

Preconception Health

May last year, the Lancet published a series of articles drawing attention to the preconception health which is highly underappreciated and have far reaching consequences on reproductive health. This is even more significant in the LMICs. Good health and nutrition before conception of both men and women are essential for conceiving, pregnancy outcomes, maternal and child health and continues long term afterwards into next generation and beyond. [\[1\]](#), [\[2\]](#)

Adolescence is a vulnerable phase in human development as it represents a transition from childhood to physical and psychological maturity. Triple burden of nutrition among women in LMICs is of great concern. Children under-five, more so girls, are undernourished and they increasingly grow up into a stunted state, which also has its effects on mental development. All along micronutrient deficiencies continue and anaemia is a major problem. Adolescent girls eat last and eat poor-quality food. If their economic circumstances improve later in life they turn to overweight and obese. Modern life style and use of high sugar drinks, processed and fatty foods, all leads to a malnourished state of health. On top of it sedentary life style due to excessive time spent on phones and TV is not helpful.

Adolescent girls, especially younger girls, are particularly vulnerable because they face the risks of premature pregnancy and childbirth. It may be due to cultural practices such as early marriage, expectations to bear a child soon after marriage, vulnerable young girls exposed to violence and exploitation, even trafficking. It is estimated that in the least developed countries, over one in 4 women (27 per cent) aged 20–24 years have had a live birth before age 18, representing about 12 million women in least developed countries who delivered during their adolescent age. Sub-Saharan Africa (see raking below) shows the highest proportions of motherhood, where birth rates among adolescents reach over 200 births per 1000 girls age 15–19, compared to lower rates in other regions (See illustrations below).

Unintended and mistimed pregnancy, which constitute almost 50% of all pregnancies, is another poorly understood and unaccepted reason for the problem and has lasting impacts of the mother and the child and future generations. Diagnosis and termination of unwanted pregnancy is extremely difficult for adolescent girls. Contraception services are a taboo and are rarely available to teenagers. Choice of the mother to continue with pregnancy is rarely in her hands and cultural and religious restrictions play a major role in acceptance of unwanted pregnancies.

Alcohol, smoking, caffeine, certain medications and poor nutritional status during pregnancy are known to have adverse outcomes. Malnutrition in all forms, overweight and obesity, under-nutrition and micro-nutrient deficiencies are other reasons for concern. Adequate awareness and health education, particularly in LMICs is scarce.

Yet primary health care in many countries do not address these issues to a level that it may have positive impacts on improving the maternal and child health. High maternal mortality ratio, stillbirths, perinatal mortality, infant and under-5 mortality continues to be the bane of LMICs.

Most effective measure is to improve the primary health care at community level. The simplest and most effective first step is to provide growth monitoring (GM) services at grassroots, a long overdue service, to improve the nutritional status of under-5s. With one third of all under-5s malnourished in most LMIC as underweight, stunted or both, we do not have organised GM at primary health centres. This service, as I have been incessantly harping about on this website, should be a regular monthly activity in all villages of the catchment area of the health centre. The service should be organised by village health committees under the village health worker and health centre staff only providing

technical assistance to the GM monthly programme. This means that if the HC staff, for one reason or the other could not reach the village, the GM programme continues.

This calls for adequate training and support of VHWs and understanding of the community for the importance of this service and for the community to own the service for their own good. Reduction in malnutrition status of Under-5s will bring noticeable reduction in morbidity and mortality among Under-5s, improve the reproductive health of the prospective girls as future adult mothers and better performance of children in schools because of the optimal mental development of children. Well-nourished individuals also contribute to economic development of the community and the nations.

