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Towards safe womanhood: Supporting safe motherhood initiatives and women's participation in development

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**TOWARDS SAFER WOMANHOOD:
SUPPORTING SAFE MOTHERHOOD INITIATIVES
AND
WOMEN'S PARTICIPATION IN DEVELOPMENT**

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Executive Summary:

TOWARDS SAFER WOMANHOOD: SUPPORTING SAFE MOTHERHOOD INITIATIVE AND WOMEN'S PARTICIPATION IN DEVELOPMENT

by Meiwita B. Iskandar¹

Women's health is an important investment in our future. Much of the mortality and morbidity associated with pregnancy can be prevented, saving lives and avoiding unnecessary suffering and disability, and improving the quality of life for women, their children, their families and their communities. An investment in safe motherhood is an investment in our society. At each stage of life, a woman's needs differ, and there is a cumulative effect across the life span. This calls for interventions at the family and community levels that affect not only the ways that pregnant and parturient women are treated, but also the ways that men work, live and care for their families. In addition, interventions are needed to provide equal opportunities for women in society, for example in the judicial, legislative, and employment sectors, which will directly promote and protect women's health and well-being.

A woman who has gone through a healthy, happy, planned pregnancy is more likely to bond well with her newborn. She can be a better parent if she herself is in good health. Women with healthy pregnancies are much less likely to deliver an infant who requires neonatal intensive care services. Neonatal mortality (infant death in the first month of life) is also closely linked to the quality of care during childbirth and in the post partum period.

Investing in and supporting safe motherhood brings social benefits, because a mother's death tears apart the family structure. The living children become motherless, and her newborn is at a much higher risk of dying both in the immediate newborn period and in early childhood.

Some groups of women are at greater risk of maternal death. In Indonesia, these include young mothers under the age of 20; older mothers over 35 years of age; women who have already had three or more children; women who had complications with previous pregnancies; and women who received no prenatal care, especially those who suffer from anemia (50,9% of pregnant women). Women have a higher risk of suffering from health-impairing malnutrition than men, especially iron deficiency that leads to anaemia, and predisposes women to haemorrhage during pregnancy and childbirth.

Once a woman becomes pregnant, she has increased nutritional need for calories, protein and calcium, and she needs to gain approximately 11-13 kilograms (for women

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of normal weight). Women need to make sure they get enough iron since it is often hard to get the daily requirement of 15 milligrams from food alone. A majority of Indonesian women do not eat a sufficient number of servings from the meat/poultry/fish/eggs group which provides iron, and they do not eat fruits and vegetables high in vitamin C which will improve iron absorption from the diet. In order to help prevent birth defects of the brain and spinal cord, women of reproductive age need to get 400 micrograms of folic acid every day. This fact is not well-known among women in Indonesia.

Prenatal care is important for all women, even if they have been pregnant before and exhibit no danger signs. Women who receive prenatal care have fewer problems with pregnancy, labor, delivery and the postpartum period. Prenatal care allows early detection and treatment of medical problems in pregnancy, and can prevent the problems from becoming more serious for both the women and her baby.

Most pregnancies are not associated with serious complications. However, even if a woman has a healthy life style, receives prenatal care, and does everything possible to have a healthy pregnancy, complications can still develop. The Safe Motherhood Initiative is important to identify and reduce the chances that a complication will become serious. All pregnant women should be aware of the warning signs of pregnancy problems, such as miscarriage, tubal pregnancy, high blood pressure, premature labor, pre-term premature rupture of membranes (leakage of amniotic fluid before the ninth month), and bleeding. They should also be informed about potential problems after delivery such as: retained placental tissue, infection of the uterus, post partum depression, and breast infection. After delivery, well-baby care, including immunizations and appropriate screening for development, vision and hearing problems, can help prevent developmental disabilities in infants.

Men's support of safe motherhood is essential. Thus, broader men's involvement in the Safe Motherhood Initiative in Indonesia should be promoted, especially their changing role from the traditionally passive participant to one that actively supports safe motherhood through the social, educational, and economic empowerment of women at the family and community levels.

Partnerships among families, community-based organizations, public agencies, health care providers, health systems administrators, and government officials are critical to ensure quality maternal health services. Each of these partners must play a role in the cooperative efforts needed to safeguard the health of women. Public health action to help reduce illness associated with pregnancy depends on interaction, cooperation and coordination among public and private groups. The common goal is to identify local risks, gather resources and promote preventive practices at the family, community and national levels.

Women are also disadvantaged in terms of education. Although over the past decade there has been rapid reduction of the gender gap in primary school attendance rates, gender disparity is still significant in lower and upper secondary school enrollment. The household's socio-economic environment continues to favor sons' access to higher level education and the enrollment rate of girls at the upper secondary level remains low. This means that women they must work at unskilled jobs and receive lower wages than

men (even if they do the same work). Women are also more vulnerable to poverty and other adverse economic impacts than men, especially in the context of the current economic, social and political crisis.

