

# POLICY BRIEF

## DRASTIC MASSIVE LOSS OF WOMEN'S DIETS DIVERSITY DUE TO CHANGES IN SEASON

### Causes of womens' nutritional problems

Most of the causes of womens' nutritional problems are preventable. Lack of variety, good quality, and enough food during pregnancy are important factors contributing to health problems of expectant mothers and newborn children. Thereby women are exposed to risk for anemia, hypertension, miscarriages, still births, gestational diabetes, pre-term delivery and/or even loss of the mother.

Ignorance and lack of comprehensive guiding information during antenatal and postnatal clinics is responsible for the failure of observing life-saving eating habits by expectant mothers.



### *Eat 5 to 10 groups daily<sup>11</sup>*

1. Grains, white roots and tubers, and plantains
2. Pulses (beans, peas and lentils),
3. Nuts and seeds,
4. Dairy,
5. Meat, poultry and fish,
6. Eggs,
7. Dark green leafy vegetables,
8. Other vitamin A-rich fruits and vegetables,
9. Other vegetables,
10. Other fruits

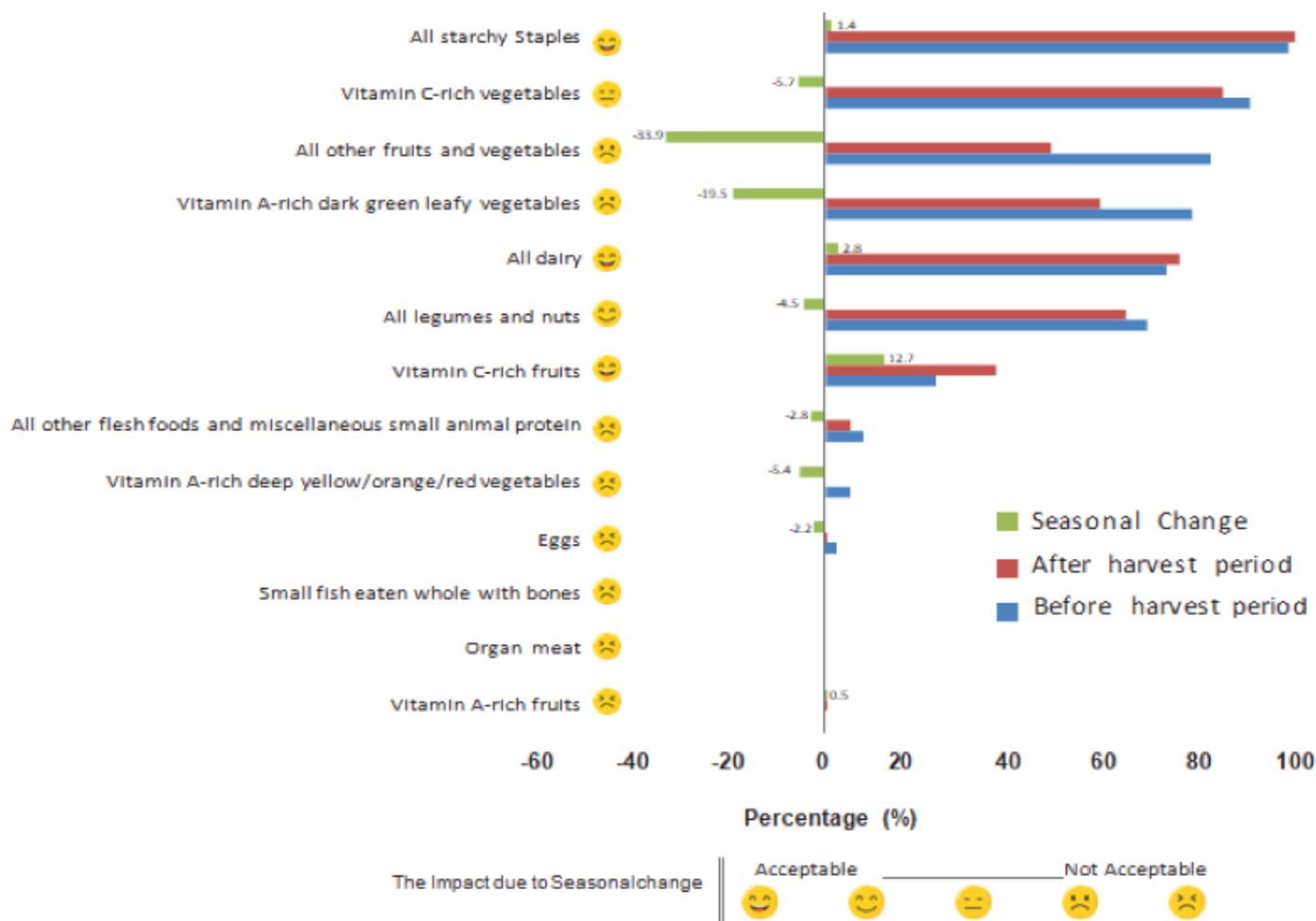
## Dietary intake for different seasons

The dietary diversity of the women's diet decreases from 5 to 4 food groups during seasonal change. Even though the energy intake increased slightly after harvesting the nutrient adequacy of the diet was unacceptable (Table 1). The food groups mostly eaten by women irrespective of season were starchy staples, vitamin C-rich vegetables, vitamin A-rich dark green leafy vegetables, all other fruits and vegetables, and legumes and nuts (Figure 1).

**Table 1:** Indicators of dietary intake

Indicators	Before Harvest	After Harvest	Change
Energy intake (kcal, SD)	2039 ± 162	2097 ± 151	Increased
Mean probability of adequacy	0.41 ± 0.07	0.44 ± 0.08	Increased
Dietary Diversity	4.5 ± 1.2	4.0 ± 1.3	Decreased

Vitamin A-rich dark green leafy vegetables and all other fruits and vegetables are significantly not available for women's consumption after harvest. In addition, intake of dairy is misleading as women consume it by adding very minute quantities in tea.



**Figure 1:** Loss of dietary diversity of the diet as a result of seasonal change (Modified from Ngala, (2015). Thesis)

## The advantages of a varied and nutritious diet during pregnancy



A varied diet rich in essential nutrients is vital for proper growth of the developing fetus and leads to full term births of healthy babies. Consuming different types of foods rich in essential nutrients help:

- build the body,
- fight diseases and
- provide vital energy for optimal body growth and function

Women of child bearing age need to consume different types of foods providing all the major nutrients in order to improve birth survival rates and increase proportions of normal weight births, required for optimal growth and body functioning.

### **Useful strategies to reverse the situation.**

- At the clinic, pregnant women can be counselled on the consumption of varieties of food groups.
