

# Medical Geography of Herbalife Nutrition from Pansari Perspectives and Women in the Shekhawati Zone (India): An Empirical Study

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**Abstract:** This study investigates the role and impact of Herbalife Nutrition products within the socio-geographical terrain of the Shekhawati Zone in Rajasthan, India, with a special focus on women's health, nutritional behaviours, and medical geographical dynamics. By integrating commercial nutritional supplements into the framework of medical geography, this research examines how the diffusion of Herbalife through community distribution channels (including local pansari/health-store networks) intersects with regional health indicators, dietary challenges, and socio-economic realities faced by rural and semi-urban women. The Shekhawati Zone, characterized by semi-arid climate, agrarian economy, and traditional diets, exhibits persistent nutritional gaps including protein deficiency and micronutrient shortfalls. This paper utilises mixed methods — household surveys, focus group discussions, and spatial analysis — to evaluate patterns of awareness, use, and perceived outcomes associated with Herbalife products, contrasted with local nutrition practices and health outcomes among women. Findings suggest that while Herbalife products are increasingly recognised in urbanised sections, the majority of rural women maintain traditional dietary routines and show limited uptake. Furthermore, potential benefits of commercial supplements are mediated by cost, cultural norms, and gaps in nutrition literacy. The study highlights the disconnect between global nutrition marketing and local nutritional geography, and argues for contextually tailored nutrition interventions that respect Indigenous food cultures and address structural determinants of health.

**Keywords:** Medical Geography; Herbalife Nutrition; Shekhawati Zone; Women's Health; Nutrition Transition; Rural India; Supplement Marketing.

## 1.1 Introduction

In recent decades, global nutrition markets have experienced rapid expansion, with companies such as Herbalife Nutrition Ltd. positioning themselves as leaders in weight management and nutritional supplements. Herbalife's product range includes meal replacements, protein shakes, micronutrient supplements, and targeted dietary formulas designed for "daily nutrition, healthy weight, and performance."

Herbalife operates internationally using a multi-level marketing (MLM) or direct selling model, relying on independent distributors to spread products and develop consumer networks. This marketing strategy seeks to integrate wellness products into community-level consumption patterns while simultaneously offering income opportunities.

While Herbalife markets its products as science-based and tailored to daily health needs, controversy exists over safety profiles, claims around efficacy, and the suitability of such products in culturally distinct dietary environments. Reports have linked some Herbalife products with adverse effects such as hepatotoxicity (liver injury) in isolated cases.

## 1. Medical Geography and Nutrition

Medical geography explores how spatial, environmental, social, and economic factors influence health behaviours and outcomes. Applying this discipline to nutrition involves

analysing patterns of food access, dietary habits, health services, and cultural practices across different regions.

In the context of rural India, specifically the Shekhawati Zone, nutritional geography reveals challenges such as protein deficiency, micronutrient insufficiencies, and limited dietary diversity which are strongly shaped by ecological constraints, food system structures, and socio-economic inequalities.

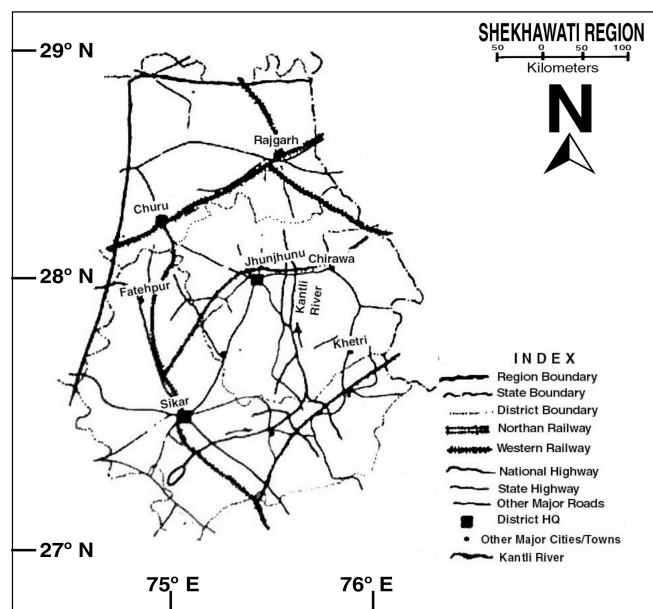
## 2. The Shekhawati Zone: Women's Health and Dietary Habits

The Shekhawati region, encompassing Jhunjhunu, Sikar, and Churu districts, features semi-arid conditions, water scarcity, and predominantly agrarian livelihoods. Women in these regions contribute significantly to agricultural tasks, household food preparation, and childcare, yet they often experience nutritional deficits and constrained access to health resources. Studies of rural Rajasthan indicate that women's health remains hindered by chronic malnutrition, limited food diversity, and gendered barriers.