In regions with a strong preference for sons, patterns of food distribution within families usually give priority to males in household. Consequently, young girls are more likely to be malnourished, which stunts their physical development over time, and thus threatens their ability to give birth to healthy babies.

Cultural values also emphasize the need for girls to be married at an early age to minimize the danger of premarital conception. There is a persistent and pervasive community norm that a girl who is not married by the age of 15 is referred to as “not saleable” and soon becomes an “old maid”. Even though Marriage Law No 1/1974 prescribes 19 years for boys and 16 years for girls as the legal age of first marriage, ‘child marriages’ still take place in rural areas, often around the time of the girl’s first menstruation. Nowadays, many of these women regret the fact that their parents’ poverty forced them to marry at a very young age, often preventing them from continuing school.

Once married, a woman starts to fulfill the socially prescribed roles of housekeeper, child rearer, and nurturant supporter of her husband. The husband is regarded as the head of the family, whose duty it is to provide adequate food, housing, and clothing for his wife and children. If the wife works, her income is merely seen as supplementary, and regardless of her work status, her main duty is still to provide domestic services. Married women only have authority to administer family finances and childrearing, but this limited sphere of influence does not foster a sense of independence, autonomy, or control. These and other disparities between the rights and obligations of men and women within families and in their roles in the community also lead to greater leeway for men in issues of marriage, divorce, and inheritance. In many ethnic groups, men may inherit a greater share of family wealth or land than women, they may have more than one wife, and may exercise the right to unilaterally divorce their wives.

In addition to undermining social and economic security for women, dominant values also allow the occurrence of violence against women. Such cases are rarely pursued in court because laws place the burden of evidence and blame on the women. The existence of domestic abuses or violence is formally denied and awareness of sexual harassment is only a recent phenomenon. Violence, early age of first sexual intercourse or first marriage, unequal access to higher level education and job opportunities, nutritional deficiencies and other areas of inequality, tend to be conducive to lower health status among women. Specifically, gender inequity is implicated in high rates of maternal mortality, one of the most serious reproductive health problems in Indonesia.

Government, community leaders and women’s advocates need to address social, economic and cultural factors that limit women’s choices and decision-making abilities. Legal reform and community mobilization is essential for empowering women. Despite many biological, social and cultural factors influencing women’s health, addressing safe motherhood must go hand-in-hand with addressing gender inequality, and the creation of better women’s conditions and women’s positions during adolescence.

TOWARDS SAFER WOMANHOOD: SUPPORTING SAFE MOTHERHOOD INITIATIVE and WOMEN'S PARTICIPATION IN DEVELOPMENT

Meiwita B. Iskandar¹

INTRODUCTION

Improvement in a woman's quality of life is a pre-requisite for development of human resources, because the quality of children's physical and mental development is inextricably tied to the health and welfare of women as future mothers. Better status of women refers to women's survival and development as individuals, which will influence the survival of fetuses and of their newborn babies. The connection between mothers and children is so close that they can almost be considered a unit, known as a dyad. If a mother is well protected during pregnancy, birth and post-partum period, the risk of illness and other problems in fetuses and newborn babies will be reduced. On the other hand, if a woman does not survive the pregnancy, birth and post partum period, her fetus or newborn will also be seriously threatened. Fetuses and newborn babies may also die, or may survive but with below standard levels of physical health and mental development.

This paper provides a situation analysis of pregnant women, women in labor and post partum mothers, presenting also the level of morbidity and mortality of fetuses in the perinatal period (pregnancy from 28 weeks until the newborn is 7 days old), and, in more depth, the level of morbidity or mortality of infants in the neonatal period (age 0-28 days). Also presented here are the risks and needs of reproductive age couples or women of reproductive age 15-49 years (from adolescence to menopause) which require intervention at the individual, family, community, environmental and national levels.

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I. PREGNANT AND PARTURIENT WOMEN (15-49 YEARS), AND FETUSES AND NEONATES (0-28 DAYS) as the Target Population

1.1 Survival and Development Risks (at the individual/dyad level)

Maternal mortality

Indicators generally used to estimate the level of survival and development in this target population are the Maternal Mortality Ratio, or the Maternal Mortality Ratio per 100,000 live births. Maternal mortality is the number of women who die during pregnancy or in the post-partum period. The quality of data from vital statistics registration and from the census so far is inadequate to calculate MMR directly. Therefore various methods of estimating MMR must be used, including the sisterhood method (based on responses of sisters of women who have died of maternal causes). The results from various studies show that the MMR in Indonesia is between 300 and 400 maternal deaths per 100,000 live births. The estimated rate from the 1994 Indonesia Demographic Health Surveys (IDHS), based on direct responses provided by sisters, indicates a rate of 390 for the period 1989-94 and 360 for the period 1984-1988 (BPS, BKKBN, DepKes, Macro Intl., 1995:220). In the 1980s, it was estimated that the MMR in Indonesia was the highest among all neighboring countries, such as Malaysia (59 per 100,000 live births), Singapore (10), Thailand (50) and the Philippines (100) (DepKes-PusDaKes, 1997b:188). This is a serious setback for national development, because MMR is not only an indicator of health development but also of the success of national development in general. The size of the MMR points to the low level of population welfare of a country, which reflects the failure of the government and the community to reduce the risks of death to mothers and children.

