

Extension of Birth Interval in Zambia: A Public Health Challenge

Catherine Mubita Ngoma*

Department of Nursing Sciences, School of Medicine, University of Zambia, Lusaka, Zambia

Abstract

The author addresses the public health challenge posed by the high fertility rate in an impoverished nation like Zambia. The article traces the development of the Family planning programme and analyses reasons for extending birth interval. It also discusses methods of limiting fertility, advantages and disadvantages of birth interval extension. Strategies for cultivating a climate for acceptability for birth interval extension and challenges in limiting fertility are explored.

Keywords: Extension; Birth interval; Child spacing; Family planning; Fertility

Introduction

It is a well-known fact that low-income countries have limited resources to carry out developmental projects and to improve the living standards of their people. Most of the people in these countries live beyond the poverty datum line (less than one dollar per day) especially the rural populations [1]. Despite high levels of poverty experienced by people in low-income countries, their population growth rate is increasing at a very fast rate. According to UN [2] medium population projection, the world population is projected to increase from 6.3 billion in 2003 to 8.1 billion in 2030. Two-thirds (5.3 billion) will live in the developing world where abject poverty and misery abound, food and water are scarce, housing is inadequate and public community services are lacking or rudimentary.

Low-income countries populations are expanding so rapidly at the expense of progress towards technological development [3]. Expanding health, education and other social services are continually outstripped. In addition, very large families with too closely spaced children have been shown to have an increase in low-birth weight infants, a higher prevalence of malnutrition in both mothers and children and increased infant and neonatal mortality [4].

Although most African countries are ravaged with HIV/AIDS which could cause a decrease in the population, fertility has remained high, hence the need to advocate for fertility limitation through provision and use of family planning services. The objective of family planning is to encourage couples to take responsible decisions about pregnancy and to enable them to achieve their wishes with regard to:

- Preventing unwanted pregnancies
- Securing desired pregnancies
- Spacing of pregnancies
- Limiting the size of the family

Lucas and Gilles [5] state that family planning services should be used as a tool for promoting family health and especially for reducing maternal morbidity and mortality by preventing unwanted and high-risk pregnancies. They further state that Family planning programmes should pay particular attention to the role of males in deciding the size and in choosing acceptable means of achieving the goal. Now, even in low income countries, the advantages of family planning are becoming increasingly apparent as more and more people are being sensitised and accepting family planning methods. There is no doubt that Non-governmental organisations and some Governments authorities have done much to make people aware of the benefits and techniques of

family planning and advice is now available to an increasing number of people. But those who would appear to be most in need of limiting their families are the lowest users [3]. Fear, unavailability, prejudice, cost and lack of awareness are among some of the reasons for low use.

In order for family planning programmes to achieve the intended objectives, the programmes should be based on analysis of needs of the community [5]. Available data on the reproductive behaviours of the community should be carefully examined noting especially: birth rates in various groups, age of first pregnancy, average interval between pregnancies, family size, the use of contraceptive methods (both traditional and modern), knowledge of these methods and attitudes to them, the frequency of induced abortions and other indications of unwanted pregnancies.

According to Ross and Winfery [6] there are about 113.6 million women in low income countries who have an unmet need for contraception and about 105.2 million married women (of whom 55.4 million wish to space births and 49.8 million wish to limit further childbearing) and 8.4 million unmarried women. Ross and Winfery [6] further state that 65% of unmet need in Sub-Saharan Africa is for child spacing. The unmet need number reflect the upward pressures of population growth and it is a substantial and continuing challenge for agencies and Governments concerned with ensuring access to contraceptives. Zambia being a Sub-Saharan African country has unmet need for child spacing as modern contraceptive use is still low (34%) and the total fertility rate is high (6). The reported ideal number of children in Zambian women is five, which means most women have one child more than they would like to have. Furthermore, the 2001/2002 ZDHS reported that 71% of currently married women didn't want to have any more children or that they wanted to wait at least two years before having a child.

