

Need for Nutrition Education in Indian Women

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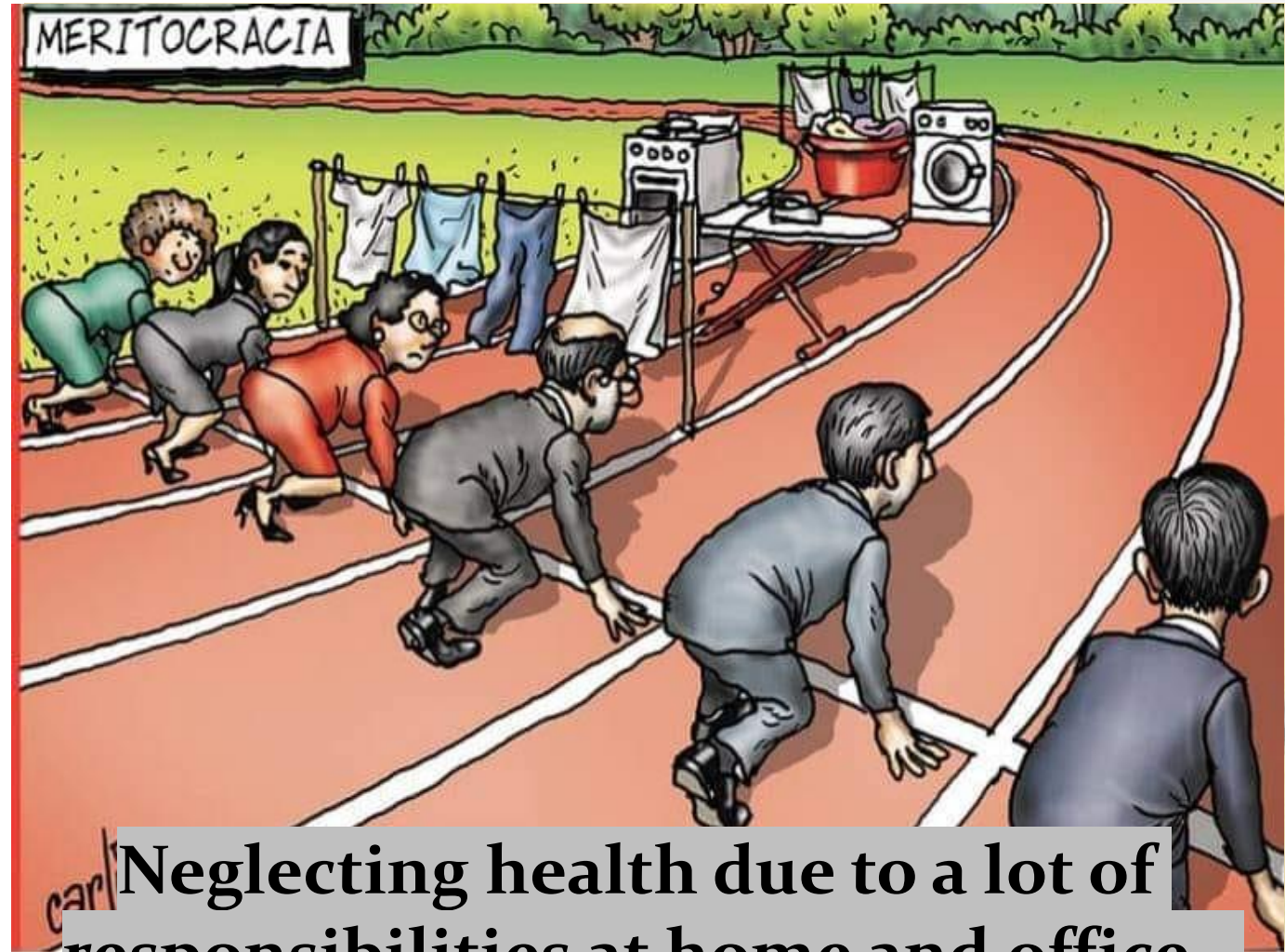
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Neglecting health due to a lot of responsibilities at home and office.

BREAK THE STEREOTYPES



Our upbringing happens in such a way that *women should eat at the end because only then only they can be recognized as good wives and mothers*. This stereotypical thinking also paves challenges towards addressing women nutrition.

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The Life of an Indian Girl

Sight and Life Foundation

Disadvantaged before you are born
21% of Indian men and women want more sons than daughters
under 7 years is

- > **The first 1000 days** from conception to 2 years of age are a "Critical Window" in a child's development. Nutrition intervention during this time can have a significant and sustained impact on the child's life²
- > **Copenhagen Consensus 2008**. Supplementation with vitamin A, to reduce all-cause mortality and zinc to reduce diarrhoea episodes, have been ranked the #1 global development priority. These interventions can have widespread health and economic benefits³
- > **Infant and young child feeding**. Interventions to improve the rates of exclusive breastfeeding till 6 months of age, and nutrition education on complementary feeding from 6–12 months, have shown

12% of girls 5–14 years old engaged in child labour

38% reduced risk of child labor if their mother has 8–9 years of education compared with no education

12%

Exclusively breastfed for 1.9 months

A girl will be breastfed for 8 weeks less than the average boy

Only 21% of girls 6–23 months of age are fed an optimal complementary diet

Only 15% of women 15–39 years of age have completed 8–9 years of education

22% of girls 6–24 years old have no education

Vitamin A supplementation

Only 20% of 6–59 month olds received a vitamin A supplement in the past 6 months

Educated women have fewer but healthier babies later in life. Their children therefore have a better chance to survive and thrive

Vitamin A supplementation to children under the age of five every four to six months results in a 24% reduction in under-five mortality

Demographic And Health Status Of Indian Women



NFHS-5

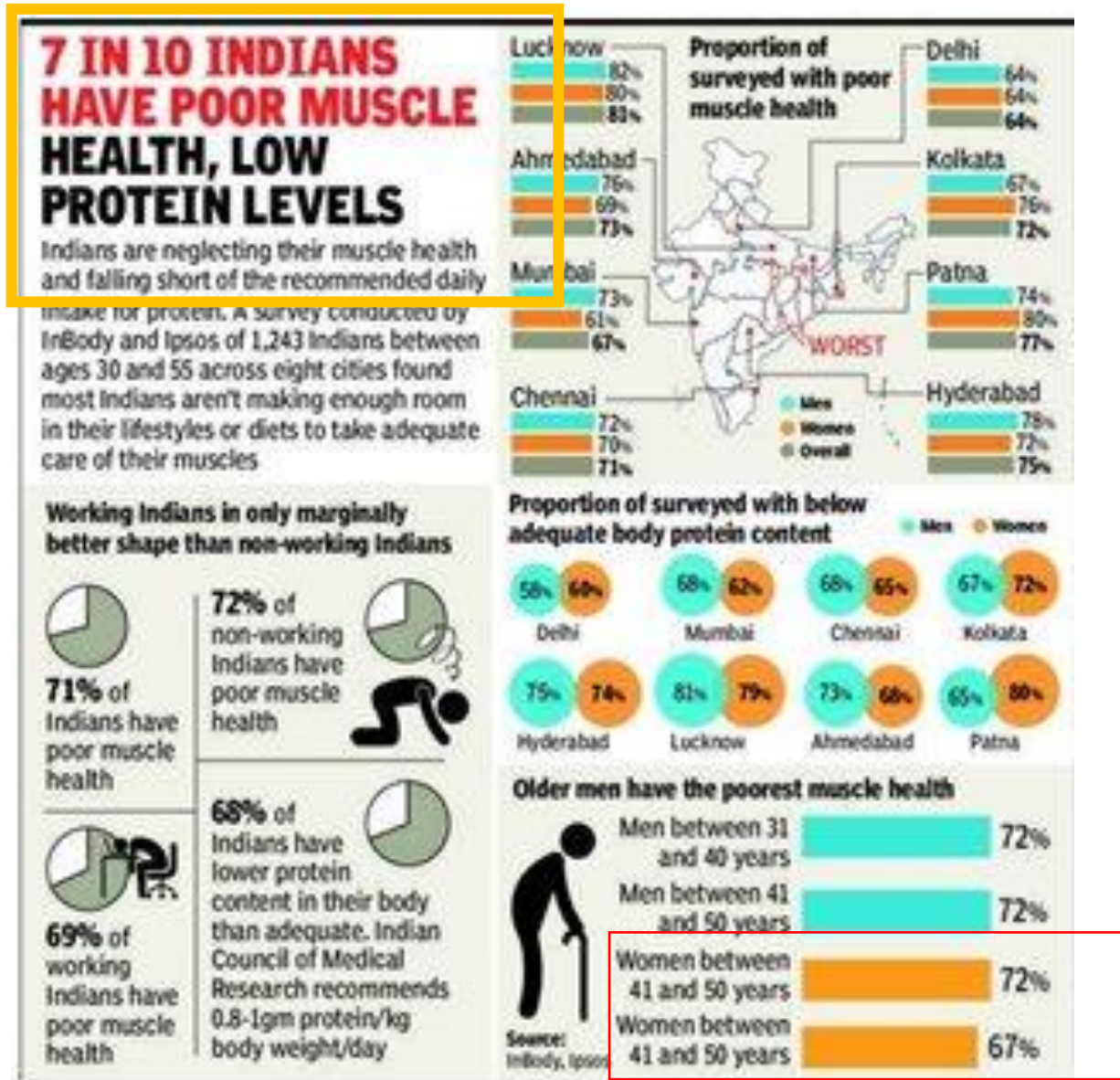
Demographics	%
Female population age 6 years and above who ever attended school	71.8 %
Women with 10 or more years of schooling	41 %
Women who have ever used the internet	33.3%
Women age 20-24 years married before age 18 years	23.3 %
Women age 15-19 years who were already mothers or pregnant at the time of the survey	6.8 %