By the closing of Pelita VI (March 1999) it was hoped that the MMR would already have been reduced from 425 at the end of Pelita V to 225 (Sekretaris Kabinet RI, 1994:277). The achievement of this goal is very difficult to confirm. However, from a rough estimate using a model of the proportion of maternal deaths among females of reproductive age (PMDF), using data from the National Social and Economic Survey (*SUSENAS*) 1995, it seems that the trend is towards a significant decline in MMR (prior to the economic crisis that hit the country at the

end of 1997). That is, compared to the estimated MMR of 350 in 1994 it has fallen to 327 in 1995 and 308 in 1996. Furthermore, it was projected that in 1997, the MMR would be about 259 and would have fallen to 214 maternal deaths per 100,000 live births by 1998 (Soemantri, 1997:10). However, we must interpret the estimation of MMR with care because the accuracy and significance of the results are influenced by many factors, and the variation by province and district is extremely wide.

Deaths to pregnant women or women in childbirth are generally caused by five types of complications which have long been known and understood: haemorrhage, eclampsia, infection, obstructed labor and unsafe abortion (Maine, et al., 1995:6). Intervention to prevent maternal death must therefore be focused on three areas: (1) reduction of high risk pregnancy; (2) reduction of the risk of obstetric complications; and (3) reduction of the fatality risk if complications of pregnancy or delivery arise (ibid).

Perinatal and neonatal morbidity

Estimates of perinatal and neonatal morbidity are difficult to calculate at the national level. Mortality data are still inconsistently recorded and the system of vital statistics registration is not yet running smoothly. Often mothers and families do not report deaths of fetuses (miscarriages) of 28 weeks gestation or more, or deaths of neonates under 7 days old (perinatal death), because these babies often have not yet been given a name. Even reported data on infant deaths of age 0-28 days (neonatal deaths) are hard to find. The perinatal mortality rate has not changed much from the estimate of about 45 per 1000 live births in 1984. According to the results of the analysis from the 1995 Household Health Survey, this rate is about 47 per 1000 live births, consisting of 36 stillbirths per 1000 live births and 11 early neonatal deaths per 1000 live births (DepKes-Balitbangkes, 1997:52, Table 4.36). About 38% of all infant deaths are neonatal deaths (aged 0-28 days) (ibid:104). According to the 1994 IDHS, the neonatal mortality rate is 32.5 per 1000 live births, varying from 22.9 in urban areas to 36.0 in rural areas (BPS, BKKBN, DepKes, Macro Intl., 1995:147). According to the results of the 1995 Household Health Survey analysis, the main causes of perinatal death are: breathing and cardiovascular disorders (45.5%), fetal growth disorders (32.8%), specific perinatal infections and hematological disorders (6.9%) and temperature and other disorders (5.9%). Congenital disorders cause about 2% of perinatal deaths, while neonatal tetanus still accounts for about 3.4% (DepKes-Balitbangkes, 1997:107).

Estimates of the infant morbidity rate (aged 0-6 days or 0-28 days) are also unavailable, because most cases of infant morbidity are not diagnosed by health workers according to standard illness classifications. Both at hospitals and at health centers (*puskesmas*), health workers should make a diagnosis and provide appropriate treatment. There are standard methods of recording a diagnosis and coding an illness, for example as provided in the *International Classification of Diseases X* or *ICD-X*. From survey results or analysis of medical records at health facilities (*puskesmas* and hospitals), we can only see the reports of disease symptoms, not the diagnosis. The results of the Household Health Survey (1995), for example, showed that babies in the early neonatal period or perinatal period (first week of life) often experience: vomiting (8.0%), swollen stomach (5%), yellow eyes and skin (2.8%), inflamed mouth membranes (2.3%) and diarrhea (1.9%) (DepKes-Balitbangkes, 1997:51). It is most unfortunate that a picture of the distribution of illnesses in the perinatal and neonatal periods at the national level is not available.