Family Planning in Zambia

The history of modern family planning services in Zambia dates back to 1972 when a Non-Governmental Organisation (NGO) called Family Spacing and Welfare Association of Zambia now known

*Corresponding author: Catherine Mubita Ngoma, Department of Nursing Sciences, School of Medicine, University of Zambia, Lusaka, Zambia, E-mail: catherinengoma@yahoo.com

Received November 28, 2011; Accepted January 27, 2012; Published February 02, 2012

Citation: Ngoma CM (2012) Extension of Birth Interval in Zambia: A Public Health Challenge. J Women's Health Care 1:103. doi:10.4172/2167-0420.1000103

Copyright: © 2012 Ngoma CM. This is an open-access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

as Planned Parenthood Association took a lead to promote the service [7]. The NGO activities involved motivating women to use modern family planning methods, providing health education and dispensing contraceptive supplies. The government's involvement was much delayed until in the 1980s when it recognised the role of family planning in the promotion of the health status of women and children and in reducing population growth rate [7]. Thereafter, family planning became an integral part of Maternal and Child Health within the context of Primary Health care. Since then, the family planning programme has not achieved desired impact [8]. Modern family planning services are provided by the Government Hospitals, Health centers, Non-governmental organisations and the private sector. Service delivery strategies include provision of family planning services at the Public and Private Health facilities; community based distribution and commercial retail sales.

Historically, traditional methods of family planning have been used and played a predominant role in the fertility declines that took place before modern contraceptives were developed [9]. Although modern methods are more effective than traditional methods, many couples are still using these methods today. The rapid rates of modernisation, urbanisation and social change experienced makes it difficult to determine how often traditional methods of fertility regulation are still used.

In Zambia knowledge of family planning is nearly universal (98%) in both men and women and an increasing number of people including politicians and religious authorities approve of family planning as a way of spacing children [8]. However, although most people approve family planning use the total fertility rate is high and the contraceptive use prevalence is low and the commonly used methods are the pill and injectables [8]. The least used methods are the IUD, implant, female condom and diaphragm/foam/jelly. A few couples still rely on traditional methods especially withdrawal.

There are still regional and educational disparities in family planning usage. Urban women are much more likely to be using a family planning method than rural women, 46% and 28% respectively [8]. Modern contraceptive use is 3 times higher in urban areas than in rural areas, whereas traditional use is twice as high in rural areas than in urban areas. A woman with some secondary level education is almost twice as likely to use a family planning method than an uneducated woman.

Nsemukila et al. [10] report that people in favour of family planning are of the view that family planning helps to limit size, prevent unwanted pregnancies, protects from diseases and helps the woman to recover from previous pregnancy, thus improving her health status. They further state that family planning helps children to grow well, children do not suffer from malnutrition and the couple is able to enjoy sex without fear of getting pregnant.

On the other hand a large number of people in Zambia still disapprove of family planning for various reasons [8]. Some of the reasons for disapproval are that it's against God's will for them to use family planning methods because with the use of family planning, one could lose a chance of having a child who might become a President or Minister, family planning causes cancer, heavy bleeding, weight gain, infertility, high blood pressure and painful prolonged periods. It's believed family planning promotes prostitution, restricts a number of children a woman could have and causes instability in a home for example, a woman may be divorced if the husband disapproves of family planning and she uses it secretly [10].

In addition, family planning is also influenced by a number of socio-cultural and economic factors such as bride-price, marriage image, female dowry, son preference and high infant mortality rate [10]. All these factors need to be considered if the Zambian family planning programme is to provide reproductive health care to its entire people by the 2015 as agreed at the 1994 Cairo International Conference on Population and Development. This goal calls for all countries to meet the family planning needs of their populations and provide universal access to a full range of safe and reliable family planning methods.

Methods of Limiting Fertility

The methods for limiting fertility are divided into two groups: traditional and modern methods.