Health Status	%
Mothers who had at least 4 antenatal care visits	58 %
Mothers who did not consume iron , folic acid for 180 days or more when they were pregnant	74%
Children under age 6 months exclusively breastfed	63.7 %
Women whose Body Mass Index (BMI) is below normal (BMI <18.5 kg/m ²)	18.7 %
All women age 15-49 years who are anaemic	57 %
Blood glucose level - high or very high or taking medication to control blood glucose level	13.5 %
Elevated blood pressure or taking medicine to control blood pressure	21.3 %

Lifestyle diseases are on the rise among Indian Women

Poor Muscle Health And Low Protein Levels Seen In Indian Adults



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There is progress, still a long way to go...

WOMEN HAVE SHOWN ADVANCEMENTS IN MANY AREAS

In 1951, around the time of India's independence

A girl was **married at the age of 15**



A woman was likely to **bear 6 children**



Maternal mortality rate was **2000 per 100,000 live births**



Only 1 of 11 girls (**about 9 percent**) was literate



Today

Average age at **marriage for girls is 22**



Women are likely to **bear 2 children or less**



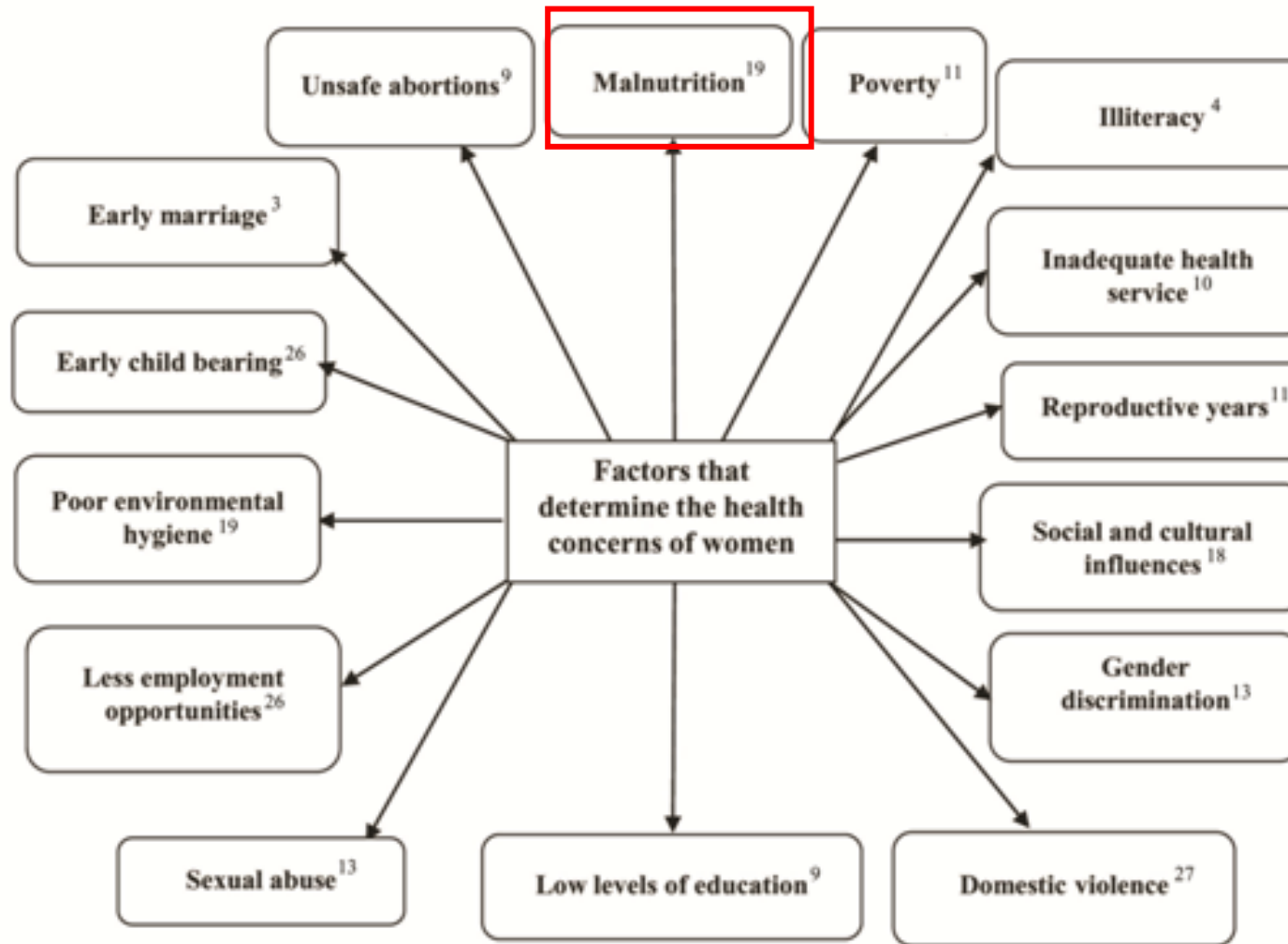
Maternal mortality rate has reduced to **97 per 100,000 live births**



77 percent of women in India today are literate



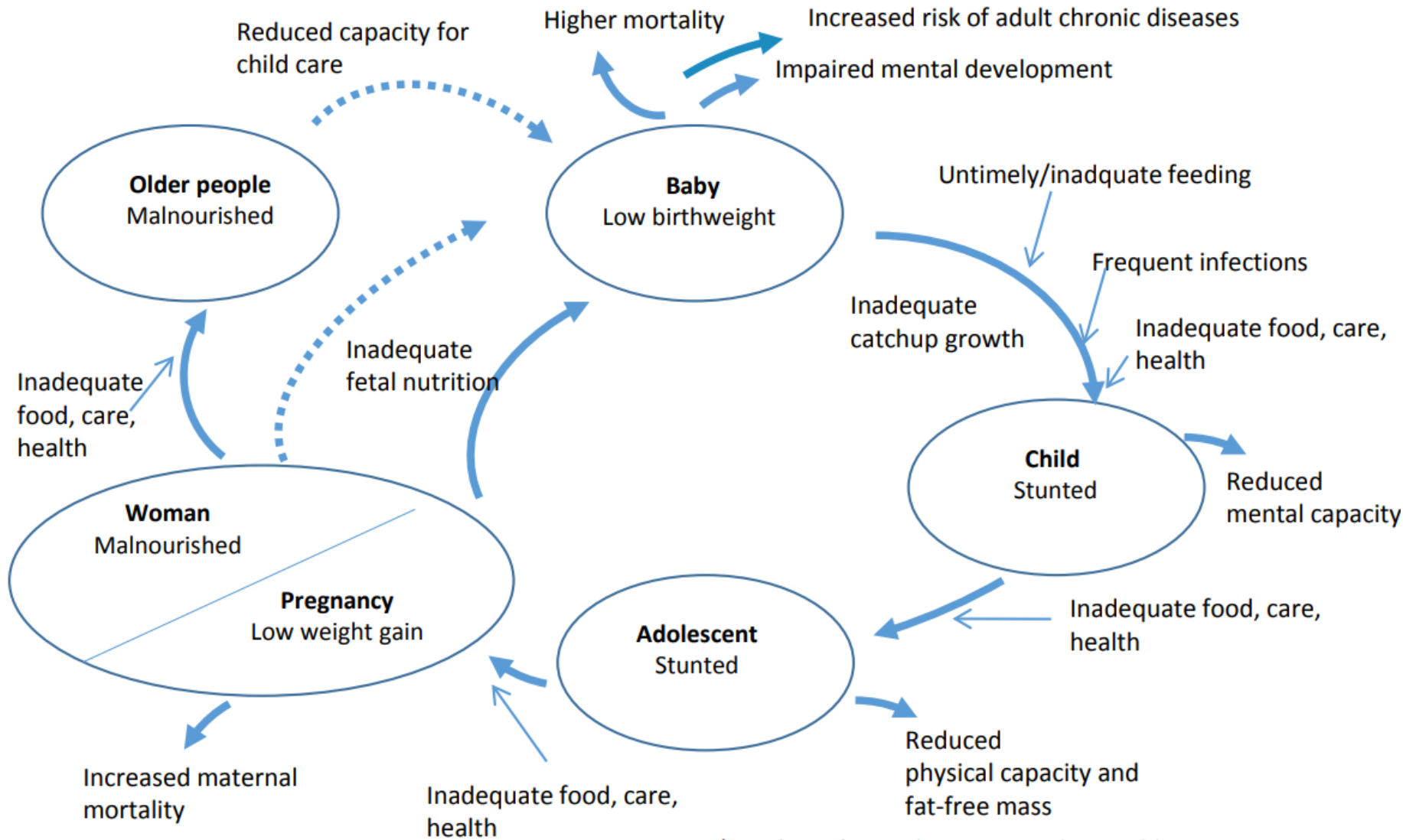
Factors Determining Health Concerns Of Women