Complications during pregnancy and delivery

The causes of maternal death in general can be grouped into three categories (Fortney, 1995:4-5): (1) illnesses that directly cause pregnancy and childbirth complications; (2) illnesses that worsen a woman's condition during pregnancy and childbirth; and (3) unknown factors. About 70% of maternal deaths are caused by a triad of complications (hemorrhage, infection and eclampsia), and about 30% by problems that worsen the pregnant woman's condition. Hemorrhage causes 38-46% of maternal deaths, followed by infection 10-27% (MacDonald, 1996:6-7). Data from the 1995 Household Health Survey shows that the causes of maternal death are hemorrhage (46.7%), eclampsia (14.5%) and infection (8%). Post partum hemorrhage (34%) is the largest cause of death among all types of hemorrhage (Djaja, et al., 1997).

The main causes of maternal mortality can differ from one community and another. In a community where there are many pregnancies occurring to women at a young age, usually obstructed labor is the main complication. In areas where family planning is not readily available or highly utilized, unsafe abortion and hemorrhage and/or infection are usually the main causes of maternal death (Iskandar, et al., 1996:15).

Complications which occur during pregnancy and childbirth can also increase the risk of perinatal death. Based on analysis of the 1995 HHS data, about 18.8% of

perinatal deaths are caused by complications during pregnancy (early rupture of the membrane, twin, ectopic pregnancy, incompetent cervix), 9.1% by placental or umbilical cord complications, and 13% by others (MOH, Balitbangkes, 1997:108).

Predisposing health conditions

Usually diseases which adversely affect the health of pregnant and delivering mothers are manifestations of problems which she has suffered since before the pregnancy, but which reoccur with increase severity triggered by the pregnancy (Campbell and Ronsman, 1994:6). In developing countries such as Indonesia, infectious diseases and parasites such as TB, hepatitis and malaria, usually reoccur with greater force if a woman is pregnant (Fortney, 1995:5). The results of analysis of the Household Health Survey (1995) data show that about 5% of pregnant women complained of suffering symptoms of malaria when they were pregnant or in the post-partum period, although confirmed malaria with laboratory testing was only found in 1% (i.e., positive for the malaria parasite), while less than 1% (0.6%) tested positive for TB. Based on the results of blood and serology tests, 1.3% of pregnant women are infected with syphilis and 11.5% with hepatitis B (HbsAg), and 20.3% of the cases of HbsAg positive are also positive for hepatitis B antigen (HbeAg) (DepKes-Balitbangkes, 1997:47).

Maternal malnutrition

Maternal morbidity and mortality can be caused by malnutrition or under-nutrition during pregnancy or before pregnancy, for example, chronic energy malnutrition, anemia, iodine deficiency and vitamin A deficiency in adolescence. During pregnancy, women need higher quality iron for fetal development. Pregnant women must improve their intake of calories, protein and calcium and increase their body weight by 11-13 kg by the end of the pregnancy (AAWH, 1998). Based on UNICEF data for 1997, many pregnant women (41%) have chronic energy malnutrition (Jalal, 1998: Table Appendix 8), which increases the likelihood of maternal morbidity, especially in the third trimester (months 7-9), and increases the risk of having a low birth weight baby. Post-natally, a woman's condition often quickly worsens and she can easily face health problems. Production of breast milk will be affected, and the mother will be unable to care for the child or herself (DepKes-BinKesMas, 1996:2). The baby is likely to face severe malnutrition, which will worsen if s/he is not provided with nutrients to promote immunity which are contained in the mother's milk.

Pregnant women at high risk for chronic energy malnutrition should always be referred to a *puskesmas* or other health facility for further examination. Their Body Mass Index (BMI)

should be measured, using the following formula:

$$\text{BMI} = \frac{\text{Pre-Pregnancy Body Weight (kg)}}{\text{Height (m) squared}}$$

If her BMI is below 17, a pregnant women is considered malnourished and must receive food supplementation of 400 kcals and 12 grams of protein each day, for at least 90 days, in order to prevent having a baby with low birth weight (ibid, p.3,15).

Low birth weight (LBW)

The occurrence of LBW is often due to pregnant women with chronic poor nutritional status, perhaps not only during the pregnancy but also well before. According to data from the 1995 HHS, about 7.9% of babies are LBW, weighing less than 2500 grams (DepKes-Balitbangkes, 1997:48). This rate is not so different from the data in the 1994 IDHS which reported a rate of about 7.1% (BPS, BKKBN, DepKes, Macro Intl., 1995:170). Areas with high rates of LBW usually also have a high infant mortality rate, with a risk 5-9 times greater compared with the likelihood of infant death among babies weighing 2500-2999 grams. The risk of infant mortality among LBW infants is 7-13 times higher compared with deaths to infants with a birth weight of 3000-3499 grams (DepKes-BinKesMas, 1996:1). The target of Pelita VI is to reduce the rate of LBW from 15% in 1995 to 10% in 1999 (GOI & UNICEF, 1995:24).