Traditional methods

These include prolonged breastfeeding, coitus interruptus (withdrawal), postpartum abstinence, polygamy, medicinal strings or beads and herbs.

Prolonged breastfeeding: According to Center for Disease Control and Prevention (CDC) [9] breastfeeding contributes significantly to both birth spacing and child survival. Breast milk is an ideal source of nutrition for infants and provides an important level of immunological protection against infections. Breastfeeding is a highly effective method of contraception in the first months when it is exclusive [11]. It extends postpartum infertility by delaying ovulation and by reducing the likelihood of conception once ovulation or menses return [9]. After the sixth month postpartum, it is increasingly likely that a woman will resume ovulation before menstruation returns [12]. However, even after menses return, the hormonal effects of lactation lead to fewer ovulatory cycles further decreasing fertility.

Infant suckling causes both the production of breast milk and the prevention of ovulation through complex hormonal reflexes. Suckling stimulates sensory cells in the nipple and areola, which signal the hypothalamus to release various hormones [13]. One of these hormones, prolactin, stimulates milk production. Suckling directly reduces the release of gonadotropin-releasing hormone by the hypothalamus, which in turn suppresses the release of luteinizing hormone required for follicle stimulation in the ovary. Suckling also triggers the release of the hormone Oxytocin from the posterior hypothalamus. Oxytocin causes the muscle cells in the areola to contract and release milk. In summary, breastfeeding is associated with longer periods of lactation amenorrhea and infertility. Frequent continuous stimulation of the breast by around the clock suckling strengthens the reflex that produces the contraceptive effect. Together a high frequency of breastfeeding episode per day and a longer duration of suckling per breastfeeding episode significantly delay the return of ovulation.

Coitus interruptus (Withdrawal): Historically, coitus interruptus or withdrawal was widely practised and played a predominant role in the fertility declines that took place before modern contraceptive methods were developed [9]. Coitus interruptus prevents fertilisation by stopping contact between spermatozoa and the ovum. The male partner interrupts intercourse and withdraws his penis from his partner's vaginas before he ejaculates. Its effectiveness depends greatly on the male's ability to withdraw before he ejaculates.

Postpartum abstinence: Abstinence is defined as refraining from any sexual behaviour involving genital tract or refraining from all sexual behaviour including masturbation or anal intercourse [9]. The purpose of postpartum abstinence in many cultures was to protect the

newborn infant because semen was thought to spoil the mother's milk and to protect the mother during a period of recuperation [5]. The duration of abstinence among women varies from culture to culture. In some cases a pregnant woman who was about to deliver was sent to her parents' village for delivery and would come back to her husband's village when the baby was about one year old, has cut teeth, is eating solids or has passed some other milestones. In addition, to the above mentioned practise a stigma was attached to a couple that conceived before the baby was able to walk, usually one year.

Polygamy: Polygamy is a cultural practice where a man marries multiple wives. It's an accepted practice in Zambia but more common in rural areas and is used as a form of postpartum abstinence for instance, if one of the wives gave birth to a baby, the man will not have sexual intercourse with her for some time but will do so with the other wives. This is done in order to give chance to the baby to grow. In areas where is common, the period of post-partum abstinence may last several months or more than a year [14].

Medicinal strings or beads: Women wore medicinal strings or beads around the waist. This was worn all the time and it was only removed when the woman wanted to conceive [9].

Herbs: Herbs were inserted into the vagina before intercourse. Some were put into porridge which, was taken shortly before bedtime [14,15].

Roots: Some prepared solutions from roots of trees and a woman was made to drink the solution. Some roots were also mixed with menstrual blood and put in calabash and then boiled. The boiled medicine was kept in a bottle and stored in the house. Since blood from the woman has been burnt she could not have babies [14].

Modern methods

Modern methods of fertility include mechanical appliances, oral contraceptives, injectables, surgical contraception, hormonal implants and natural methods.