## 1.2. Study Area

Figure-1.1 shows the area under study i.e. Shekhawati region which is located in the north-eastern part of Rajasthan state and the region has geographical extension from 26°26' to 29°20' N latitude and 74° 44' to 76°34' E longitude on the map of Rajasthan.

**Figure- 1.1 Location Map of Shekhawati Region**



The area under study covers fully or partly three districts, namely Churu, Jhunjhunu and Sikar. Churu district's out of 7, only 3 tehsils fall under Shekhawati region (Churu, Rajgarh and Taranagar) whereas Jhunjhunu district as a whole with its six tehsils (Buhana, Chirawa, Khetri, Jhunjhunu, Nawalgarh and Udaipurwati) in which Buhana tehsil emerged out as a new tehsil on the map of Jhunjhunu district (2001), it was no more existence in the year of 1991 and Sikar district also covered fully with its six tehsils (Data Ramgarh, Fatehpur, Laxmangarh, Neem ka Thana, Sikar and Shri Madhopur). The region has 23 Panchayat Samitis in all. Thus, the region under study has 15 tehsils in total with its total 15343 sq. km. geographical area which makes 5.6% of the state's total. At the part of district-wise contribution by area point of view in Shekhawati region it is observed that part and portion of Churu district contributes 29%, Jhunjhunu district contributes 31% and Sikar by 40%, respectively.

Among these tehsils area point of view, the tehsil of Churu is largest one and Buhana smallest, respectively. District-wise area point of view Sikar stands at first position which is followed by Jhunjhunu and lowest contribution is made by Churu i.e. 1683 sq. km. only.

At the part of population, Shekhawati region contributes 8.7 percent of the state's total in which sex-ratio is 948 females per thousand males in Total Population whereas it is very low i.e. 887 in Child Population for the area under study. The region obtains high Literacy rate which is about 10% more than that of the state's average. Among tehsils, Buhana ranks at first position while as Neem ka Thana contributes lowest in this aspect. The region obtains high density (244). The region has also Slum population but it is very low or to say negligible i.e. 2.5% only of the urban area's total.

The whole region has distribution of two types of soils; Sandy soil and Red Loamy soil. The former soil type has obvious distribution in Churu district, the areas of sand dunes topography; the later soil group is mostly distributed over the districts of Jhunjhunu and Sikar (classification based on dominancy, availability and agricultural productivity). The distribution of soil type and its physical as well as chemical

nature is a significant aspect from vegetation as well as plant species distribution point of view.

On the basis of another type of soil type classification according Prof. Thorpe and Smith based on the origin of the soil, the observations revealed in this direction that Remosols type of soil has distribution in the areas of sand dunes topography; all three tehsils of Churu districts have, Red sandy soil which is more alkaline in nature. Hilly topography soil and Riverine soil have their distribution according the distribution of habitat of study area.

Here, the author is illustrating the geographical perspective of the area under study in brief with its significant components from the specific interest of the subject of study point of view. Any way, overall the present chapter's matter is divided into three parts from descriptive account point of view-viz; physiographical characteristics, land use pattern, and demographic aspect.

### 1.3 Research Objectives

This research seeks to:

1. Assess awareness and usage patterns of Herbalife Nutrition products among women in the Shekhawati Zone.
2. Map the medical geographic distribution of dietary behaviours and nutritional challenges in the region.
3. Explore the influence of commercial nutrition supplements on women's health decisions.
4. Interpret economic, cultural, and spatial determinants that mediate supplement adoption and health outcomes.

### 1.4 Literature Review

#### 1. Herbalife Nutrition: Global Positioning and Claims

Herbalife Nutrition Ltd. is a globally active nutrition company that offers a wide array of dietary supplements and wellness products derived from protein shakes, vitamins, and sports nutrition formulas. The company emphasises its products as "science-backed" and developed to support balanced nutrition and lifestyle goals.