Nutritional anemia (Iron deficiency)

In women, iron intake is a necessity throughout life to prevent anemia, especially in women of reproductive age when women menstruate each month and also lose blood during child birth. Besides this, during pregnancy, women need more iron to supply the growth of the fetus and placenta, and to increase the number of red blood cells. The high anemia rate is reflected in the rate of low birth weight babies. According to the HHS (1995), 50.9% of pregnant women and 45.1% of post-partum women suffer anemia (Kodyat, 1998:4). The target of Pelita VI is to reduce the rate of anemia in pregnant women from 64% (1995) to 40% (1999) (GOI & UNICEF, 1995:24).

Anemia in pregnant women affects both the mother and the child, increasing the rate of

miscarriage, prematurity and LBW, haemorrhage before and after birth, and finally maternal and infant mortality. Iron deficiency in children under five can result in growth disorders of body cells and brain cells, so that the child may face growth disorders such as stunting, and mental limitations. The symptoms of anemia are lethargy and frequent fatigue, so that it can affect children's achievement at school. Beside this, sufferers of anemia face impaired immunity against diseases and are more vulnerable to infectious diseases.

Via the *puskesmas* or *posyandu* services, the government has implemented a program to manage and prevent iron deficiency anemia in pregnant women, with pregnant women with iron supplementation tablets, at a dose of one tablet per day for 90 days. However, apparently the government can only afford to supply these supplements to 60% of pregnant women. Nationally, the coverage of Fe1 (receiving 30 tablets) in 1996 was about 69.7%, while the coverage for Fe3 (receiving 90 tablets) was only 61.8% (DepKes-PusDaKes, 1997b:105).

Iodine deficiency

Iodine deficiency disorders (IDD) are among the foremost public health problems in Indonesia. IDD are important because they are related to the quality of human resources and individual mental development. Inadequate iodine consumption can cause the overgrowth of the thyroid gland, a condition known as goitre. Goitre often emerges during adolescence or during pregnancy, and also has visible effects of the baby (Berkow and Talbott, 1997:1264). Iodine deficiency in pregnant women can cause miscarriage, stillbirth, or birth defects due to brain damage in the fetus, and babies born with cretinism, with a lower than normal level of intelligence. IDD in pregnant women is fairly common: one in four pregnant women in Indonesia suffer from iodine deficiency, or about 23-28% (1.3 million) (Jalal, 1998:34, Table Appendix 8). The target of Pelita VI is for 85% of pregnant women in endemic goitre areas to receive iodine capsules.

The consequence of iodine deficiency due to insufficient iodine content in daily food consumption in Indonesia is currently estimated to be the loss of 140 million IQ points nationwide. This calculation is based on IQ classifications as follows: each baby born with cretinism indicates minus 50 points, each goitre is calculated as a loss of 5 points, each baby in IDD-endemic areas represents 10 points fewer, and for other forms of IDD, a further loss of 10

points for each case. It is likely that the majority of the population in areas with low iodine soil content do not reach the average normal IQ level of 110 points. Mothers with IDD are at risk for having babies with goitre or cretinism. Meanwhile, pre salt to the population, or capsules and injections of iodine to women of reproductive age (Kodyat, 1998:2-3).

Currently, the government is implementing a program to increase the consumption of iodized salt in the community and to distribute iodine capsules to all reproductive age women, pregnant women and post-partum women living in areas with endemic IDD of medium and severe degree. The dose given is 1 capsule each per year for pregnant and post-partum women (1 capsule contains 100 mg of iodized oil). Prevention of IDD was supported in policy by the Indonesian government via the Presidential Decree No.69/1994 which stated that “iodized salt which can be marketed for human and livestock consumption, preservation/salting of fish and as assistance for the food industry, has already fulfilled the Indonesian National Standard (SNI)”. Iodine content as applied was 30-80 ppm (Directorate of Nutritional and Community Education, 1998).

Vitamin A deficiency

Vitamin A deficiency increases the risk of haemorrhage during childbirth, and the risk of having a low birth weight baby and other complications which may lead to death from complicated labor. This condition is the main nutritional problem in Indonesia, although there has been a sharp reduction in the prevalence of xerophthalmia (night blindness) from 1.3% in 1978 to 0.33% in 1992 (Kodyat, 1998:6). This problem still needs to be monitored in order to prevent a rise in the rate of xerophthalmia, because it increases the risk of blindness and death of infants due to infection. In pregnant and post-partum women, vitamin A deficiency increases the vulnerability to infectious diseases, so post-partum women need to receive high dose vitamin A capsules. The target of Pelita VI is for 80% of post-partum women to receive vitamin A capsules (GOI & UNICEF, 1995:25).

Congenital defects

Pregnant women with poor nutritional status or micronutrient deficiencies will have a higher risk of having babies with congenital defects or disabilities, since in the womb the fetus needs nutrients for growth and development of all body organs. Data from the 1995 HHS

provides an estimate that 37.7 per 1000 babies born suffer congenital disorders. The majority of these are lip and palate deformities, affecting 36.2 per 1000 babies born. The other main types of congenital disorders are neural tube defects or spina bifida (2.2 per 1000 babies), while club foot, *meningoencephalocele* and *hydrocephalus* each affect fewer than 1 per 1000 babies (DepKes-Balitbangkes, 1997:49). Adequate folic acid content (400 micrograms per day) in food is said to reduce the risk of bearing a child with spina bifida or anencephaly (AAWH, 1998).