Malnutrition continues to be persistently high in India and remains a challenge.

Nutrition is one of the key modifiable factors

Implications Of The Vicious Cycle Of Malnutrition In Women-Has A Bearing On The Future Generation



ACC/SCN (2000) *Fourth Report on the World Nutrition Situation.*

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- **As per ICMR India What India Eats Report :**
- Proportion of population consuming recommended (>66% protein from pulses, legumes, nuts, milk, flesh foods) level of good quality protein were only 5% among rural and 18% among urban population.
- Low consumption of fruits and vegetables and low intake of milk and milk products increased the risk of diabetes and hypertension respectively.
- As per National Nutrition Monitoring Bureau 2017, nearly 11% of adult women had chronic energy deficiency.

Short to medium term consequences of undernutrition

Impaired brain development & lower IQ



Low birth weight



Weakened immune system leading to increased risk of infectious diseases



Premature death



Lost productivity & increased healthcare costs



Risk of diabetes, cancer, stroke, hypertension, and other noncommunicable diseases

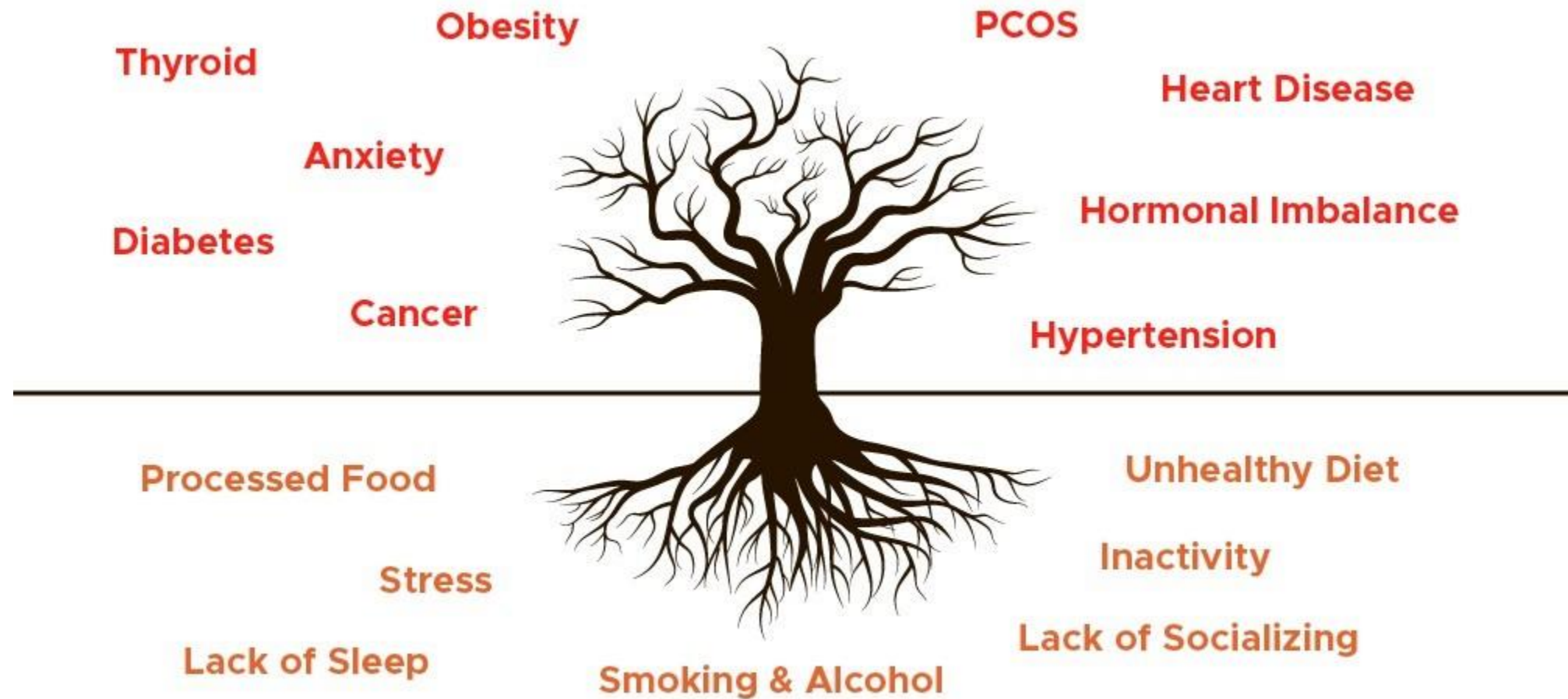


45% of all child deaths is from poor nutrition

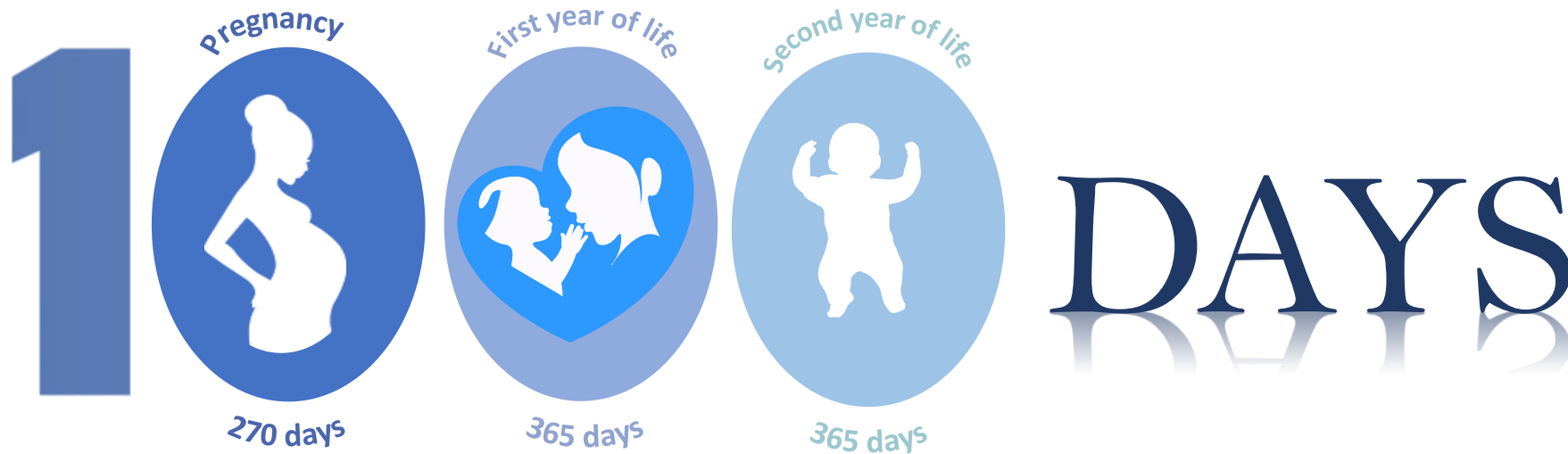
Poor nutrition in the 1,000 days from conception of a child to 2 years of age results in permanent damage

