-related products with great enthusiasm.

3. Reasons for the Globalization of Western Biomedical Knowledge

3.1. The commercialization of microscopic agents in China

Since the Qing Dynasty, the invasion of foreign healthcare products has been accompanied by the Chinese market's opening up. It is no random occurrence that the 30-year history of China's DS market coincides with the reform's opening and the rise of the 1980s. One of the primary reasons why DS from Europe and the U.S. can conquer the Chinese market in a cross-cultural context is the pharmaceutical system's economic logic. This includes two aspects: firstly, the saturation of the Western DS market where capital expansion is then complemented by "development policies" in the public health sector, which can advance market share with a precautionary and preventive approach to health care; the second is the establishment of place- based businesses that wish to ride the wave of Chinese society's uncritical acceptance of the Eurocentric medical model must abandon or distort indigenous discourse to conform to the fashionable capitalist trend of selling micro-molecules and single nutrients. The long-term use of DS allowed by its non-fast-acting nature and the establishment of pharmaceutical and nutraceutical megacompanies fueled DS to be truly ingrained in society as a body of knowledge. This has prompted both Western and Chinese pharmaceutical companies to use technology to enable the Chinese population to view DS not only as a conditioning medium supported by the complex microbiological research of Western medicine but also as a form of environmental exposure like an essential food, thereby setting the trend for public consumption and maximizing benefits.

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3.2. Medicine is also a culture, a very strong culture

The occupation of Chinese society by DS is a type of transferred or transportable medical knowledge, a compression of Westernized medical concepts on traditional Chinese medical culture. The underlying logic of the universalization of DS which also occurs in other countries is strikingly similar to Foucault's [8] description of the "absolute power" of the modern medical system. In the marketing process, American and European health food marketers act as physicians, utilizing the power granted by the information gap to diagnose the large "sick" population in target countries, thereby enabling a cross-cultural surveillance system of the large potential DS consumer base in Chinese society. Unlike the power connotations of the medical system, such a surveillance system does not bind the population from its compulsion or the immediate consequences of non-compliance, but from the power of these discursive Western health product marketers in interpreting an unknown medical principle at will, taking advantage of the delicate position of health products - between herbal medicine, which is based on biological raw ingredients or organisms and requires long-term treatment to achieve results, and pharmaceutical medicine, which is extracted and compressed into pills with immediate effects – to achieve medical control with population-intensive use, trust and dependence on DS. This mastery of nutrient knowledge and technology has established a certain self-evidentness of medicine-based but unproven effectiveness of DS nurtured in the West, which, combined with an extreme desire for greater economic openness, has succeeded in transferring the legitimacy of health supplements' power from the West to societies based on traditional medicine.

The cross-contextual expansion of DS in China is not only due to medical control but also because the implementation of such absolute power is accompanied by the simplification of complex microbiological theories, allowing the discourse of control to reach millions of households in a more accessible manner, becoming an everyday necessity like food, as opposed to a medicine requiring special precautions. The best example of such a simplified discourse and its result is the gradual development in China of a "new healthism" based on the "add-on theory" of DS, in which the body is no longer expected to actively select and assimilate the necessary nutrients from supplemental foods, but rather to passively receive a single or concentrated supplement of certain nutrients. Such behavior, influenced either by the fast pace of modern life or by the strong arguments for concentrated intake of certain nutrients made by the mere discourse of medical control, has become widespread in China, where nearly half the population has consumed DS and considers them essential [9].

4. The Price that Chinese Society Paid for the Modernity

The above-mentioned simplification of the language of medical control by European and U.S. pharmaceutical companies to quickly penetrate the Chinese market partially deprives users of an in-depth understanding of the extraction and application of DS ingredients and pulls the position of DS, which are positioned between pharmaceuticals and nutrition and created with microscopic agents [10], towards food for gaining more sales and giving rise to more frequent daily use. In practice, different criteria for defining DS as food or medicine confer varying degrees of promotion and control on their users. This, combined with the extremely judicious exploitation of traditional Chinese medicinal and food culture by mega- pharmaceutical corporations, could have easily led to the excessive and inappropriate use of DS in Chinese society.

Moreover, single-ingredient and combination supplements may pose potential risks to their recipients due to differences in ingredient content, such as inducing hyperglycemia, hyperlipidemia, and hypertension, as determined by the substantial number of studies conducted in China [11]. The NIH cited findings related to the long-term intake of selenium, beta-carotene and vitamin E supplements in elderly Chinese, and the results showed that esophageal cancer was more prevalent in this group [12]. Although it is relatively easy to identify and label DS ingredients, it is difficult to confirm their absorption, metabolism, effects, and side effects in the human body, especially when taken for an extended period [13]. The only way to confirm the relevant properties of these ingredients is through the new drug research and development process, which is hampered by the high cost.

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Long-term doubt about DS implicates a high probability of epigenetic shifts embedded in the life-prolonging or altering activities of a genetically distinct and culturally diverse medical group in another social system. This is crucial because, for human society, if the consumption of purified nutrients that have never been available before alters the circulatory needs of the body or causes more diseases, then such factors may become the genes that humans carry in the future, and the effects of DS consumption will continue intergenerationally; for Chinese society, the process of DS intervention, because its starting point is the use of absolute power in medicine to advance the commercialization of DS, is not immune to neglect the internal or local condition which is fatal. For instance, many Western versions of DS contain the same or more amount of each ingredient than the Chinese version,[1] while post-colonial ethnographic and population genetics studies have demonstrated differences in physical characteristics between ethnic groups [14, 15], and as Asian women have a lower bone mass than Caucasian women, which implies that they have lower DS requirements than Caucasian women with comparable physical conditions[16-18], it is worth noting whether the long-term or excessively use of DS for the Chinese might have some hidden and damaging consequences. The dual meanings of DS, "nutrition" and "pharmaceutical", lend it a top-down nature. which prevents users from being aware of the potential for the pill to stimulate disease-causing cells in their body, or even possible genetic alterations, as such knowledge is hierarchical due to capital or technological control, and thus becomes a knowledge blind spot for the public, making it easier to implement biomedical control.

Overall, this suggests that the popularity of DS in Chinese society, generated by the use of commercially- driven biomedical power, lacks an evidence body on the relationship with disease [19], so even if DS were to be used as a biomedical product to affect humans, more long-term studies with consistent and clear conclusions are needed to demonstrate the relationship between DS and genetic risk.

5. Conclusion

Indeed, the embrace of DS by societies such as China can never be explained simply as a Western medicine- related obsession. From its domestic inception to its global penetration, DS has done a good job of diverting people from its business characteristics with the disguise of its newly developed and Eurocentric concept of health, to be specific, the “add-on” theory of surplus health, which is built on the Western medicine discourse and completed a context-transferred infusion. Historically, the transplantation of medical knowledge by cross-cultural biopower from 'more developed countries' has been resisted or criticized for ignoring the local context, whereas the successful coverage of Chinese society by DS is essentially the result of the choice to exploit indigenous knowledge for the commercialization of medical culture.

The uncritical embrace of the Eurocentric medical model in Chinese society is also based on the legitimization of DS as a more advanced technology in the West. But there is no corresponding solution to the results produced by a high-tech intervention, which involves more questions about biopower and discussions cross-contextually and ethnographically, such as the definition, regulation and application of standards for DS, and the spatial place where DS can be supplemented or intervened because of the Chinese need for and absorption of nutrients created by the traditional Chinese dietary practices. These issues are not discussed in detail in this article due to space constraints, but they are significant factors that influence the rise and fall of DS as a commercialized biomedical intervention tool in Chinese society.

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