

## Critical Review and Analysis of the Curriculum for Food, Nutrition & Dietetics at the secondary level and required professional development of educators

**Authors:**

*Harshita Panjani, Ph.D. Scholar, Amity Institute of Education, AUUP, Noida (India).*

*Dr. Alka Mudgal Prof. Dr. Alka Mudgal, Head of Institute, Amity Institute of Education, AUUP, Noida (India).*

### Abstract

The sudden surge in lifestyle diseases in India, including diabetes, obesity, and cardiovascular diseases, has highlighted the necessity for systematic nutritional education. The CBSE senior secondary curriculum for Food, Nutrition, and Dietetics (FND) supports India's increased emphasis on healthcare and nutritional awareness. Nutrition & Dietetics (FND), as a part of the skill education program, meets this requirement by equipping students with competencies for health careers like diet assistants while instilling lifelong healthy living (CBSE, 2022). NEP 2020 has also emphasized the importance of skill-based education and the integration of vocational subjects to prepare students for various career paths. This paper critically analyses the structure of the curriculum, the relevance of content, teaching methodology, and examines the professional development needed for teachers to implement it effectively.

**Keywords:** Food Nutrition and Dietetics, Curriculum, Skill subjects, NEP 2020

### Introduction

The increasing incidence of lifestyle diseases and nutritional disorders in India calls for an education system that develops nutritional literacy right from childhood. The Food, Nutrition & Dietetics (FND) curriculum of the Central Board of Secondary Education (CBSE), launched as part of the skill education program, meets the requirement by equipping students for health-related occupations like diet assistants while instilling lifelong healthy practices (CBSE, 2022). The review critically looks at the structure of the curriculum, content appropriateness, pedagogy, and assesses the teacher professional development necessary for effective application.

*Research paper* © 2012 IJFANS. All Rights Reserved, UGC CARE Listed ( Group -I) Journal Volume 11, Iss 11, 2022

NEP 2020 proposes a multidisciplinary, flexible, and holistic education system with vocational education included in core curricula. NEP 2020 does not specifically mention "Food, Nutrition & Dietetics" as a separate subject at the senior secondary level, but it stresses the significance of skill education and vocational subjects included in core curricula to equip students for various professional options. Following the vision of NEP 2020, the Central Board of Secondary Education (CBSE) has brought in the senior secondary level vocational courses, such as Food, Nutrition & Dietetics (Subject Code - 834). The course focuses on building employability and skill competencies in students of Class XI and XII and imparting them with real-world knowledge and skills related to the domain of nutrition and dietetics.

## Curriculum Overview

### Theoretical and Practical Balance

The FND course extends over two academic years, with the integration of theory (60%) and practice (40%) aspects. It emphasizes foundational concepts such as nutritional requirements, diet planning, public health challenges, therapeutic nutrition, food safety, and policy structures (CBSE, 2022).

### Employability Skills Integration

The curriculum has 10% weightage for skills related to employment, including communication, ICT, self-management, and entrepreneurship, as the NEP (2020) promotes multidisciplinary and skill-based education (Ministry of Education, 2020).

### Curriculum Relevance

Courses like "Nutrition Through the Life Cycle" and "Diet in Health and Disease" specifically cater to India's nutritional issues. NFHS-5 (2021) states that 36% of children below five years are stunted, and 32% are underweight—problems covered by these modules (Ministry of Health and Family Welfare, 2021).

## Critical Analysis

## • Relevance and Depth of Content

The curriculum remains very relevant in the current context of malnutrition, increasing noncommunicable diseases (NCDs), and a surge in wellness career interests. Nonetheless, it may require more focus on modern dietary trends (e.g., plant-based diets, sustainable eating) and incorporation of digital tools in diet planning (e.g., mobile nutrition apps), which are crucial in modern dietetics (ICMR, 2021).

## • Strengths

**Multidisciplinary Integration:** The curriculum is based on biology, chemistry, psychology, and public policy, providing an integrated concept of food and health.

**Practical Focus:** Meal planning, detection of food adulteration, and preparation of therapeutic diets promote skills-oriented development.

**National Health Targets Alignment:** The curriculum aligns with programs like Poshan Abhiyaan and Eat Right India.

## • Gaps and Limitations

**Outdated Tools and Techniques:** The course doesn't specifically teach modern digital tools like diet analysis software (e.g., Nutritics or MyFitnessPal), which are commonly employed in the profession of dietetics.

**No External Assessment on Recent Topics:** Units with internal assessment (e.g., HFSS food and food labeling) are topics of vital public health concern but aren't assessed in external theory exams, making them seem less important.

**Limited Industry Exposure:** Industrial visits are suggested but not required, or framed with assessment rubrics.

### • Practical Engagement and Skill Development

The integration of field-based learning activities (e.g., a visit to old-age homes, planning meals for different age groups, food adulteration tests) reflects a constructivist pedagogy approach (CBSE, 2022). There is, however, no uniform assessment rubric, and therefore subjective assessment of practical.