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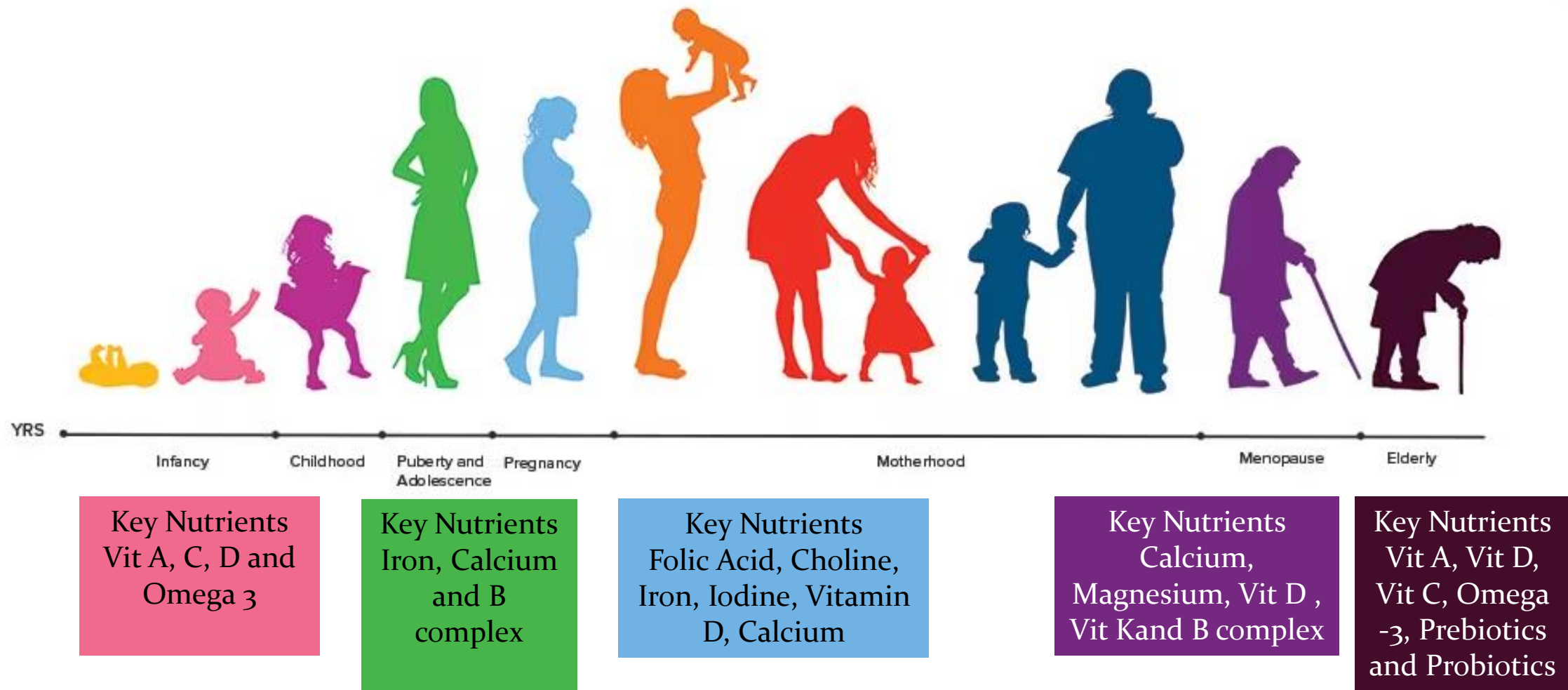
Root Cause Of Health Problems



First 1000 Days: A Window Of Opportunity To Lifelong Health



Role of Nutrition in Women's Health and Well-Being



The nutritional requirements vary with age particularly in women

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Adolescence

- In India, adolescents and young people aged 10-19 years account for nearly one quarter of the total population
- Adolescence is a **“window of opportunity”** as it is a vulnerable group when rapid **physical growth increases nutrient demands**(Dorn et al., 2019)
- Snacking patterns in adolescents and young adults can be a significant contributory factor towards early onset of obesity and other non-communicable diseases (Tripicchio et al., 2019).
- Malnutrition in adolescence is seen mainly due to consumption of energy dense, HFSS foods. These unhealthy eating habits at a younger age remain for lifetime and pose a huge risk for the future (Ramachandran, 2019)

Going global: Indian adolescents' eating patterns



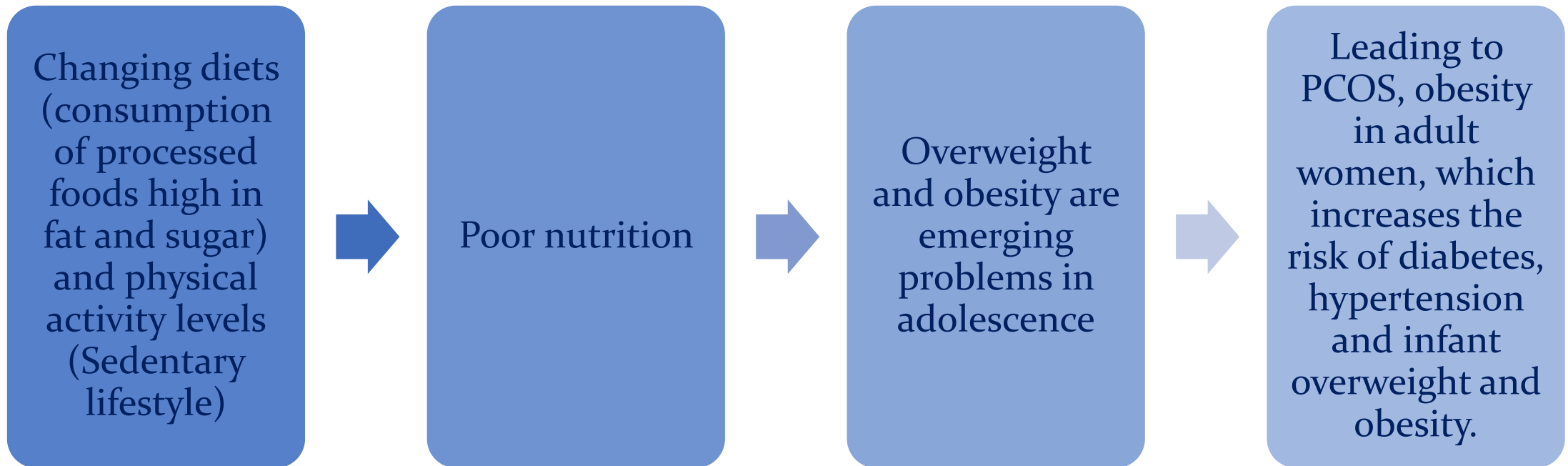
Adolescents (n= 399) aged 13–16 years in Vijayapura city, Karnataka State, India.

Compared with dietary guidelines, adolescents consumed fruit, green leafy vegetables, non-green leafy vegetables and dairy **less frequently** than recommended and consumed energy-dense foods more frequently than recommended.

Families with lower socioeconomic status report higher rates of food insecurity, suggesting inability to cook nourishing meals and that food consumed by children in these families may be deficient in essential functional nutrients but higher in calorie

- **Unhealthy snacking patterns, skipping meals (59.5%) and snacking in between meals (69.2%)** was observed among adolescents and young adults.
- Snacking (74% vs 60%, $P < 0.001$) as well as skipping meals (66.4 vs 46.6%, $p < 0.001$) was more prevalent in girls. (Madan et al, 2021)

ADOLESCENT AGE GROUP



Adolescence provides an opportunity to correct nutritional deficiencies that may have occurred in early life and to catch-up on growth, and to establish good dietary behaviours.