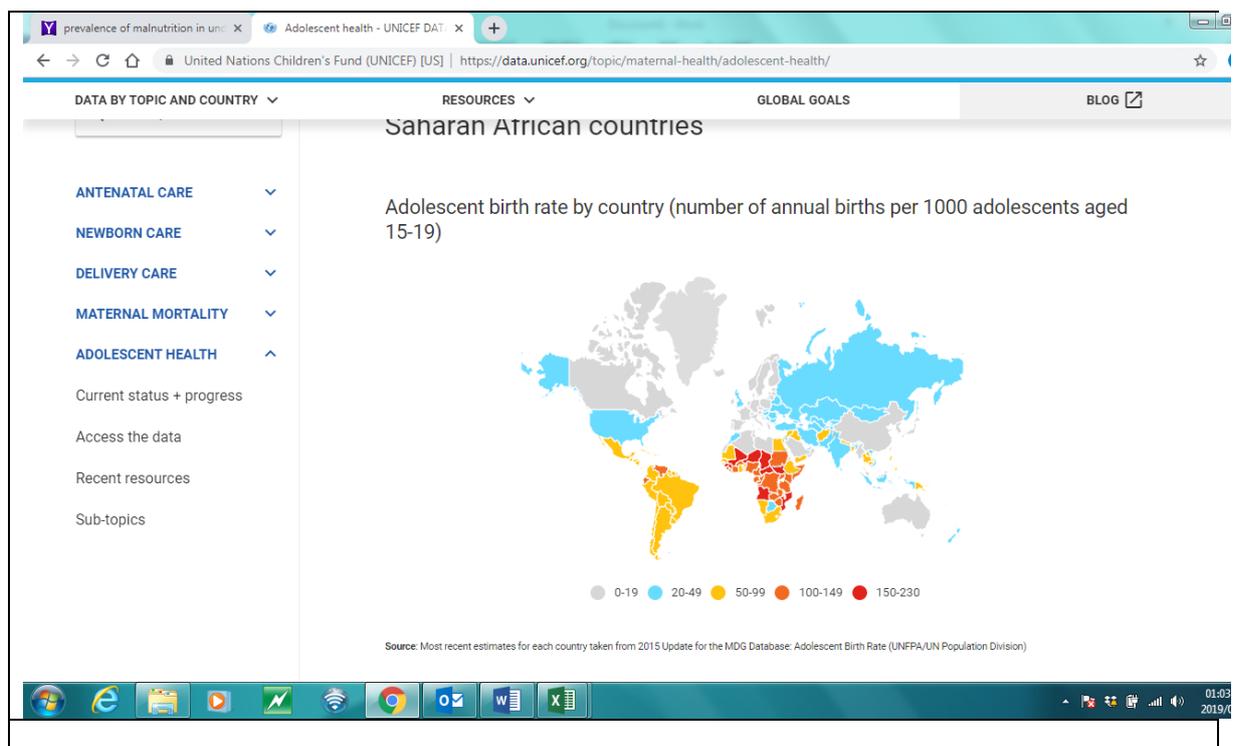
GM should continue into the school health programmes where GM should be continued along with the awareness of health issues, such as dietary advice on avoidance of bad foods (sugars, processed foods and fats), importance of active lifestyle to avoid obesity. Adolescent children also need awareness and education of reproductive health, especially the responsibility that goes with sexual experimentation. Family planning advice and access to contraceptives is a major aspect of this programme (this website discusses school health education in some detail under My Public Health).

Preconception health also includes improved maternal and child health care through antenatal, natal (skilled supervision during childbirth and management of complications of pregnancy) and post natal care for both mother and the new born. Simple measures that have shown remarkable reduction in maternal and childhood mortality in the western world in less than 50 years.

Governments' sincere commitment to improving Primary Health Care, including GM and school health programmes, is of utmost importance.