Mechanical appliances: They include condoms (male and female condoms), caps, jellies, barrier creams, foams, sponges and spermicidal tablets. These are widely used although they are not 100 % reliable [3]. Intrauterine coils and devices (IUD) made of plastic and copper are also commonly used. Although they are cheap and easy to manage, they have some side effects such as menorrhagia, infection and failure to retain the IUD [9].

Oral contraceptives: These consist of varying combinations of oestrogen and progesterones. They can have serious side effects, especially interference with lactation and a tendency to thrombosis if the oestrogen content is high and in certain women [3]. Therefore, there is need for careful monitoring. The risk of complications increases in women over 35 years and with smoking [9]. The pill is cheap, readily available and popular [3].

Morning after pill, a competitive antagonist of progesterone prevents implantation and cause sloughing of the fertilized zygote [9]. This is taken within 48 hours of unprotected intercourse and can only be prescribed by trained Medical practitioner. Failure rate is between 0.2% to 7.4% [9].

Injectable contraceptives: Depo-Provera (methoxyprogesterone) is widely used in many countries. Its advantage is that it is simple to administer (injection every three or two month) and it is not a lactation suppressant [9]. However, it is not easily withdrawn and may disturb menstrual periods. A woman becomes fertile again in an average of 6 months to 1 year after ceasing to use the injection.

Surgical contraception (Sterilization): Tubectomy (tubal ligation) for women and vasectomy for men is the method of choice for families who want no more children [9]. These procedures are done by qualified health care professional. The procedures are permanent and can be under general or local anaesthesia.

Hormonal implants: Norplant, a new progestin implant consists of microcapsules containing the hormone which are inserted beneath the skin of the woman's upper arm and these are absorbed over five years [9]. Norplant is one of the most effective contraceptive available. Only about 1 in 1,000 women who use the method will become pregnant in the first year [9]. It is effective within 24 hours of insertion. The norplant implants may cause irregular bleeding and ovarian cysts.

Natural methods: Natural family planning or fertility awareness refers to methods for planning and preventing pregnancy by observing naturally occurring signs and symptoms of the fertile and infertile days of the menstrual cycle. When these methods are used to prevent pregnancy, the couple avoids intercourse on the days during the menstrual cycle when the woman is most likely to become pregnant (often known as fertile days). Fertility awareness is based on two foundations:

- A scientific knowledge of the anatomy and physiology of the male and female reproductive system
- An understanding of the signs and symptoms that occur naturally during the woman's menstrual cycle to indicate when she is fertile and when she is infertile.

The natural methods comprise the following: Calendar rhythm, basal body temperature method, cervical mucus and sympto-thermal methods.

Calendar rhythm method: The calendar rhythm method is based on the fact that most women ovulate 12 to 16 days before each menstrual bleeding no matter how long their menstrual cycle. The fertile phase is identified by using a mathematical calculation to determine the fertile and infertile phases.

Basal body temperature: The Basal body temperature method is based on the pattern of the body's temperature at rest. A woman's temperature rises slightly after ovulation and remains elevated during the rest of her cycle until she menstruates. Monitoring the rise in temperature makes it possible to determine when she has ovulated and to calculate when her fertile days have passed. A woman who uses this method takes her temperature every day before she rises in the morning and carefully records it on a chart. She abstains from intercourse from the beginning of her menstrual bleeding until she has had 3 days of elevated temperatures.

Cervical mucus method: Cervical mucus method is based on detecting the changes in cervical mucus secretions and in the sensations in the vagina. Before ovulation, the cervical mucus becomes slippery and stretchy. The mucus changes are greatest around the time of ovulation. After ovulation, cervical mucus becomes thick or may disappear completely. A couple using this method to avoid pregnancy will abstain from intercourse when the mucus indicates the woman is fertile. These couples should avoid intercourse on alternating days before the appearance of cervical mucus so that the presence of semen in the vagina does not change the natural appearance of the mucus.