Anemia In Adolescents

Anemia among adolescents adversely affects

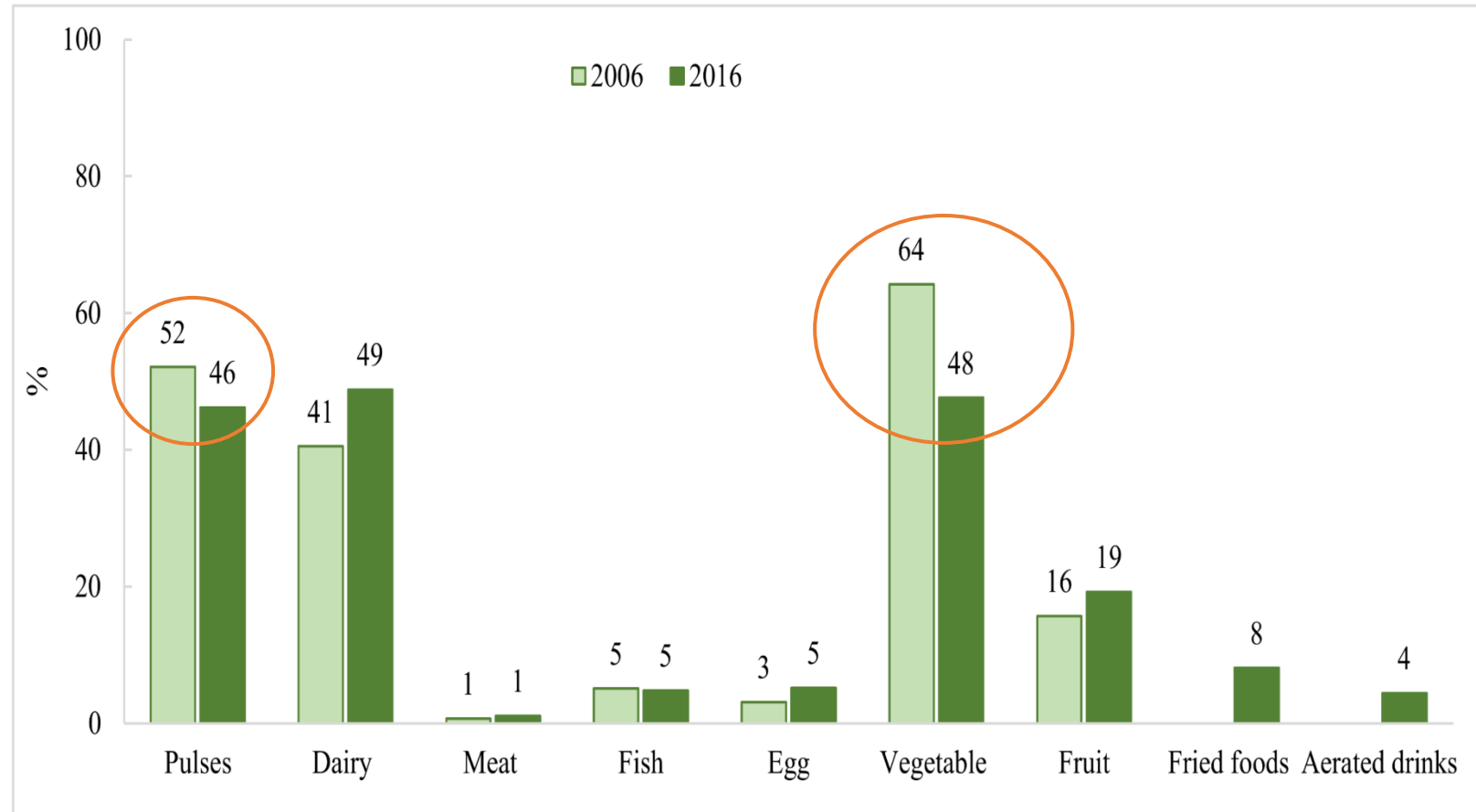
- 1) Growth
- 2) Resistance to infections
- 3) Cognitive development
- 4) Work productivity.



Maternal Diets in India: Gaps, Barriers, and Opportunities

Suboptimal dietary intake is a critical cause of poor maternal nutrition, with several adverse consequences both for mothers and for their children.

Dietary intake among pregnant women in India between 2006 and 2016



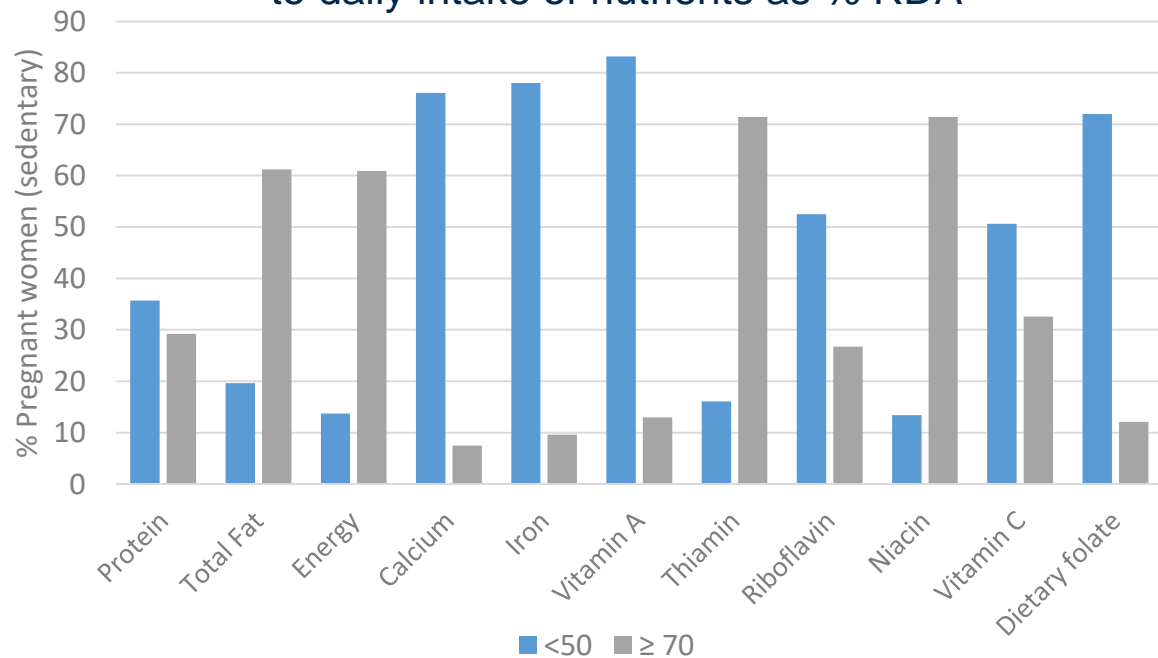
This study aimed:

- (1) Assess maternal dietary patterns in India.
- (2) Examine enablers and barriers in adopting recommended diets.
- (3) Review current policy and program strategies to improve dietary intakes.

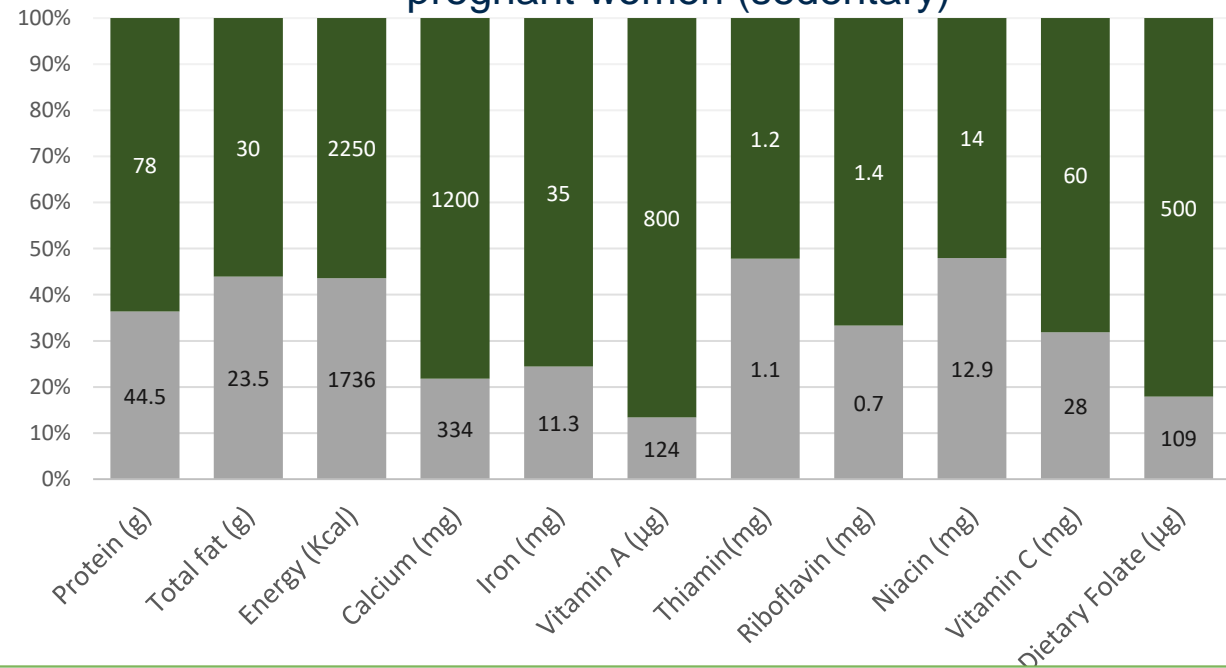
Nguyen, P et al., 2021 - maternal diet in India has low energy, macronutrient imbalance and inadequate micronutrient intake.