### • Public Health Orientation

The curriculum does an excellent job of sensitizing students to India's principal public health issues, such as undernutrition, anaemia, and food safety. With 35.5% of children in India under the age of 5 years being stunted and 57% of women aged between 15-49 years being anaemic (NFHS-5, 2021), such integration is praiseworthy (Ministry of Health and Family Welfare, 2021).

However, Urban Lifestyle Disorders are less emphasized, which are equally urgent.

## Teacher Professional Development and Pedagogical Implications

### • Knowledge and Skills Required

To implement the curriculum effectively, educators need:

- Subject Expertise in clinical nutrition, public health, and diet therapy.
- Practical Training in laboratory methods, diet counselling, and nutritional software.
- Pedagogical Skills in project-based and experiential learning.

Implementation of a curriculum as interdisciplinary as FND requires properly trained educators. Yet, the execution is largely dependent on general vocational trainers with minimal subject matter expertise in public health or clinical nutrition (CBSE, 2022).

According to a CBSE survey (2020), 37% of vocational subject teachers attended formal training in the last two years. This gap highlights the need for structured and mandatory teacher development initiatives based on their subject and employability skills.

### • Models Recommended for CPD (Continuing Professional Development)

**Certification Programs for Teachers:** Teachers should undergo refresher courses or programmes from institutes such as the National Institute of Nutrition (ICMR) or IGNOU's Diploma in Nutrition and Health Education.

**Workshops on Digital Tools:** Educational institutions can make provisions for teacher trainings in software like Cronometer, FoodWorks, and FSSAI's food safety tools.

**Continuous Professional Development (CPD):** Regular webinars, peer learning sessions, and evaluation-based workshops can be beneficial for teachers to enhance their practical skills.

**Blended Learning Modules:** Merging MOOCs (e.g., NPTEL, SWAYAM) with hands-on workshops (NEP, 2020) may lead to better outcomes.

**Collaboration with Nutrition Institutions:** Collaborations of Educational institutions with NIN (Hyderabad) or AIIMS for regular training can provide additional support for teacher training, live and expert sessions for skill enhancement.(ICMR, 2021)

**Mentorship Programs:** Schools can invite senior nutritionists for guiding students and Educators.

## Statistical Evidence and Industry Alignment

**Healthcare Sector Demand:** India's healthcare sector was valued at around USD 326 billion in 2021 and is likely to reach USD 512 billion by 2024, growing at a compound annual growth rate (CAGR) of approximately 16.28%.(IBEF, 2022). This growth underscores the expanding opportunities within the healthcare sector, particularly in areas related to nutrition and dietetics. growing demand for nutrition specialists.

**Nutrition Deficiency Stats:** As per ICMR (2021), iron-deficiency anaemia is observed in more than 50% of women in the age group of 15–49 years, making modules such as "Diet in Health and Disease" relevant.

**Career Opportunities:** The courses map to career paths like Dietitian, Health Coach, and Food Safety Officer, addressing a 20% CAGR growing market for wellness services (FICCI, 2022).

## Recommendations

### Curriculum Enrichment:

- Integrate sustainable diets, nutrition technology, and mental health and nutrition (ICMR, 2021).
- Periodic updating as per ICMR guidelines and NFHS data (Ministry of Health and Family Welfare, 2021).

### Teacher Enablement:

- Compulsory 30-hour course on new-age nutrition and pedagogy (CBSE, 2022).
- Development of a digital repository of content with interactive case studies and e-labs.

### Assessment Reforms:

- Utilization of rubrics for practicals (CBSE, 2022).
- Implementation of peer assessments and reflective journals.

### Student Exposure:

- Promote internships in nearby hospitals and NGOs.
- Arrange nutrition awareness campaigns as part of projects (CBSE, 2022).

## Conclusion

The CBSE FND curriculum is a pioneering venture with great potential for transferring life-saving knowledge and skills. The Food, Nutrition & Dietetics curriculum is a pioneering move towards skill-based training in the health sector. Not only does it solve India's nutrition problems, but it also offers varied career options. Moreover, it can be fully developed only if coupled with focused teacher training, regular updating of the curriculum, and a stronger practical framework. Given India's double burden of malnutrition and non-communicable diseases, investment in nutrition education and teacher training is not a choice anymore—it is a necessity. In a country struggling

with undernutrition and obesity, this kind of education is a strategic investment in a healthier tomorrow (Ministry of Education, 2020).

## References

- Central Board of Secondary Education. (2022). *Curriculum for Food, Nutrition & Dietetics (Subject Code - 834), 2022–2023*. CBSE Department of Skill Education.
- Indian Council of Medical Research. (2021). *Dietary guidelines for Indians: A manual*.  
National Institute of Nutrition.
- Ministry of Education. (2020). *National Education Policy 2020*. Government of India.
- Ministry of Health and Family Welfare. (2021). *National Family Health Survey (NFHS-5), 2019–21*. Government of India.
- CBSE Teacher Survey. (2020). *Annual Vocational Training Report*.
- FICCI. (2022). *Wellness Sector Report*.
- IBEF. (2022). *Healthcare Industry in India*.
- ICMR. (2021). *Nutrition Report*.
- NFHS-5. (2021). *National Family Health Survey*.