Low tetanus immunization coverage

Tetanus is a fatal infectious disease, and with an unclean or unsafe delivery, the baby or mother can be easily infected, either during or soon after the birth. Infection is caused by the use of unsterilized equipment which may be inserted into the womb or used to cut the umbilical cord. Deaths from tetanus are easy to prevent by tetanus toxoid immunization twice during pregnancy, delivery assistance by a trained health worker and cord cutting and care in accordance with infection prevention guidelines. The goal for coverage of tetanus toxoid immunization during Pelita VI is to protect 90% of newborns (GOI & UNICEF, 1995:41). However, the coverage among pregnant women between 1993/94 to 1996/97 only increased from 63.9% to 74.5% (DepKes-Pusdakes, 1997b:106).

Tetanus neonatorum is still the main cause of neonatal death (i.e., among babies aged 0-28 days), according to both the HHS 1986 and 1992 results (Priyanto, et al., 1997). Cases of neonatal death between 1993 and 1996 rose from 655 (1993) to 679 (1994) to 809 (1995) and finally to 816 (1996). Meanwhile, the rate of case fatalities (CFR) fluctuated from about 12.4% in 1993, to 70.4% in 1994, 58.9% in 1995 and 61.2% in 1996 (DepKes-Pusdakes, 1997b:87-88). One of the strategic goals in Pelita VI is the elimination of tetanus neonatorum (ETN), that is to reduce the incidence to 1 per 10,000 live births, and to reduce the rate of deaths from tetanus neonatorum to half of the current rate. The goal for achievement of these targets is to reach throughout Indonesian by 2000-2005 (Priyanto, et al., 1997).

Maternal psycho-social security, emotional, mental and cognitive capacity

Although we may often be unaware of it, the pressures which face women each day absorb much energy and bring about anxiety which can cause psychological problems. If the problems continue, women's intellectual capacity will decline and their self-esteem may be

destroyed. Various extreme events which leave psychological trauma include physical abuse and certain illnesses which involve social stigma, such as TB, leprosy and STDs. Early symptoms of psychological disturbance are hard to differentiate from emotional reactions to the events of daily life, which may indeed be demanding in themselves. The problem is clear only when it is chronic, evidenced by mental disorders involving excessive anxiety, depression and possibly leading to loss of hope and suicide attempts. Mental disturbances occur more suddenly and severely during pregnancy, childbirth or in the post-partum period, although they are not included as causes of pregnancy or delivery complications.

Research results point out that pregnant women in general do not seek regular prenatal care or are not referred to a hospital when the need arises for obstetrical surgical intervention, because of a lack of support and protection from the husband (Iskandar, et al., 1996). The result is that many deaths occur which could have been prevented had the husband taken a more prompt decision to get care and a referral for his wife. The paternalistic culture undermines women's empowerment to make their own decisions, including in relation to their reproductive rights. Husbands who do not agree with their wives' participation in the family planning program, prenatal care or assisted delivery are among the factors which contribute to the high maternal mortality rate. Pregnancies and births are regarded as the traditional and intended role of women and a maternal death is considered to be fate or destiny (Komala, 1998). Husbands do not know that as many as 15% of normal pregnancies can change suddenly into emergency conditions at the time of delivery and can often be fatal.

National data on emotional disturbances among women are hard to find because data is limited to facility-based medical records and the quality of the reporting is inadequate to present an accurate representation of the type of mental disorders that occur among pregnant women in Indonesia. Often medical record data is not even reported by gender, occupation, education or social status. At the provincial and district level, the authorities must improve the recording and reporting of data on mental disturbances mentioned here.

Unsatisfactory interaction with health care providers (non-client-oriented services e.g., unfriendly, unskillful, discriminatory) can also provoke psychological trauma in women, leading them not to seek treatment in the future.

Women's literacy and knowledge (especially on reproductive health facts)

Basic knowledge about women's reproductive physiology is most important for women who are using the rhythm method, because the effectiveness of this traditional FP method depends on the regular fertility and menstruation cycle and the accuracy of estimating a woman's fertile period. This method is not easy to use because it must be accurately projected when the peak of fertility is expected (days when the woman should not engage in sexual intercourse). The point of highest fertility is on the 14th day before the next menstruation begins, which may not be on the same date every month. It is especially difficult to predict if a woman's cycle is irregular, due to hormonal or age factors. Therefore, the likelihood of mis-calculating the date of the peak of fertility is fairly high, and this often leads to unplanned pregnancies and their consequences. Although there is no official data, it can be inferred that only a small proportion of these women are sufficiently knowledgeable about these details of calculation. Only 17% of married women understand the relationship between the risk of pregnancy and the fertile period (BPS, BKKBN, DepKes, Macro Intl., 1995:100). IEC materials to improve this knowledge should be provided to women beginning in adolescence, as a part of their learning on biology and the reproductive organs, function and process.