Unmet Nutritional Needs Among Pregnant Indian Women

Distribution (%) of pregnant women (sedentary) according to daily intake of nutrients as % RDA



Average daily intake of nutrients among pregnant women (sedentary)



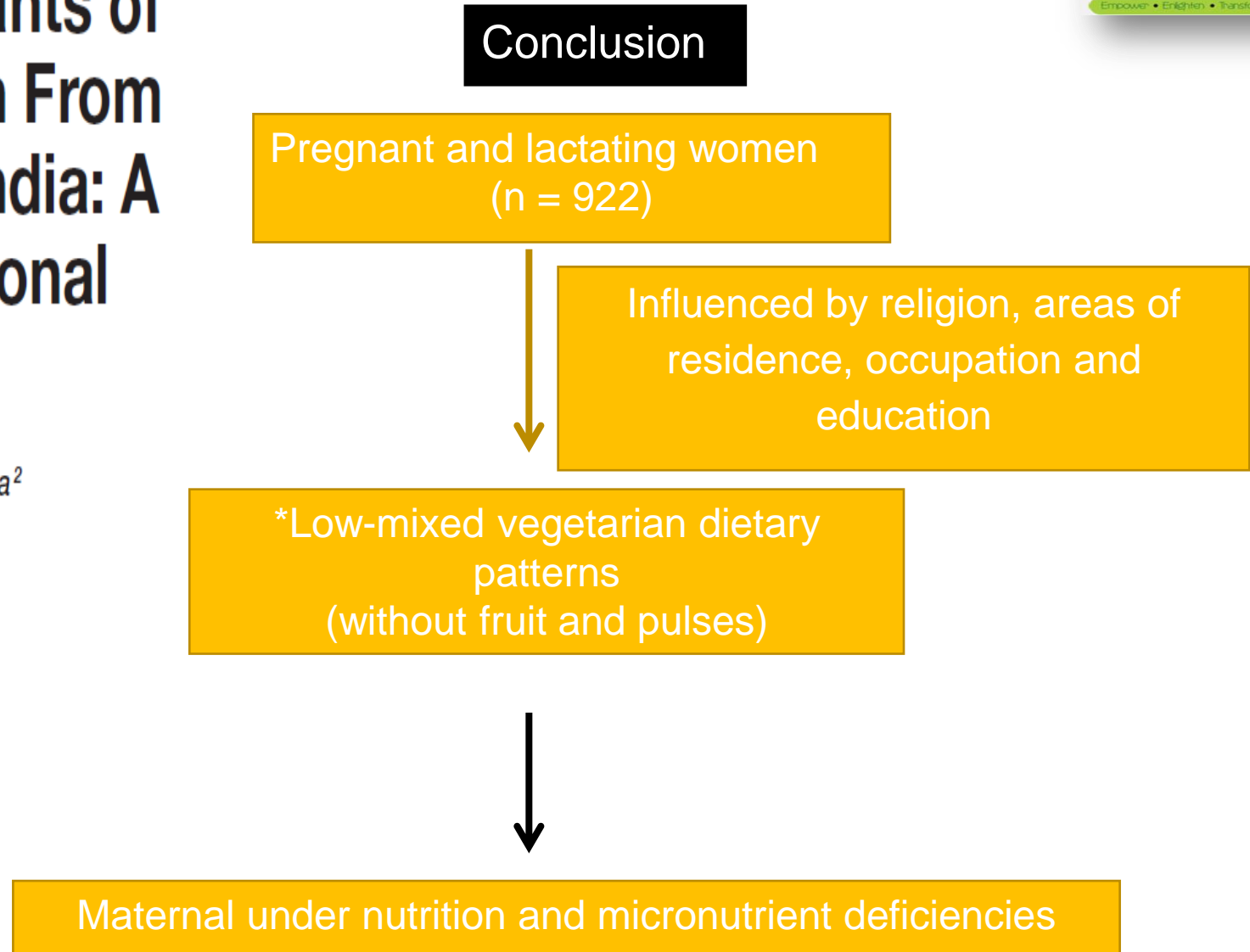
NNBM Survey: The majority of pregnant women in India meet lower than 50% of RDA for most nutrients.

The median intakes of all nutrients in pregnant women were lower than the RDA.

Dietary Patterns and Determinants of Pregnant and Lactating Women From Marginalized Communities in India: A Community-Based Cross-Sectional Study

Shantanu Sharma^{1,2*}, Faiyaz Akhtar², Rajesh Kumar Singh² and Sunil Mehra²

***Low-mixed vegetarian dietary pattern**
- rich in only vegetables, rice, roots and tubers



Anemia and Dietary Iron and Folic Acid Supplementation

- As per NFHS 5 52.2 % pregnant women aged 15-49yrs age are anaemic
- Daily iron and folic acid supplementation is currently recommended by WHO as part of antenatal care, to reduce the risk of low birth weight, maternal anaemia and iron deficiency.
- As per NHFS 5, 44% mothers who consumed iron folic acid for 100 days or more when they were pregnant while 26% mothers only consumed iron folic acid for 180 days or more when they were pregnant.

1) <https://www.cdc.gov/ncbddd/folicacid/about.html#:~:text=When%20the%20baby%20is%20developing,the%20early%20brain%20and%20s pine.>

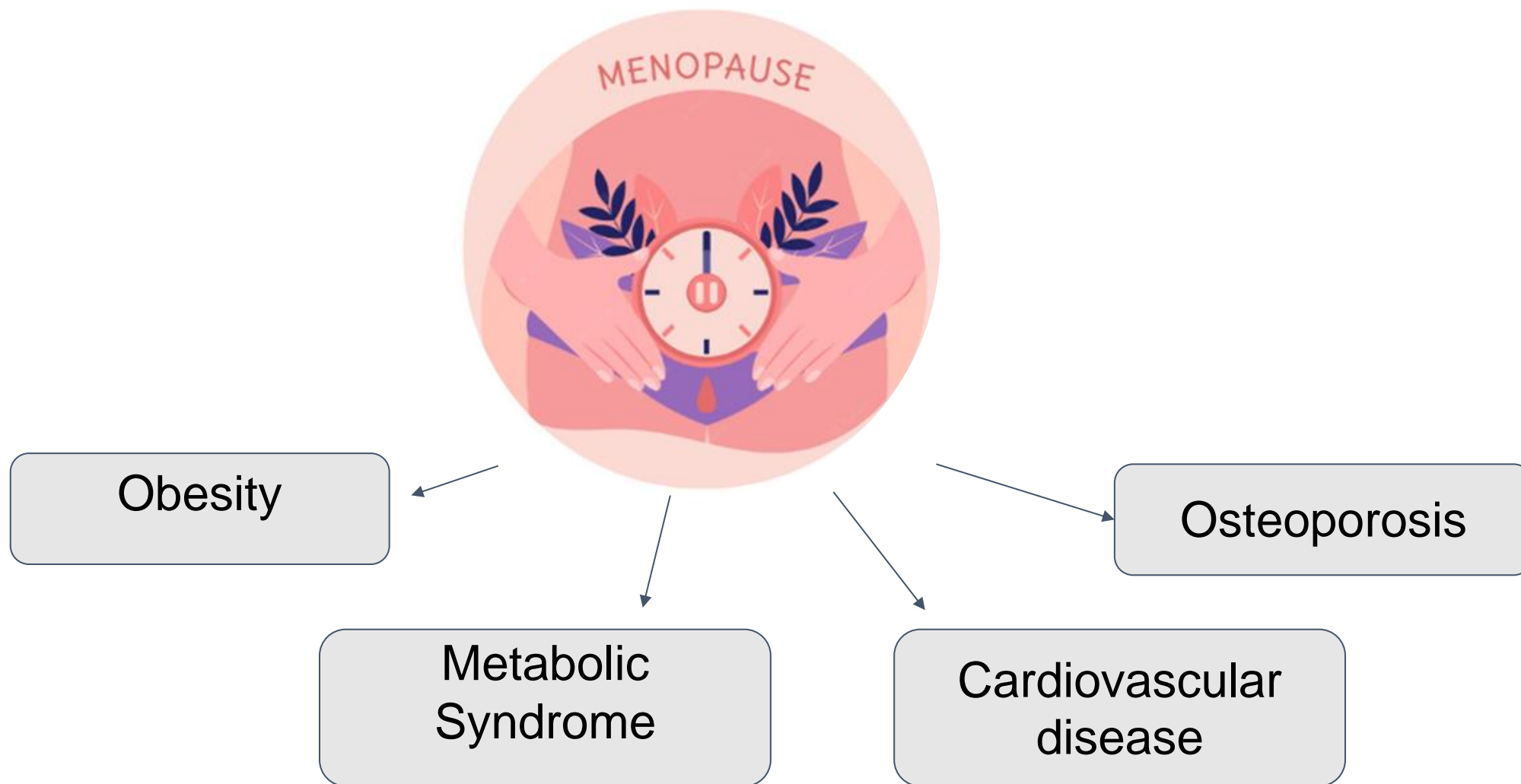
2) <https://www.who.int/data/nutrition/nlis/info/antenatal-iron-supplementation>

3) https://main.mohfw.gov.in/sites/default/files/NFHS-5_Phase-II_0.pdf

Lactation

- Dietary adequacy and diversity during the lactation period are necessary to ensure good health and nutrition among women and children.
- According to the National Family Health Survey (NFHS 2015–16) more than half of the mothers did not receive any benefits from ICDS during pregnancy and breastfeeding.
- One in every two women did not receive any food and nutrition supplement during pregnancy and breastfeeding under Integrated Child Development Services (ICDS hereafter) program in Maharashtra.