Symptothermal method: The symptothermal method combines recording the basal body temperature with observing the cervical mucus and other physical signs of ovulation. These signs include

tenderness of the breasts, mid-cycle pain, spotting or bleeding and abdominal heaviness. A woman also may examine her cervix for changes in its position, degree of opening and texture. When a couple is using the symptothermal method to avoid pregnancy, they abstain from intercourse until after ovulation has been confirmed by 3 days of elevated temperature or 4 days of post-ovulation mucus. Abstaining from intercourse on the days of the menstrual cycle when the woman's signs and symptoms indicate she may become pregnant is often called "periodic abstinence".

Effective use of fertility awareness methods requires that couples understand how to identify fertile days and then appropriately adapt their sexual behaviour [9]. Unintended pregnancies are mainly related to the user rather than the method.

Reasons for Extending Intervals

In Zambia maternal mortality rate is estimated at 549 per 100,000 live births [16]. This figure is extremely high compared to other countries in the sub region. In the absence of fertility regulation, chances of dying from maternal causes are high due to complications resulting from short birth interval, early pregnancies, late pregnancies or high parity [7]. Therefore, family planning is vital in Zambia to reduce maternal mortality. Communities should be encouraged to adopt modern methods of family planning. When a couple practices family planning there are several benefits to the individual, community and country.

A maternal mortality study carried out in Zambia showed that women aged between 12 and 50 years died of pregnancy-related and child bearing complications which could have been prevented if women were using modern methods of contraception, unfortunately, the usage is still quite low, about 34%, married couples [16].

In addition, adolescent pregnancy is also on the increase and about two-thirds of Zambia women become mothers before the age of 20 years [8,16]. It is well documented that adolescent pregnancy is associated with substantial risks of physical, psychological and social complications to the health of both mother and child [17]. The adolescent face greater risks of preterm labour, obstructed labour due to cephalo-pelvic disproportion and vesico-vaginal fistulae and low birth weight [18]. Furthermore, clandestine abortions are common due to high incidence of unwanted pregnancies. Illegal abortions contribute significantly to maternal mortality because of the associated bleeding and infection. The other factor that needs to be considered is pressure to have a child. This could be from peer group or close members of the family such as in-law and the community at large. In many societies today a childless marriage is not regarded as a marriage.

Family planning contributes directly to the survival, health and development of children in three ways [9].

- Encouraging women to space at least 2 years apart
- Planning births during the mother's optimal age (not too old or too young)
- Preventing further pregnancies in a mother who has had numerous pregnancies already.

Infants born at least 24 months after the previous birth in their family have lower mortality rates than children born at shorter intervals. For instance in Zambia, one in five births occurs less than 24 months after the previous birth, while 40 percent of women aged 15-19 years have birth intervals of less than 24 months. About 40 percent of women whose babies die become pregnant again in less than 24 months [8].

Birth spacing improves infant birth weight and child nutrition, as the infant will get all necessary care from its mother before the birth of the other baby [4]. From the discussion above, it is quite clear that extension of birth interval is associated with child survival. In Zambia, infant mortality rate is very high, perhaps if child spacing is encouraged many infants' lives would be saved (Infant mortality rate is 95 per 1000 live births [16]).

Disadvantages of Short Birth Intervals

Inadequate birth spacing influences the nutritional status of the mother and the children [19]. Usually the younger child is weaned early because of the new pregnancy and the child may not survive because of poor nutrition. The unborn baby may also suffer from intra uterine malnutrition due to maternal depletion syndrome, as the woman has not had time to recover completely from the previous pregnancy.

A pregnancy occurring too soon after a previous pregnancy may result in spontaneous abortion, a still birth or a low birth weight baby who is less likely to survive. On average babies born less than 2 years after the previous birth in the family are about twice as likely to die the first year as babies born after at least a 2 year interval [3].