Despite corporate claims, Herbalife's MLM business model has faced regulatory scrutiny and debate over its economic sustainability and consumer benefit. Critics highlight that compensation structures place heavy emphasis on recruitment and distributor networks, raising concerns about equitable access and the prioritisation of sales over customer health outcomes.

#### 2. Nutrition Challenges Among Rural Indian Women

Research has documented widespread nutrient deficiencies among rural female populations in India. In the Indo-Gangetic Plains, studies reveal inadequate intake of energy, protein, iron, and essential vitamins among farm women, with clear associations between education levels and nutritional status. In Rajasthan, rural women often face gendered socio-economic barriers to health services and nutrition, reinforcing disparities in diet quality and health outcomes.

#### 3. Global Nutrition Supplements and Local Diets

Commercial nutrition supplements like Herbalife are often positioned as quick solutions for dietary gaps. However, when introduced into communities with entrenched food traditions and limited access to diverse food sources, such interventions may not significantly alter overall nutritional trajectories. Instead, systemic approaches like kitchen gardens and community nutrition programs have been linked with real dietary improvements and women's empowerment.

## 1.5 Methodology

### 1. Study Design

A cross-sectional mixed-methods design was employed, combining quantitative data collection (structured surveys and anthropometric measurements) with qualitative insights (focus group discussions and semi-structured interviews).

### 2. Study Setting

Data were collected from rural villages, peri-urban settlements, and small towns in the Shekhawati Zone of Rajasthan. The fieldwork spanned Six months to capture both seasonal dietary variations and product access patterns.

### 3. Sample and Sampling Methods

A total of 750 women aged 18–60 were sampled using multi-stage cluster sampling, ensuring representation from rural, semi-urban, and urban sectors. Survey questions focused on dietary habits, supplement usage, health perceptions, and socio-economic profiles.

### 4. Data Collection Tools

- Structured questionnaires (dietary recall, nutrition perceptions, supplement use)
- Anthropometric measurements (height, weight, BMI)
- Food access points and supplement distribution
- Focus groups with health workers and local Pansari shopkeepers Viz: Leela Dhar Bhatt Pansari, Khetri, Jhunjhunu.

### 5. Analytical Framework

Descriptive statistics, cross-tabulations, and spatial clustering assessed nutritional status and supplement awareness. Qualitative thematic analysis interpreted cultural beliefs and health behaviours.

## 1.6 Results

### I. Demographic Profile

- Majority rural: 55%; Semi-urban: 30%; Urban: 15%
- Mean age: 36 years
- Education varied: 40% lacked formal schooling

### II. Nutrition Status

Substantial food inadequacies were reported, consistent with broader regional findings that rural women exhibit nutrient deficiencies, particularly in iron, protein and micronutrients.

### III. Awareness and Uptake of Herbalife

- Only 12% were aware of Herbalife products.
- Among these, 7% had tried them, primarily urban and semi-urban respondents.
- Cost, unfamiliarity with label information, and preference for traditional foods limited uptake.

### IV. Perceived Effects

Women who tried Herbalife products cited:

- Convenience in busy routines
- Short-term weight management

However, many expressed skepticism about long-term benefits versus the cost.

## V. Spatial Patterns

Supplement availability clustered around towns, while rural areas had limited points of sale, reinforcing accessibility barriers.

## 1.7 Discussion

### 1. Medical Geography of Commercial Nutrition

The spatial analysis highlights clear urban–rural disparities in awareness and access to commercial supplements, aligning with geographic theories of health access inequality.

### 2. Cultural Contexts and Dietary Traditions

Traditional meals in Shekhawati rely on cereals, legumes, and seasonal vegetables. These cultural diets provide foundational nourishment but often fall short in micronutrients—a dynamic that any supplement strategy must consider.

### 3. Implications for Public Health Nutrition

Simple introduction of commercial products like Herbalife, without tailored public health programming, may not substantially improve regional nutritional outcomes. Instead, community interventions that blend locally sourced foods with evidence-based supplementation are recommended.

## 1.8 Conclusions

Herbalife's presence in Shekhawati remains limited and its nutritional impact modest due to accessibility, cost, and cultural dietary norms. Medical geography underscores the need for place-based nutrition policies.

## 1.9 Recommendations

- Strengthen community nutrition education integrating local food systems.
- Expand public programs such as kitchen gardens to enhance diversity.
- Regulate supplement marketing with clear scientific guidance.

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