- A 2021 study observed that the daily diet of lactating mothers consists majorly of grains, white roots, tubers, and pulses as compared to dairy, eggs, and non-vegetarian foods.
- Fruits, meat, poultry, fish, nuts, and seeds were rare foods in their daily diet. This indicated a higher risk of nutritional deficiencies
- Only half of the lactating women (56.5%) had a diversified diet. The diet diversity was higher among households with higher income (73.1%)
- **Women who received counselling had a higher chance of consuming a diversified diet.**

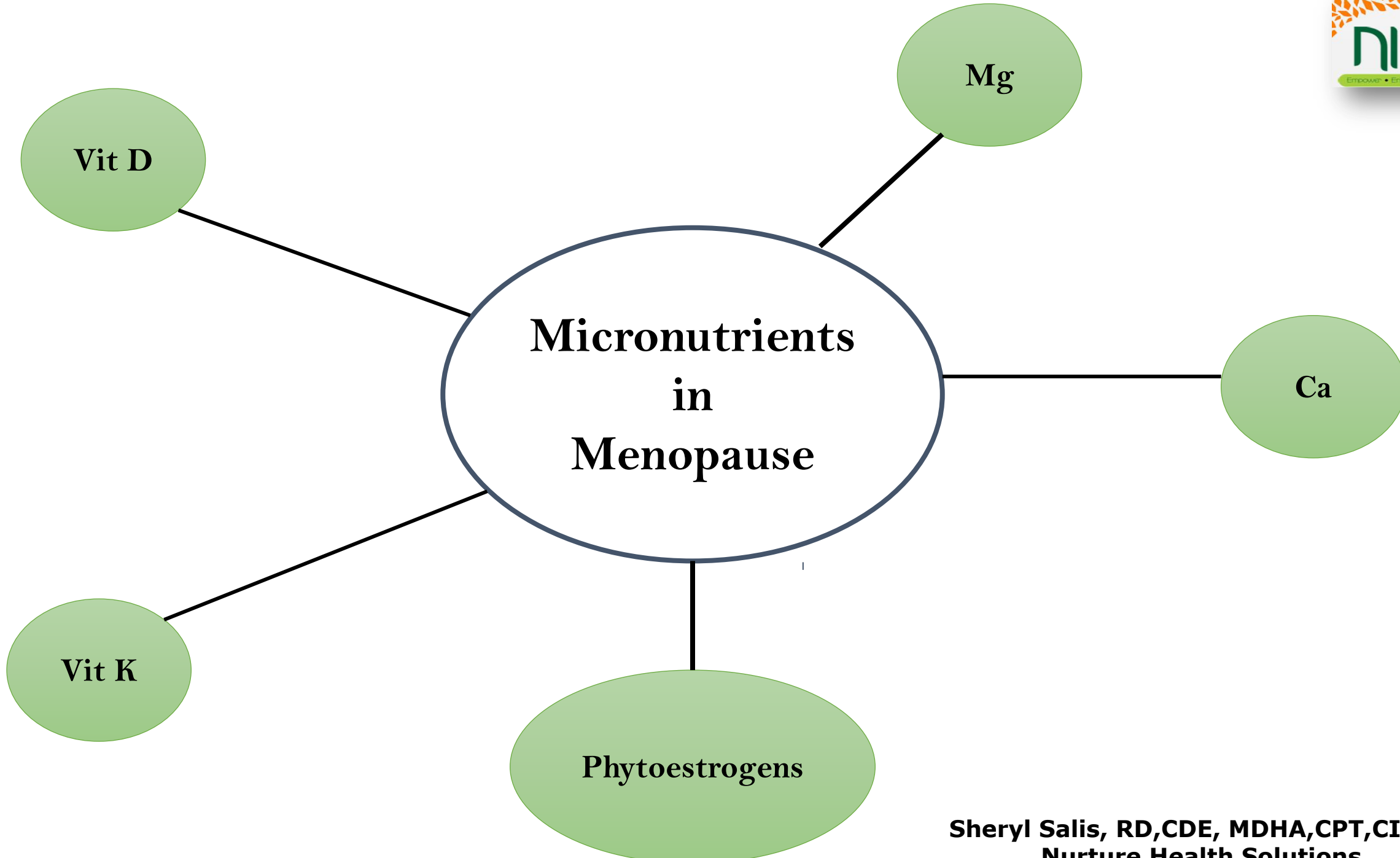


Body Composition:

In the menopausal transition, low estrogen levels have been associated with loss of lean body mass (LBM) and increase in fat mass (FM)

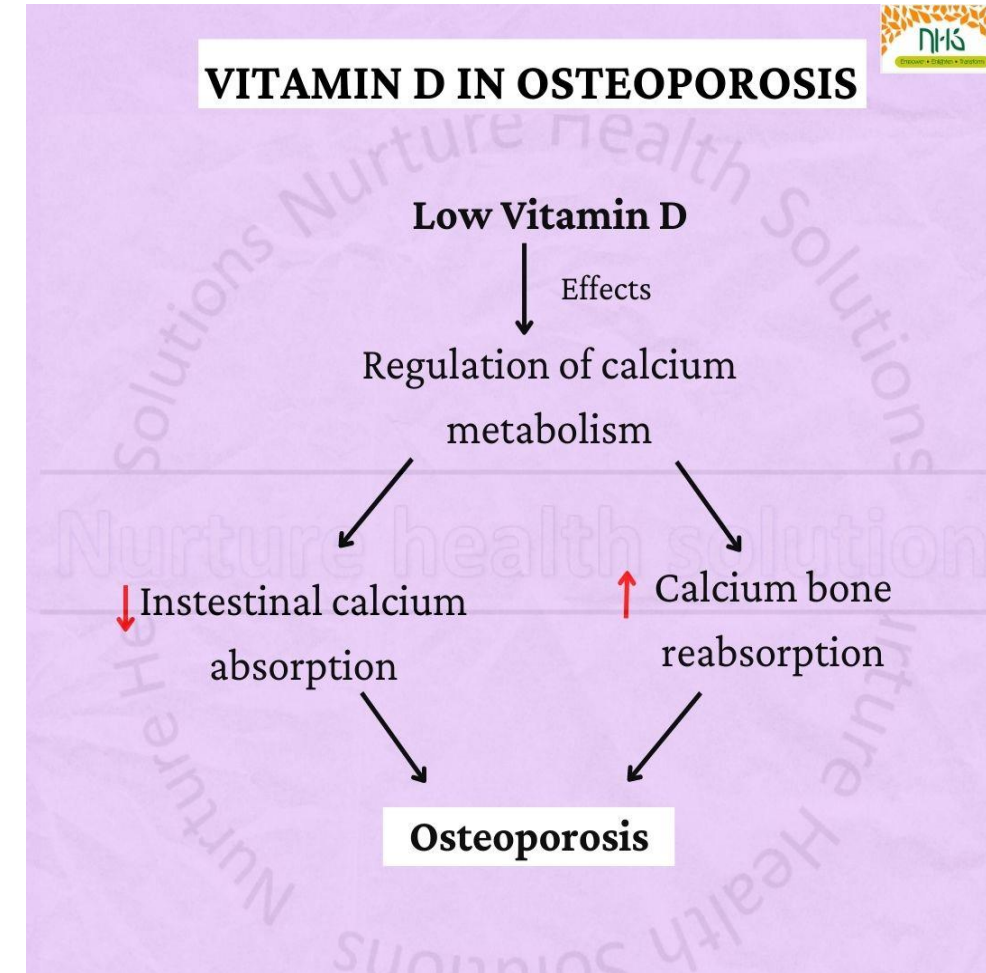
- **Hormonal changes**(decreased production of estradiol (E_2) –Adiposity-higher accumulation of the adipose tissue, particularly visceral fat
- **Visceral fat increase** occurs in women as early as 3-4 years prior to menopause, manifesting a negative correlation with E_2 levels and a positive correlation with folliculotropic hormone levels (FSH) at the same time
- In the longitudinal Study of Women’s Health Across the Nation, LBM loss during the menopausal transition averaged 0.5% (a mean annual absolute decrease of 0.2 kg), and FM increased by 1.7% per year (mean annual absolute increase of 0.45 kg).

Body composition changes are associated with increased risk of coronary heart disease and mortality



Menopause & Osteoporosis

- World Health Organization (WHO)- 30 % of postmenopausal women suffer from osteoporosis .
- It has been reported that 61 million people in India have osteoporosis and, out of these, 80% are women.
- The peak incidence of osteoporosis in India occurs 10–20 years earlier than in Western countries.
- ICMR suggested 1200mcg Calcium/day- especially for after menopause to cover at least the obligatory extra loss of 30 mg/day of calcium in the urine.



