

Nutritional Surveillance

for Disaster Preparedness and Prevention of Nutritional Blindness

Seasonality of Birth in Bangladesh: Implications for Family Planning



Summary:

Seasonality of birth in Bangladesh is documented with nearly twice as many babies born in November as in June. This will affect programs aimed at providing contraceptive and delivery services for women.

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Seasonality of Birth in Bangladesh: Implications for Family Planning

Introduction

Peak birth periods have been documented in many countries including one thana in Bangladesh called Matlab which has been intensively studied (1-5). Seasonality of birth may be due to several mechanisms affecting the frequency of conception including the nutritional status of the mother and the frequency of breastfeeding of a previous child which may influence ovulation. These factors are thought to be important in Matlab, one of the few places in Bangladesh where data of birth is recorded as part of a detailed demographic surveillance system. However, the applicability of these findings to other parts of Bangladesh has not been previously ascertained.

A Nutritional Surveillance System (NSP) has been operating in 10 disaster prone areas of Bangladesh since April 1990. The thanas included in this system are Matlab, Daudkandi, Santhia,

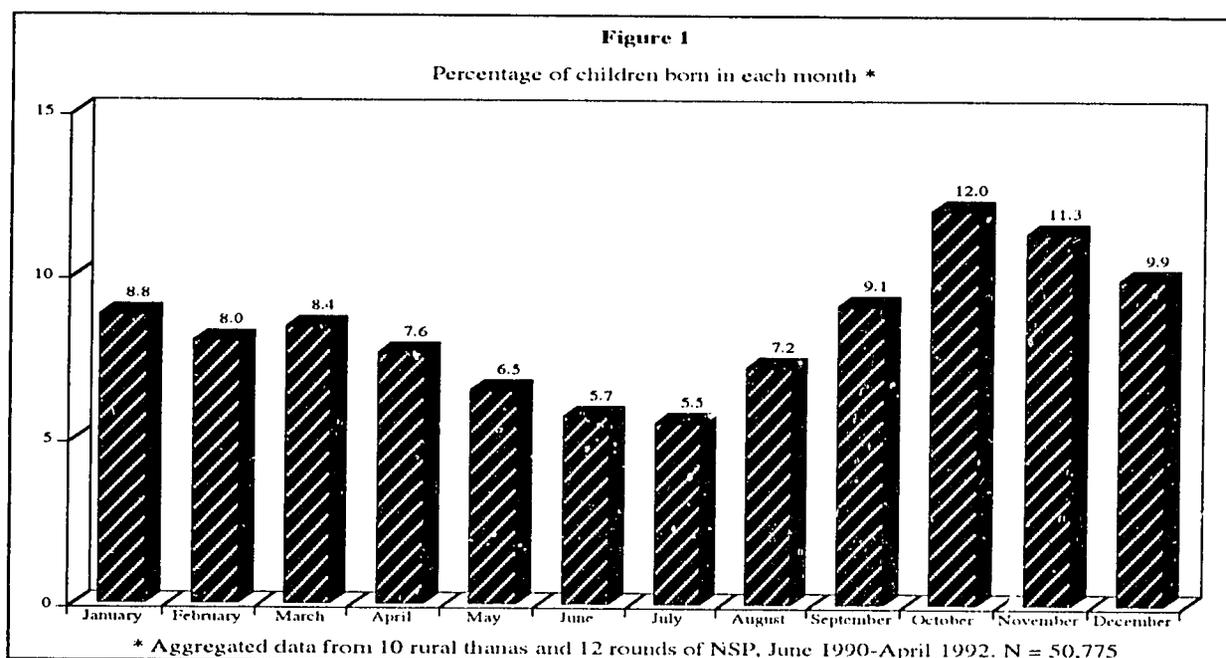
Saturia, Chilamari, Pirganj, Mirzapur, Shakhipur, Gopalganj and Rajoir. Every two months cross-sectional nutritional, health, and socio-economic data is collected from approximately 8,000 children between the ages of 6-59 months. As part of this system, date of birth has been collected by using a calendar of local events. The quality of the data is maintained by Quality Control teams which visit all sites every round of data collection and remeasure 5-10% of the children 24 hours later. The standard of age estimation has been high with a good standard of replicability.