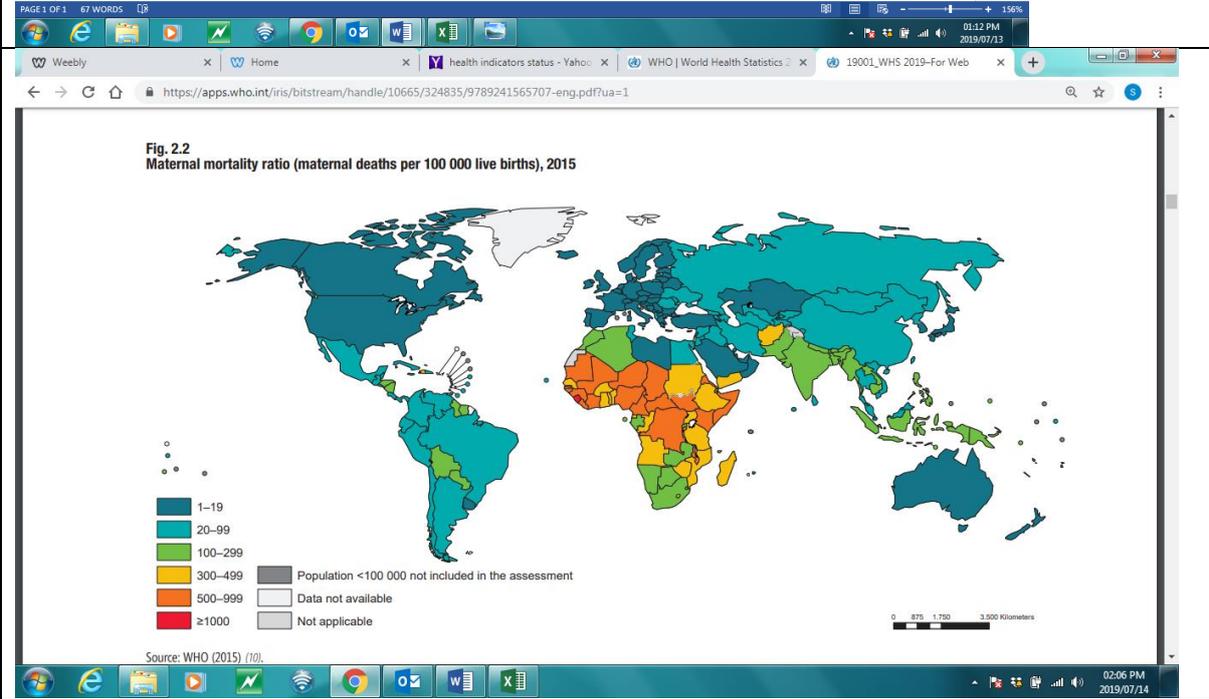
References:

- [1] [Editorial. Campaigning for preconception health.](#) Lancet Vol. 391, May 5, 2018. p1749.
- [2] Stephenson J. et al. Before the beginning: Nutrition and lifestyle in the preconception period and its importance for future health. Lancet Vol.391. May 5, 2018 p1749-1864.



Rank	Country	Average age - 1st Motherhood
1	Angola	18
2	Bangladesh and Niger	18.1
3	Chad	18.2
4	Mali	18.6
5	Guinea, Uganda, Mozambique, Malawi	18.9
6	Liberia, Gaza Strip, Botswana, Sierra Leone	19
7	Zambia	19.2
8	Sao Tome, Principe, Burkina Faso	19.4
9	Cabo Verde, Madagascar, Swaziland	19.5
10	Tanzania, Ethiopia	19.6

The highest rates of early childbearing are found in sub-Saharan African countries



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Indicator 3.1.1 Maternal mortality ratio (per 100 000 live births)

TREND
Globally, the MMR fell by 37% during 2000–2015. Even so, in 2015, 303 000 deaths occurred – more than one woman died for every 500 births.

GEOGRAPHICAL DISTRIBUTION
MMRs are highest in the WHO African Region where one woman dies for every 185 children born.

NATIONAL INCOME
MMRs are highest in low-income countries where one woman dies for every 202 children born compared to one woman in 5900 in high-income countries – a 29-fold difference.

AGE DISTRIBUTION
Not available.

SEX DISTRIBUTION
Not available.

Region/Income Level	MMR (per 100 000 live births)
Global (2000)	~400
Global (2005)	~350
Global (2010)	~300
Global (2015)	~250
AFR (2015)	~530
AMR (2015)	~100
SEAR (2015)	~150
EUR (2015)	~50
EMR (2015)	~100
WPR (2015)	~50
Low income (2015)	~200
Lower-middle income (2015)	~150
Upper-middle income (2015)	~50
High income (2015)	~70

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Indicator 3.7.2 Adolescent birth rate (per 1000 women aged 15–19 years)

TREND
Globally, adolescent birth rates have fallen from 53 per 1000 women aged 15–19 years in 2000–2005 to 44 in 2015–2020.