1 Khinda, R., Valecha, S., et al., (2022). Prevalence and Predictors of Osteoporosis and Osteopenia in Postmenopausal Women of Punjab, India. *International journal of environmental research and public health*, 19(5), 2999. <https://doi.org/10.3390/ijerph19052999>

2 Meeta M. (2022). How Much Calcium Does an Indian Postmenopausal Woman Need?. *Journal of mid-life health*, 13(1), 9–14.

https://doi.org/10.4103/jmh.jmh_70_22

The integral health care of menopausal women should therefore emphasize lifestyle assessment, nutrition education and counseling to counterbalance the negative effects of estrogen deficiency on general well-being and minimize the risk of metabolic syndrome, osteoporosis, bone fractures, and vascular events.

Lifestyle Modification-Impact both longevity and quality of life.



Silva TR, Oppermann K, Reis FM, Spritzer PM. Nutrition in Menopausal Women: A Narrative Review. Nutrients. 2021;13(7):2149. Published 2021 Jun 23. doi:10.3390/nu13072149

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Adequate nutrition is primarily an issue of rights and not just utility alone.



A healthy Indian women can contribute to the progress of their family, society, and country.

Nutrition Education becomes extremely relevant and crucial

Capacity building of frontline workers

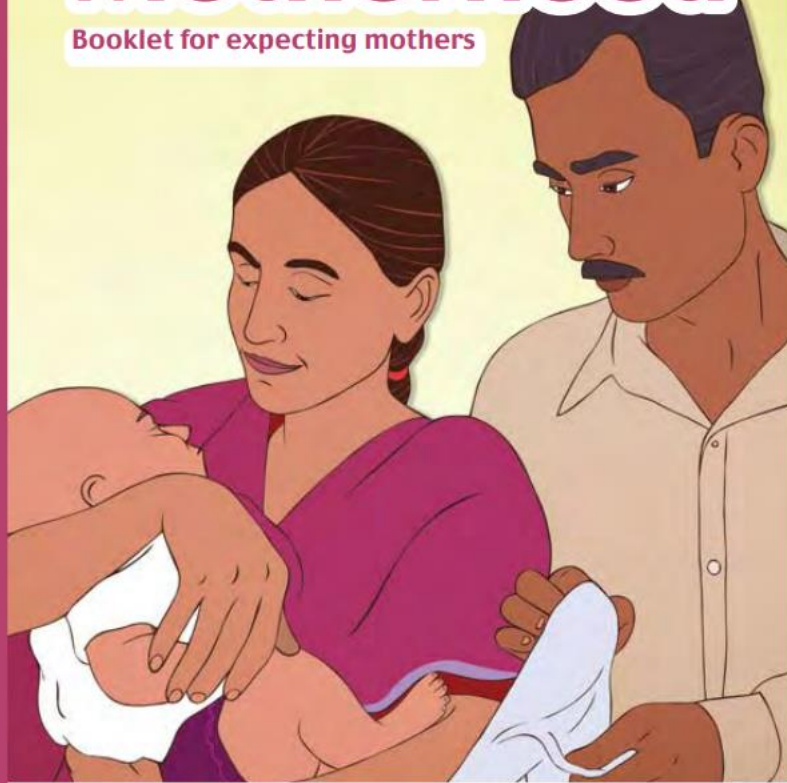
One of the key tasks of the programme is the capacity building of Anganwadi Workers or the frontline workers, who help women and families take benefits of government's nutrition and child health care services and adopt healthier behaviours.



AWWs are being trained to use participatory

My Safe Motherhood

Booklet for expecting mothers



Maternal Health Division
Ministry of Health & Family Welfare
Government of India



National Nutrition Week

POSHAN Abhiyaan

PM's Overarching
Scheme for Holistic
Nourishment



सही पोषण - देश रोशन

Nutrition Education becomes extremely relevant and crucial

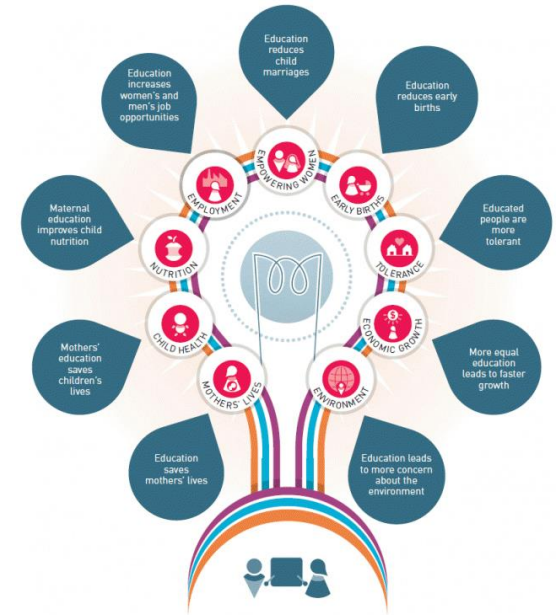


[Bill & Melinda Gates Foundation](#)

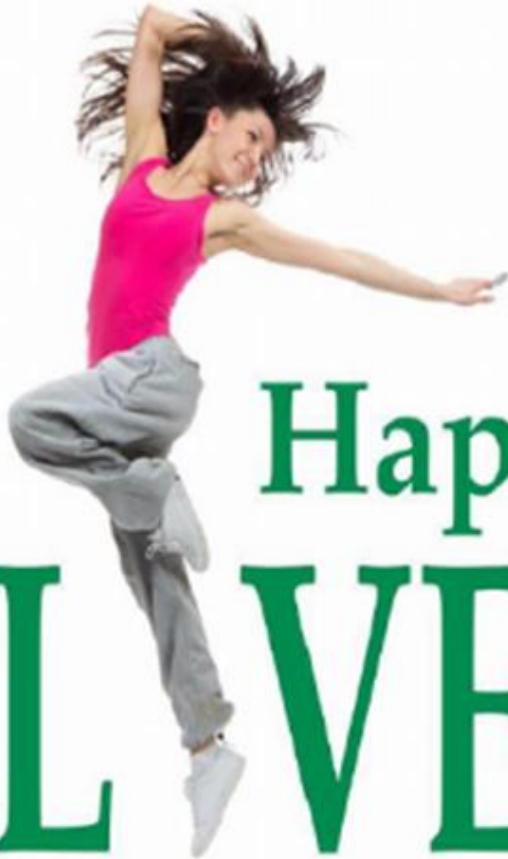
Alive & Thrive (A&T) is an initiative designed to advance the implementation of maternal, infant and young child nutrition (MIYCN) social and behaviour change (SBC) at a large scale.

7 Key lessons learnt from the Alive and Thrive Project –

1. Using existing large-scale platforms for interpersonal communication
2. Improving counselling skills of health workers
3. Delivering timely tailored messages
4. Engaging key influencers to take specific actions
5. Using research to address underlying behavioural concerns
6. Maximize mass media reach and frequency, using simple memorable messages
7. Employing additional channels to reach low media coverage areas



Healthy WOMEN



Happy LIVES

You, the woman, is the backbone of our society and pillar of the family. You constantly multitask playing varied roles of a mother, daughter, sister, wife, colleague and an employee. You do this so seamlessly, stretching yourself without ever complaining. You strive to make the house a home, keeping the family together. As a homemaker, you are on your feet right from dawn till the time you retire to bed at night. Your list of responsibilities are endless without any appeasement in sight. And while you are accomplishing all this, you often forget to take care of yourself. Don't you?



Zero health check-ups and ignoring advice of doctors and loved ones, results in health related issues like weight gain, diabetes, hypertension, high cholesterol, arthritis, osteoporosis at some point in life.

Feel special, on top of the world as today is yours, and so is every other day.

Hug yourself and make a commitment, that you will be the most important person to yourself from now on.



Sheryl Salis
Author

Have a happy & healthy life!



A healthy Indian women can contribute to the progress of their family, society, and country.

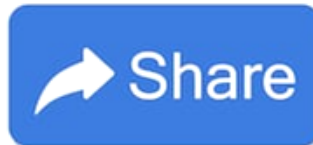


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Wellness and Nutrition Consultants

Thank You!!

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Nutrition Education becomes extremely relevant and crucial

Other relevant references

[Role of Media in Nutrition Education - https://www.agriindiatoday.in/May%20A2.pdf](https://www.agriindiatoday.in/May%20A2.pdf)

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<https://www.mdpi.com/2072-6643/13/10/3534>

<https://www.unicef.org/india/what-we-do/womens-nutrition>