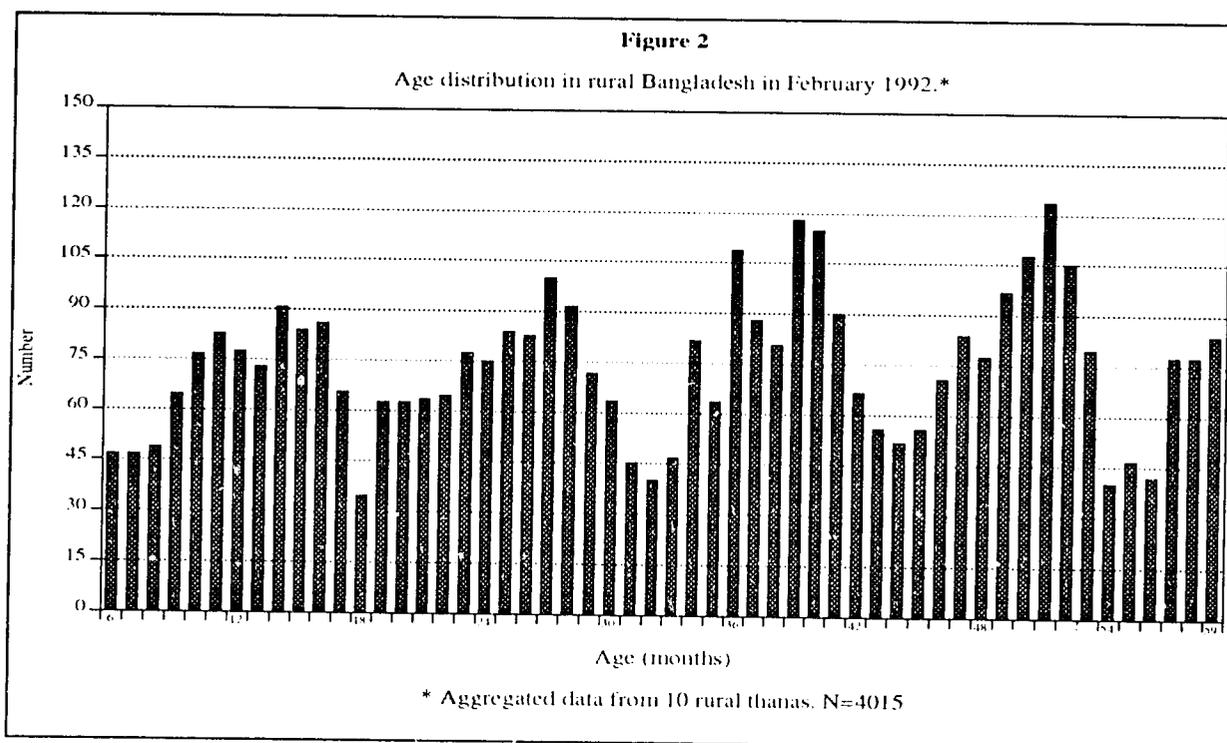
Results

By aggregating data from all 10 thanas, the overall frequency of birth by month is shown in Figure 1. Peak births occur in October which accounts for 12.1% of all births and minimum births occur in July when only 5.5% of children are born. Looking at each thana separately, there are two major patterns. In five of the thanas, peak date of birth is October, in 2 thanas November is the peak month and in 3 thanas the peak occurs in February.

Discussion

In general, the pattern of peak births corresponds with relatively abundant food availability at the





time of conception, and the time of minimum births corresponds with food scarcity at the time of conception.

A major factor in the varying fecundity may be due to the seasonality of nutritional status of mothers. In the NSP, seasonality of undernutrition in under five years of age is marked; acute undernutrition is most pronounced in August-October and best nutrition is in December-February. In Bangladesh, the main harvest in many areas is the Aman harvest which takes place in November/December. This corresponds with improved nutrition of mothers leading to peak conception two months later in January and February followed by peak births in October/November. As the Boro harvest becomes increasingly important, the influence on seasonality of birth of this new increased production time will have to be followed.

Traditionally, marriages often take place in January in Bangladesh, which may partly account for increased births of firstborns in October/November. Also, women are responsible for husking the rice after the harvest which keeps them occupied during December and January. A study on breastfeeding during these months found

that due to work demands, the time spent breastfeeding during these months decreased. (2) This may also have an influence on ovulation.

Programs aimed at providing services for pregnant mothers and babies will obviously be affected by such strong seasonal patterns in birth. Delivery of babies can be expected to be twice as common in November as June and services will have to be prepared to provide for such wide variations in numbers. At the same time, contraceptive providers can take advantage of seasonality by targeting awareness of contraception during certain times of the year. This country-wide data confirms that seasonality of birth is a phenomenon that occurs all over Bangladesh and not only in an isolated pocket.

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