GEOGRAPHICAL DISTRIBUTION
Adolescent birth rates are highest in the WHO African Region where one in 10 adolescent girls give birth each year.

NATIONAL INCOME
Adolescent birth rates are eight times higher in low-income countries (97 per 1000) than in high-income countries (12 per 1000).

AGE DISTRIBUTION
Adolescent birth rates are only available for adolescents aged 15–19 years, not for those aged 10–14 years.

SEX DISTRIBUTION
Not available.

Region/Income Level	ABR (per 1000 women aged 15-19 years)
Global (2000–2005)	~53
Global (2005–2010)	~50
Global (2010–2015)	~48
Global (2015–2020)	~44
AFR (2015–2020)	~97
AMR (2015–2020)	~50
SEAR (2015–2020)	~40
EUR (2015–2020)	~15
EMR (2015–2020)	~40
WPR (2015–2020)	~15
Low income (2015–2020)	~97
Lower-middle income (2015–2020)	~50
Upper-middle income (2015–2020)	~30
High income (2015–2020)	~12

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Indicator 3.2.1: Under-5 mortality rate (per 1000 live births)

TREND
Under-5 mortality rates fell by 49% since 2000; nevertheless, in 2017, one child in every 14 born died before his or her fifth birthday, amounting to 5.4 million deaths.

GEOGRAPHICAL DISTRIBUTION
Higher under-5 mortality rates are seen in the WHO African Region and Eastern Mediterranean Region. The risk of death before the age of 5 years is eight times higher in the WHO African Region than in the European Region.

NATIONAL INCOME
Higher under-5 mortality rates are seen in low-income and lower-middle-income countries. The risk of death in low-income countries is more than 13 times higher than that in high-income countries.

AGE DISTRIBUTION
See Indicator 3.2.2 for neonatal mortality rate (first 28 days after birth).

SEX DISTRIBUTION
In 2017, male children were 11% more likely to die before the age of 5 years than female children. Progress in reducing the under-5 mortality rate since 2000 has been accompanied by an increase in the M/F mortality ratio from 1.06 in 2000 to 1.11 in 2017 (i.e. the decline in the female under-5 mortality rate has been faster than the male rate).

The risk of dying before the age of 5 years is higher in boys in all income groups from the World Bank and all WHO regions, but is almost equal in the WHO South-East Asia Region. Because boys have a higher biological risk of death than girls, mortality ratios close to unity are indicative of female disadvantage and are of concern.

Category	Year	Males (per 1000 live births)	Females (per 1000 live births)
Global	2000	~65	~55
	2005	~55	~45
	2010	~45	~35
	2015	~35	~25
	2017	~30	~20
2017 Regional	AFR	~65	~55
	AMR	~10	~5
	SEAR	~35	~25
	EUR	~5	~5
	EMR	~45	~35
WPR	~10	~5	
Income Group	Low income	~65	~55
	Lower-middle income	~45	~35
	Upper-middle income	~10	~5
	High income	~5	~5

Indicator 2.2.1: Prevalence of stunting in children under 5 (%)

TREND
Globally, the proportion of children aged under 5 years who are stunted fell by nearly a third between 2000 and 2018; nevertheless, in 2018, more than a fifth of children were shorter than global standards for their age.

GEOGRAPHICAL DISTRIBUTION
Rates of stunting are highest in the WHO African Region and South-East Asia Region, where about one in three children are stunted.

NATIONAL INCOME
Rates of stunting are highest in low-income and lower-middle-income countries, where the risk of stunting is five times higher than in upper-middle-income countries, and more than 10 times higher than in high-income countries.

AGE DISTRIBUTION
Not applicable.

SEX DISTRIBUTION
Global estimates are not available, but individual country surveys suggest that rates of stunting are generally higher in boys than girls.

Category	Year	Prevalence (%)
Global	2000	~30
	2005	~25
	2010	~20
	2015	~18
	2018	~15
2018 Regional	AFR	~30
	AMR	~10
	SEAR	~25
	EUR ^a	~2
	EMR	~20
WPR	~10	
Income Group	Low income	~30
	Lower-middle income	~25
	Upper-middle income	~10
	High income ^b	~5

^a Not available.
^b Low coverage, interpret with caution.