Even older children who are spaced too closely face an increased risk of death during the toddler and childhood years. Closely spaced siblings compete for food and other resources. More children means more mouths to feed and the more mouths to feed, the less food for each and in most cases it is people from the low socio-economic class who have large families [20]. The father who is the breadwinner may not be able to earn enough money to feed the family properly. The woman becomes tired and may suffer from nutritional anaemia and the older siblings may be looked after by a relative or grandmother who may not look after them well because she may not have resources to do so and the siblings may end up in the streets.

Moreover, diseases spread more easily in households with many young children. Poor sanitation, lack of water and crowded living conditions can aggravate the situation and contribute to poor family health [18].

Women who are young or very old are more likely to have an infant or child who dies for instance, children of teenagers are 1.3 times as likely to die during the neonatal period, 1.4 times more during the postnatal period, 1.6 times during ages 1 to 2 and 1.3 during childhood to age 5 [9]. Children of older mothers are more likely to be born with congenital abnormalities including Down's syndrome, heart defects and cleft palate and lip [13]. Older maternal age is also associated with pregnancy-related complications.

Advantages of Long Birth Intervals

The advantages of long birth interval are numerous and extend beyond slowing the pace of population growth. The first and most important advantage is that child survival is improved and the children receive optimum care from their mother before another is born and they grow well. It has been observed that children who are well spaced become heavier. Furthermore, a relationship between intelligence on birth spacing has been established for instance, children born after a long birth interval become more intelligent than those born between short birth intervals [20]. However the relationship between intelligence and birth spacing is not causal, for instance more intelligent parents may have more intelligent children and more intelligent parents may also do a better job of birth spacing.

The other advantage is that by using contraception to extend birth

interval, women can avoid the high risk of poorly timed pregnancies that jeopardise their health. Women are able to recover fully from stress of the previous pregnancy and they can contribute significantly to the income of the family by providing adequate nutrition, clothing and paying for the children's education. In general the standard of living of the family would improve greatly.

Strategies for Cultivating a Climate of Acceptability for Birth Interval Extension

In order to cultivate a climate of acceptability for modern methods of child spacing a lot needs to be done by all the concerned stakeholders. First and foremost, a positive attitude towards family planning should be cultivated in the minds of the people and this could be by continuous political involvement. Policy makers should strongly encourage and support family planning programme. There should be adequate funds allocated to such a programme. On the other hand, family planning should be integrated with other programmes.

Dissemination of family planning information is equally important. This could be done through the radio, television and by providing literature on family planning in the form of pamphlets, leaflets and posters to the literate population. Politicians could also talk about family planning when addressing public rallies or campaign meetings.

A multisectoral approach to passing messages to the rural population could be adopted, for example, agriculture extension workers and community development officers and all other disciplines could help to spread family planning information when they are working with the people.

Another factor that should be looked into is the provision of free and compulsory education, which should include family life education. Studies from various parts of the world have shown that high female literacy correlates with lower fertility rates while the correlation between low literacy rates and high fertility rates were strong [21]. It has been proved that educated women generally marry late and more likely to practice family planning thereby have fewer children than uneducated women. Raising the status of women especially the rural women could also lower the fertility rate. The government and non-governmental organizations could encourage and support income generating activities for women e.g. making handcrafts from local materials to sell at the market, sewing garments for children, knitting sweaters for sell, keeping children, gardening etc. During these activities family planning issues could be discussed so that women who did not have any knowledge on family planning could be enlightened. This could assist in increasing the acceptance and usage of contraceptive methods. A study conducted in rural Bangladesh confirms this issue. A credit facility programme was created and women were also given family planning information. It was found out that the contraceptive use increased with duration of membership in the credit programme [22].

Community participation is another factor that deserves to be mentioned. Individuals in the community or leaders for instance, village headmen could be encouraged to actively promote and support family planning activities. When the community is encouraged to contribute to the programme either collectively or individually, they accept it with many problems [23]. It's also the government and local non-governmental organization involved in family planning's responsibility to ensure that family planning services are accessible, affordable and available to the people. In places where there are no health institutions community based distribution should be strengthened. Another alternative is providing mobile family planning services.