- The women should also be encouraged to have Kitchen gardens and rear small animals to ensure availability of essential foods and improve vital nutrition.
- The knowledge of the need to consume a varied diet will create a demand for food production for home consumption.

## Challenges facing the use of ante-natal clinics

The opportunity of meeting women at the antenatal clinic (ANC) is frustrated by women's poor attendance. Two third of the pregnant women attend one ANC. The Ministry of Health, Kenya recommends four visits while World Health Organization recommends 8 ANCs to ensure that the women have all the right information and continuous monitoring and follow up.

At the antenatal clinic, as women wait to be attended:

1. Nurses (not nutritionists/dieticians) give group talks to women on various issues.
2. Nurses busy schedules do not allow regular talks.
3. High Nurse:pregnant-women ratio prevents individualized counselling.
4. Contents of talks given to the pregnant women have not been formally reviewed, standardized and made into a curriculum.
5. Consumption of a varied diet is not being communicated to the women at the ANC.
6. FAO, recommend consumption of  $\geq 5$  out of 10 food groups by women over a 24-hour period for adequate nourishment.

### **Reasons leading to women eating low numbers of food groups are: -**

- Consumption of starchy staples with very little vegetables/fruits and animal source foods<sup>1</sup>
- Very few/or no women snack in between meals even when pregnant<sup>1</sup>
- In Kenya, there is no policy on how to determine the macro/micro nutrient adequacy in the diets of women- including pregnant women<sup>1</sup>
- Food consumption patterns remains the same even as season change, there is no taking advantage of foods in season<sup>1</sup>
- The women are inhibited by cultural mirth's, taboos and practices some of which are guided by ignorance<sup>5</sup>
- Lacking of knowledge on what alternatives foods to buy when their purchase power is poor – yet still consume nutritious diets<sup>8,9</sup>.
- Some women are encouraged to eat very little food and a limited range - to prevent the fetus from growing too big avoiding Cesarean sessions<sup>5</sup>
- Inadequate contact with Antenatal Clinic, where they could get information on consumption of diverse diets<sup>10</sup>

**Besides women should be asked what they eat** before any nutrition counseling starts. The answer to this question would, most probably reveal the low dietary diversity of the diets of the women. In which case, very specific action would be taken to address the poor diets of pregnant women. This could be by giving them skills on food production (kitchen gardening and small animal production) and nutrition messages on what a varied diet constitutes. With resultant effect of curbing the rampant malnutrition among pregnant women and reduce poor birth outcomes.



