

Preconception 400 µg Folic Acid to Prevent Neural Tube Defects and Improve Neonatal Health Outcomes

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Key Policy Actions

1. Incorporate Preconception Care and Folic Acid Supplementation in MNCH Programme, MPDSR and birth defects surveillance

2. Ensure Accessibility and Availability of 400µg Folic Acid.

3. Include 400µg Folic Acid, in the National Essential Medicine List

4. Facilitate Marriage registration and Pregnancy planning

Birth Defects and Neonatal Health Outcomes:

Every year worldwide, Neural Tube Defects (NTDs) (a common birth defects) develop in about 300,000 pregnancies. Birth defects are a leading cause of death in the first year of life. Moreover, babies who survive have decreased life expectancy, and are physically or mentally challenged. More than 11 percent (3 hundred thousand) of the total 2.68 million death of newborns in 2015 attributes to congenital anomalies[1]. Moreover, they also cause lifetime morbidity and disability leading to reduced quality of life, increased economic burden to family, community and health system. In Nepal about 40% of Neonatal death attributes to birth defects and prematurities[2].

Preconception Care

Periconception use of folic acid is simple and useful strategy that offers a realistic opportunity for prevention of birth defects and reduces neonatal mortality. Nevertheless, this opportunity is missed frequently as Moreover more than 50% of the pregnancies in Nepal are unplanned[3]. Establishing the link between pregnancy planning and maternal nutrition and provides a powerful tool for promotion of newborns health and primary prevention of NTDs prevention.

Current Recommendation and Evidence

Consistent and correct periconceptional 400 µg folic acid supplementation can prevent about 70% of Neural Tube Defects (NTDs)[4] Furthermore, supplementation can reduce the risk of all congenital malformations or of a specific and selected group of them, namely: neural tube defects, oral clefts, cardiac defects, urinary tract anomalies except hypospadias, limb reduction defects, omphalocele, anal atresia and trisomy[5].



Disability Prevention and Rehabilitation Program (DPRP) is a joint venture of Province 1 government, all local government of Province 1 and Karuna Foundation Nepal. It aims to improve maternal and child health outcomes and provide community based rehabilitation of all person with disability.

Key Facts and Health system issues to implement Preconception folic acid in Nepal

Nepal's Every Newborn Action Plan target to increase access to preconception folic acid to 50% by 2035

34 % of Neonatal Death are attributed to congenital anomalies and prematurity

44 percentage of women of ages (15 to 24) are anemic in Nepal.

A referral linkage from marriage registration at wards office to link couples to health facility for preconceptional care

Situation in Nepal

There is a dearth of research in many countries including Nepal on birth defects prevention, preconception care, folic acid supplementation and its impact on birth outcomes. In addition, hospital based surveillance of birth defects, carried out from April 2016 to April 2017 found 351 cases of birth defects from the total live births[6].

Nepal's every newborn action plan prepared by ministry of health along with development partners targets to increase access to preconception folic acid to 50% by 2035[7]. Furthermore, study conducted by Karuna Foundation Nepal reveals only one in ten women are conscious on pregnancy planning and consume preconception folic acid in consultation with health care workers.

Prevalance of Anemia

Expansion of interventions that are proven to improve substantial improvement in nutritional status of women of reproductive age are essential as anemia remains the intractable public health problem in Nepal. There is the increasing trend in prevalence of anemia among women as it has increased from 36% in 2006 to 41% in 2016.

Fertility Trends

Nepal Demographic and Health Survey (NDHS 2016) reveals a woman gives birth to the birth to her first child within 2.5 years of her marriage. Moreover, Neplease women on an average have atleast two children with the mean spacing of three years. Nepal's fertility trends suggest there is ample space to encourage women for pregnancy planning with all women have access to preconceptional care, folic acid supplementation.



Vital Registration

Marriage Registration

Deploy Tool for linking couples to Health facility

Best Wishes Cards

Information on Preconceptional care

Information on intervention to improve maternal and neonatal health outcomes

Health Facility

Supply of Preconceptional folic acid

Promote nutritions and healthy pregnancy

1. WHO. Congenital anomalies [Web Page]. World Health Organization 2016, 7 September [cited 2018 September 5]. Available from: <http://www.who.int/en/news-room/factsheets/detail/congenital-anomalies>
2. Nepal Multiple Indicator Cluster Survey 2014, Final Report. 2015 [cited May 12, 2020]. [Internet]. National Planning Commission Secretariat CBoS, UNICEF Nepal. Available from: <https://www.unicef.org/nepal/reports/multiple-indicator-cluster-survey-final-report-2014>
3. Puri M, Singh S, Sundaram A, et al. Abortion Incidence and Unintended Pregnancy in Nepal. International Perspectives on Sexual and Reproductive Health. 2016;42(4):197-209. doi: 10.1363/42e2116.
4. De-Regil LM, Peña-Rosas JP, Fernández-Gaxiola AC, et al. Effects and safety of periconceptional oral folate supplementation for preventing birth defects. Cochrane Database of Systematic Reviews. 2015 (12). doi: 10.1002/14651858.CD007950.pub3. PubMed PMID: CD007950.
5. Wehby GL, Goco N, Moretti-Ferreira D, et al. Oral cleft prevention program (OCCP). BMC pediatrics. 2012 Nov 26;12:184. doi: 10.1186/1471-2431-12-184. PubMed PMID: 23181832; PubMed Central PMCID: PMC3532199. eng.
6. Sharma SK. Government Initiatives for Prevention and management of Birth Defects Presentation on World Birth Defects Day, Family Health Division, Teku, Kathmandu; 2018
7. Nepal's Every Newborn Action Plan Government of Nepal, Ministry of Health.; 2016. <https://www.healthynewbornnetwork.org/hnn-content/uploads/NENAP-final-low-resolution.pdf>