There is also need to include, within the framework of the national population policy, specific information and awareness program targeted at men. Zambia is a male dominated society and most ethnic groups are patriarchal. Predominantly, men make decisions affecting the family. Therefore, if men were motivated to use family planning methods, their wives would be influenced to practices or use family planning methods. This fact is supported by a research study conducted in Northern Nigeria on reproductive motivating and family size preferences among Nigerian men. The study revealed that men's reproductive motivation affected reproductive behaviour of their wives [14]. Men could be motivated to use family planning methods by giving talks at their working places, in clubs, sports clubs, bars, etc. A large number of sexually active young people do not have adequate information on family planning and reproductive health. There is need to educate adolescents both in schools and those out of school on family planning and reproductive health in general. There is also need for medical personnel to accept adolescent clients and to train more medical staff on how to serve adolescent clients. Clinic hours and location should be convenient for adolescent clients. Family planning discussions should be included in all medical encounters.

The family planning programme should continue to encourage breastfeeding as a method of child spacing as it is cheap and good for the baby. Breast feeding could be introduced as an option in multiple method setting.

Since some women are coerced by their partners into unwanted pregnancies, there is need to establish legal and social sanctions against sexual coercion. Churches should also work hand in hand with the responsible organizations to promote the family planning. They should teach people the advantages of birth interval extension. The final strategy is to step up training health personnel in family planning methods and counselling. Revising the medical curricular of medical personnel to integrate new trends in family planning could also be of great help. If these strategies mentioned above were implemented, birth intervals would be extended and the health of the mother and child could improve tremendously.

Challenges in Limiting Fertility

Efforts to limit fertility in Zambia and other low income countries are hindered by factors such as population growth, inadequate funding and factors related to issues of demand and supply [24]. Regarding demand couples may not know about contraception. In many low- income countries including Zambia cultural values support high fertility and a woman's low status may limit her ability to use contraceptive methods.

With regards to supply related factors, many couples' still lack access to choices of contraceptive methods. Barriers to access include logistics, social and behavioural factors, some medical and procedural obstacles also impede access; and outdated policies and eligibility criteria also discourage women from using methods of their choice. Lack of human resource is also major problem limiting access to contraceptive choices in Zambia. Currently the health sector is experiencing a critical shortage of manpower in most of the health institutions due to various reasons.

In addition, couples still have misconceptions about the health effects of contraceptive use or not know enough about methods as a result of providing contraceptives without sufficient information, education and counselling. The projected rise in contraceptive demand and users intensifies the challenges ahead in providing services to the world's poorest couples [24].

Generally, it is expected that the number of contraceptive users in low- income countries may rise by more than 200 million women, an increase driven by rising demand and population growth from the year 2000 to 2015 [24]. While need and demand are rising, Zambia and many low- income countries are facing shortfalls in contraceptive resources. Among the contributing factors to these shortages are a rising number of users, growing demand, spread of HIV/AIDS and declining levels of donor funding. The country lacks the foreign exchange and manufacturing capacity to meet its own needs without some assistance from donors.

Moreover, the share of total contraceptive costs covered by donors has declined in recent years. According to PRB [24] from 1992 to 1996, donors supported about 41 percent of contraceptive cost but in 2002, the share supported by donors was about 30 percent, leaving a gap of \$71 million dollars. Zambia is unable to mobilise resources to finance their own reproductive health programs which remain dependent on international donor support [2].

Conclusion

Extension of birth interval through use modern contraceptive methods should be encouraged in order to save lives and improve the health of women and children. Maternal and child survival is higher when births are spaced to allow the woman enough rest between pregnancies. When births are spaced, the woman usually experiences fewer complications and chances of having a healthy baby are improved. In addition, the lives of millions of infants and children can be saved by spacing births at least two years apart, by helping women bear children during their healthiest reproductive years and by enabling women to have their desired number of children. But in order to meet such requirements, there is need for family planning programmes to improve access, take the services as close to the family as possible, educate and motivate people to utilise the services. An aggressive campaign is required by all the people concerned to explain the advantages of long birth interval to the people.

