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Sex and survival: reducing fertility rates among adolescent girls

To succeed, family planning programmes must empower girls. Mushtaque Chowdhury suggests how to start a 'reproductive revolution'

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Lack of family planning, along with other barriers to sexual and reproductive rights and health, remain obstacles to progress on several key development indicators. Progress, for instance, on achieving universal primary education for the world as a whole has stalled at roughly 90% largely because education systems in sub-Saharan Africa are unable to keep up with the rising numbers of children. While training community volunteers and improving antenatal and emergency obstetric care can go a long way towards lowering maternal mortality, we will not have really solved these problems until the fertility rate drops.

Bangladesh was in a similar situation not long ago. In 1982, Bangladesh's fertility rate stood at about 6.1 births per woman, roughly the same as the current rate for Uganda, number six of the top 10 countries with the highest fertility rates in the world. Recent figures show Bangladesh's fertility rate plummeting to near replacement level, "one of the steepest declines in history," according to The Economist.

So how did we do it? I first joined the Bangladesh Rural Advancement Committee in 1977. We worked with the government and other NGOs on a massive outreach campaign to address the direct and indirect determinants of family planning adoption. By increasing demand and expanding access to family planning methods, we helped raise Bangladesh's rate of contraceptive prevalence from 12.7% in 1980 to 61.2% in 2011.

Termed a "reproductive revolution", the shift was especially remarkable in that it took place even while Bangladesh remained one of the world's poorest countries. It happened largely at the village level, with women field workers and an army of local volunteers given incentives to distribute information, condoms, pills and injectable contraceptives.

Today, the rate of contraceptive prevalence rate remains below 20% in 24 African countries. Sceptics will say that cultural resistance to contraception remains a hurdle, yet Bangladesh faced many of the same circumstances, including entrenched poverty, low literacy (among women in particular), religious opposition and patriarchal social norms.

Replicating that success is obviously more complicated than transplanting the same programmes to African countries. Yet some of the more data-driven approaches are already

seeing progress in Africa, where Brac now works in five countries. In Uganda, for instance, researchers from the London School of Economics, University College London and the World Bank looked at a programme called Empowerment and Livelihood for Adolescents (pdf). The programme sets up local girls' clubs in borrowed and rented buildings in poorer communities, a safe space where girls can sing, dance, play games and socialise within walking distance of their home, away from the pressures of family life and male-dominated society. Some of the girls are then trained as mentors, and through them, the girls receive training in health awareness (including family planning), life skills, financial literacy and livelihood skills. They even have the opportunity to receive microloans to start their own businesses.

One of the ideas behind ELA is that social empowerment (including confidence-building, life-skills and health and family planning awareness) should go hand in hand with economic empowerment. Using a randomised control trial, the researchers tested this theory and recorded some remarkable effects: self-reported condom usage rose 12.6 percentage points among those participants who are sexually active, and two years after they entered the programme, fertility rates were 28.6% lower compared to a control sample. Participants' reports of having sex unwillingly decreased by 83% from the baseline during a one-year period, which the report calls "the clearest marker for the programme changing how empowered adolescent girls are in their relations with men".

Despite the programme's emphasis on employment - both income generation and self-employment rose, according to the study, and about 15% of the 53,000 ELA members are taking microloans as of April 2013 - it does not seem to have an adverse affect on schooling. Many girls who had dropped out even considered going back to school. It was enough to convince the World Bank's Markus Goldstein, a report author and previous "girl effect" sceptic, that "putting money into a programme like this, in Uganda [with one of the lowest median ages in the world], is a darn good investment for girls during the critical transition from childhood to adulthood."

Results such as these, empirically tested by outside researchers, make me optimistic that the gains of Bangladesh can be repeated elsewhere. To advance the family planning agenda, development organisations should develop their own dual-pronged approaches to empowering girls and women - socially as well as financially. We need to provide access to knowledge and the means to control fertility, along with economic resources that help bolster the social status of females within the home. It is important to follow the data, constantly examining our own assumptions and correcting our mistakes. If we do this, I'm confident we can build the support mechanisms necessary to allow African women to bring about their own reproductive revolution.

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outcomes. In the UK, anticoagulants are recommended only in stroke patients at high risk of DVT and low risk of bleeding; however, we have recently shown that identifying such patients is problematic.[2] In CLOTS 3, there was no significant interaction between baseline use of anticoagulants and the effect of IPC so there should be no bias due to the low frequency of anticoagulant use. Furthermore, a recent systematic review of all randomised controlled trials of IPC in hospital inpatients, not only those with stroke, showed that IPC was effective when combined with anticoagulants.[3]

IPC has advantages over anticoagulants as monotherapy: it does not increase the risk of bleeding, it can be used in patients with haemorrhagic stroke, and, by contrast with anticoagulants, improves survival after stroke.[4] Although we agree with Barer that this statistically significant improvement in survival is unexplained and could still be a "statistical fluke", it might also show that unrecognised venous thromboembolism contributes to a larger proportion of deaths in stroke patients than previously suspected.[5] We are not aware of any studies that have looked at the effects of the IPC device on cerebral blood flow, but this seems a less likely explanation of the observed improvement in survival.

Barer correctly points out that DVT is not as important an outcome as survival or functional outcome. We did not note a statistically significant difference in the proportions of patients at 6 months who were dead or dependent (Oxford Handicap Scale 3–6) between the treatment groups. We will publish more detailed data on functional outcome and health-related quality of life as part of our ongoing health economic analyses.

We declare that we have no conflicts of interest.

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Home-based treatment: teaching matters

In their critique of *The Lancet* Series paper[1] calling for more attention to the treatment of diarrhoea, David Sanders and colleagues[2] were concerned that the use of home-based treatment was not given enough attention and should be promoted more vigorously. Zulfiqar Bhutta and colleagues[3] replied that although there was evidence that sugar-salt solutions prepared in a hospital pharmacy were effective, translation to the community had failed.

We were associated with the Oral Therapy Extension Programme (OTEP) of BRAC, a Bangladeshi non-governmental organisation, that trained more than 13 million mothers over a 10 year period—85% of these mothers could properly prepare a safe and effective solution. The use of oral rehydration solution in Bangladesh is now the highest in the world.[4]

What Sanders and colleagues and Bhutta and colleagues do not discuss is how women and caregivers are taught to prepare the solution. It is not enough to promote home-based solutions or packet-based oral rehydration solution, if either method is not properly taught. In the case of OTEP, this meant home visits with hands-on instruction from a village worker who was paid on the basis of whether the mother learned how to prepare oral rehydration solution with the pinch and scoop method. Recently, Atul Gawande[5] looked at how information is scaled up in practice and described the work of the OTEP workers as "coaxing villagers to make the solution with their own hands and explain the messages in their own words, while a trainer observed and guided them, achieved far more than any public-service ad or instructional video could have done."

Most publications on training providers or caregivers focus on how many have been trained, but it is rare that they detail how this training really took place. Where training takes place, who gives the instructions, how long the instructions last, how instructions are delivered, how workers are paid, and how programmes are assessed are some of the information OTEP provided, and should accompany any programme on community-based education.

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