40 - Weeks Nutrition Counseling plan, Source: WHO (2016)

## References

1. Ngala SA, 2015. Evaluation of dietary diversity scores to assess nutrient adequacy among rural Kenyan women. PhD Thesis. Wageningen University, Netherlands.
2. WHO/UNICEF. Antenatal care in Developing Countries: Promises, Achievements and Missed opportunities. An analysis of trends, levels and differentials, 1990-2001. [https://www.who.int/pmnch/media/publications/aonsectionIII\\_2.pdf](https://www.who.int/pmnch/media/publications/aonsectionIII_2.pdf) (Accessed February 14, 2019).
3. WHO antenatal Care Guidelines (2016). Malaria in Pregnancy Frequently Asked Questions (FAO), March 2018. (Accessed February 14, 2019).
4. Lincetto, O., Mothebesoane-Anoh, S., Gomez, P., and Munjanja. Opportunities for Africa's Newborns. Page 51-62. (Accessed February 14, 2019).
5. Rianga, R.M., Broerse, J., and Nangulu, A.K. 2017. Food beliefs and practices among the Kalenjin pregnant women in rural Uasin Gishu County, Kenya. DOI:10.1186/s13002-017-0157-8
6. [https://www.indexmundi.com/kenya/birth\\_rate.html](https://www.indexmundi.com/kenya/birth_rate.html) (accessed 24/6/2019)
7. Every PREEMIE scale: Kenya, Profile of preterm and low birth weight prevention and care. <https://www.healthynetwork.org/hnn-content/uploads/Kenya-1.pdf> (accessed 24/6/2019)
8. Van de Sande, A. [ed.] (1999). Child and Youth Poverty in Sudbury. Sudbury: Social Planning Council of the Region of Sudbury
9. Best Start, 2003. The impact of poverty on pregnant women. A guide to program managers 2003. Best Start - Ontario's Maternal Newborn and Early Child Development Resource Centre.
10. Nandita Perumal, Donald C Cole, Hermann Z Ouédraogo, Kirimi Sindi, Cornelia Loechl, Jan Low, Carol Levin. 2013. Health and nutrition knowledge, attitudes and practices of pregnant women attending and not-attending ANC clinics in Western Kenya: a cross-sectional analysis
11. FAO, MDDs for women recommendation by FAO and adapted by Ministry of Health, Kenya.

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## Proposed Strategies for improving women's health through ante-natal and nutritional education

- Support establishment of Kitchen gardening and keeping of small livestock to increase food variety available to the pregnant women (and contributing to the Big 4 agenda)
- Every pregnant woman be given individual counselling on consumption of a varied diet (≥5 out of 10 food groups)
- Providing materials to mothers to record what has been covered at every visit.
- Introduce mobile ANC clinic in all counties to improve coverage of counselling on consumption of varied foods to pregnant women
- Carry out a dietary assessment (at least once) for all pregnant women attending ANC clinics
- Develop digital tracking systems for ANCs defaulters

## Policy Recommendations

- Agricultural extension officers/ development partners to support the women with establishment of kitchen gardening/keeping of small livestock to supplement their food sources to ensure availability of essential foods
- The Ministry of Health to develop fliers and information sheets with key information on important foods essential for healthy of mother and baby encouraging behavior change.
- Ministry of Health to develop a program to use ANCs as intervening points for counselling pregnant women on important food groups to be included in the daily diet of pregnant women
- A guideline of 10 important food groups with a minimum of 5 food groups being recommended per day should be prepared and availed at all ante-natal clinic nationally.
- The Ministry of Health to recommend a compulsory attendance of a minimum of at least 4 ANCs for the expecting mothers.

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