Almost all women (96%) who have had intercourse or who are married already know about at least one type of FP method and about the existence of modern FP technology (ibid, 1995:62). The most popular methods include the pill, followed by injectables, the IUD and Norplant implants, which 93%, 91%, 85% and 77% of women respectively are aware of. In addition, knowledge about female sterilization is also quite high (60%). The lesser known methods are spermicides, in the form of jelly, foam, cream, vaginal insert or tissue (ibid). Since 1987 there has been a documented increase in women's knowledge about various types of FP methods, including knowledge about implants, vasectomy and tubectomy. For example, the total number of married women who know about the implant has risen from 30% (1987) to 77% (1994). There is an obvious connection (a positive correlation) between knowledge about FP methods and women's formal education level. For example, only 87% of women who had no education know of various types of FP methods, while 96% of women with some elementary schooling and 100% of women with at least some secondary schooling know of various FP methods (ibid, 1995:63).

Thorough antenatal care (ANC) check-ups should really encompass risk-assessment questions on the risk of infection with an STD, both for the woman herself and her partner. Pregnant women need to receive information about the possibility of infection with an STD during pregnancy and the likelihood of infection of the child, including some serious health consequences. At a minimum, health workers providing ANC should question pregnant women on the history of symptoms of four types of STDs: syphilis, hepatitis-B, chlamydia and gonorrhoea (Hatcher, et al., 1994:84), because the risk of infection from mother to child of these diseases is fairly high. For syphilis, the risk is 50%, hepatitis-B may reach 90% transmission, chlamydia causes eye infection in 25-50% of infants of infected mothers and pneumonia (lung infection) in 5-15%, while the risk of infection with gonorrhoea is about 30% (ibid). One STD which is fatal is HIV or AIDS, which has a 22-39% risk of transmission from mother to fetus/baby (ibid). Knowledge among pregnant and post-partum women about STDs other than HIV/AIDS is still very low. By place of residence, in urban areas the total proportion of women who have heard about AIDS is three times higher than in rural areas (70% vs. 25%). In Java and Bali, 40% of women have ever heard about AIDS, while outside of Java-Bali it is 35%. Only 6% of women with no schooling have heard about AIDS, compared with 20% who have some elementary education and among those with secondary or higher education, the proportions are 42% and 82% respectively (BPS, BKKBN, DepKes, Macro Intl., 1995:224).

Knowledge among mothers about maternal deaths due to indirect causes, caused by closely spaced pregnancies (<2 years), also needs to be further increased, because about 17% still have closely spaced pregnancies (ibid:53). According to the literature, by spacing pregnancies more than 2 years apart, one in four infant deaths in developing countries could be prevented (PRB, Sept. 1997). Besides this, closely spaced pregnancies can also reduce a mother's physical resilience, worsen her nutritional status, cause increased vulnerability to chronic illnesses such as TB, all of which can eventually increase the risk of maternal death.

1.2 Care and Protection (at the dyadic/family, household and community level)

Inadequate coverage and utilization of antenatal care

Support and understanding of the husband and family members about the importance of antenatal care or ANC visits is still low, so that only 50-66% of pregnant women get the full four ANC check ups during pregnancy (GOI & UNICEF, 1995:22; DepKes-PusDaKes, 1997b:105). Despite this, coverage with a single ANC visit in 1996 was high at 84.1%

(DepKes-PusDaKes, 1997b:104). It is hoped that coverage with four ANC visits can be increased from 50% in 1995 to 90% in 1999 (GOI & UNICEF, 1995:24). If this is achieved, then simultaneously the coverage of distribution of iron/folic acid tablets to prevent anemia in pregnant women will rise also. This is because pregnant women get 30 iron tablets at the first ANC visit and will only receive the full 90 tablets if they come for all four ANC visits. Therefore, it is hoped that improving the reach of ANC will also reduce the prevalence of anemia among pregnant women. It must be communicated to husbands that complete ANC can detect anemia, iodine deficiency, signs of pre-eclampsia (such as hypertension), tuberculosis, syphilis and malaria, as well as other conditions that can bring about obstetric emergencies, such as abnormal fetal positioning, or placenta at risk of ante-partum hemorrhage. Conditions that threaten a pregnant woman's health such as anemia and malnutrition, or heavy physical labor during pregnancy, can be addressed early so as not to cause low birth weight babies or premature births.