References

1. Thompson EDJ (1995) Breaking out of the Circle of poverty in Africa: A way forward. *Journal of African Association for Literacy and Adult Education* 9: 2.
2. United Nation (2004) The flow of financial resources for assisting on implementation of the programme of action of International conference on population and Development. New York.
3. Williams DC, Baumslag M, Jelliffe BD (1994) Mother and child health, Delivering the services. (3rdedn), Oxford University Press, Oxford, Uniked Kindom.
4. Morley D, Woodland M (1992) See how they grow; Monitoring child Growth for appropriate health care in developing counties. ELBS with Macmillan.
5. Lucas OA, Gilles MH (2003) Short textbook of Public health Medicine for the Tropics. (4thedn), Arnold, London.
6. Ross J, Winfrey W (2002) Unmet need for contraception in the developing world and former Soviet Union: An updated estimate. *International Family planning perspectives* 28.
7. Ministry of Health (1980) Reports for the years 1973-1977, Government Printers, Lusaka.
8. Central Statistical Office (CSO), Ministry of Health and Central Board of Health (Zambia), Macro International Inc. (2002) Zambia Demographic Health Survey 2001-2002. Macro international Inc. Calverton, Maryland, USA.
9. Centers for Disease Control and Prevention (1999) Family planning Methods and Practice: Africa, National centre for chronic disease prevention and health promotion, Division of Reproductive Health. (2ndedn), Atlanta.
10. Nsemukila B, Senkwe J, Banda S (1998) A study of factors associated with maternal mortality in Zambia, Lusaka.
11. Townsent S (1992) Breast-feeding the contraceptive method. *Network* 13: 4.
12. Campbell OM, Gray RH (1993) Characteristics and determinants of postpartum ovarian function in women in the United States. *Am J Obstet Gynecol* 169: 55-60.
13. Novak CJ, Broom LB (1994): Ingalls and Salerno's Maternal and child Health Nursing. (8thedn), Mosby, St Louis.
14. Isiugo-Abanihe UC (1994) Reproductive motivation and family-size preferences among Nigerian men. *Stud Fam Plann* 25: 149-161.
15. Loudon N, Glasier A, Gebbie A (1995) Handbook of Family planning and Reproductive Health Care. (3rdedn), Churchill Livingstone, Edinburgh.
16. Central Statistical Office (Zambia), Ministry of Health, University of Zambia, Macro International Inc. Zambia Demographic and Health Survey (2007) Calverton, Maryland: Central statistical Office and Macro International.
17. Population Reference Bureau (2001) Youth in Sub-Saharan Africa: A chartbook on sexual experience and reproductive health.
18. Shane B (1997) Family planning saves lives, prevents abortion. *Popul Today* 25: 1-2.
19. Huffman SL (1984) Mother and children. Bulletin on infant feeding and maternal nutrition 4: 1-2.
20. Morley D, Lovell H (1986) My name is today. Macmillan Press Ltd, London.
21. UNICEF (1990) Strategies to promote girl's education, New York, USA.
22. Schuler SR, Hashemi SM (1994) Credit programs, women's empowerment, and contraceptive use in rural Bangladesh. *Stud Fam Plann* 25: 65-76.
23. Askew I, Khan AR (1990) Community participation in national family planning programs: some organizational issues. *Stud Fam Plann* 21: 127-142.
24. Population Reference Bureau (2004) Policy brief, the unfinished agenda: Meeting the need for family planning in less developed countries, PBR publications.
25. Allan I (1996) Family planning and pregnancy counselling projects for young people, Policy studies Institute, Park Village, London.
26. United Nations (2000) Department of Economics and social affairs, population division, Levels and trends of contraceptive use as assessed in 1998, New York.
27. www.unfpa.org/icpd/