Pregnant women in Indonesia often don't take seriously danger signs during pregnancy, such as swelling, vomiting, seizures or bleeding (Fortney and Smith, 1996:23-24). Although most pregnant women know that each problem that occurs should be checked up and treated promptly, they still do not seek care for these symptoms (Istiarti, 1996:45). Bleeding or hemorrhage, dizziness, and vomiting are the most common symptoms reported to nurse midwives (*bidan*) and doctors, according to a study in 1996 in the district of Semarang among 300 women who had given birth in the past year. Those women who went to a traditional healer (*dukun*) usually went to ask for traditional medicine (*jamu*), particularly *segeran* or *wejah*, to reduce nausea/vomiting and to ensure healthy growth of the fetus. All respondents (100%) tried to overcome problems of fever (heat or *panas*) themselves by purchasing medicine at a pharmacy or shop, before seeking care (ibid, p.46). It is necessary to improve husbands' awareness and watchfulness over danger signs emerging for his wife, as well as to encourage the wives to seek care from a trained health care provider.

Husbands also need to be informed about the importance of tetanus toxoid immunization (twice) during pregnancy, or just before marriage/pregnancy. Right now the coverage of TT2 in pregnant women is below the desired target, despite the efforts to eliminate cases of tetanus in newborns (tetanus neonatorum) which have a very high case fatality rate (Priyanto, et al., 1997).

Inadequate coverage and utilization of referral facilities

Even among those pregnant women who pass through the screening for medical risk, about 15% still face emergency obstetric complications (Koblinsky, et al., 1995:13). All too often, referrals come in too late. The results of a study of 12 teaching hospitals show that 92% of maternal deaths are emergency cases which arrived too late, and 40% of cases die on route to the hospital (MacDonald, 1996:19).

The high rate of home deliveries, 77% of all deliveries according to the 1994 IDHS and 72% according to the 1995 Household Health Survey (BPS, BKKBN, DepKes, Macro Intl., 1995:162; DepKes-Balitbangkes, 1997:36), is one cause of the high MMR, in conjunction with the unpreparedness of families (especially husbands) and birth attendants for coping with the risk of pregnancy complications during delivery at home. Without the support of the husband for his wife's referral to adequate health facilities, the risk of death increases dramatically. One of the non-medical causes contributing to the high risk of maternal death is the inability of husbands to make a decision to go to a referral level facility promptly, due to economic or logistical constraints. However, if one is given information early, one can be ready to overcome constraints, by mobilizing the participation of the community (*gotong royong*) such as use of a neighbor's vehicle, or a community savings scheme for pregnant and delivering women, with the support of the village head (*kepala desa*).

The quality of hospital facilities at the district level still needs to be upgraded before they can function well as referral facilities for obstetric emergencies. As of 1995, it was estimated that only 30% of district hospitals had the capacity to provide surgical interventions for obstetric emergencies (comprehensive obstetric and neonatal emergency care, known in Indonesia by the acronym *PONEK*) (GOI & UNICEF, 1995:23). One of the problems is the lack of obstetricians at the district level, keeping in mind that the total number of obstetricians at general hospitals as of 1996 was only recorded as 704 (all over the country), and only 42% of those were placed at district level hospitals (type C or D) (DepKes-PusDaKes, 1997b:142).

Unhygienic delivery conditions and lack of professional and adequate support during delivery

The goal of Pelita VI is to raise the total number of deliveries assisted by trained health workers from 38% (1995) to 55% by 1999. (GOI & UNICEF, 1995:25). According to data from the 1994 IDHS, the total number of births assisted by a traditional birth attendants (TBAs) had fallen from 63.7% in 1991 to 59.5% in 1994 (BPS, BKKBN, DepKes, Macro Intl., 1991:119; and 1995:158). Data from the National Socio-Economic Survey (*SUSENAS*) 1995 also showed that approximately 51% of women are still giving birth attended by a TBA. In rural areas, this is about 69%, while in urban areas it is also fairly high at 25.6%, even though there are sufficient facilities and trained health providers (Suwandono and Soemantri, 1995:10). The risk of maternal death in these situations is high when a large proportion of those deliveries assisted by TBAs are in the category of high risk pregnancies, including mothers aged under 20 years or over 35 years - which are about 36% in urban areas and 70% in rural areas (ibid). If a husband accompanies his wife on complete ANC visits, the health worker would have the opportunity to give warnings that various conditions constitute medical risk factors, that is: young age (under 20 years) or older age (over 35 years); too many prior births (more than 4 births) and close spacing of births (less than 2 years). If they were thus better informed, husbands could actively support their wives to get assisted delivery care from a trained health worker.

During home deliveries, husbands and birth attendants (traditional or modern) must understand the importance of meeting the minimal hygiene standards, the “three cleans”, which include clean hands of the birth assistant, clean instrument to cut the umbilical cord, and a clean bed and environment for the birth. The family must prepare a plan for delivery at home, including instruments that must be ready, such as: clean cloth, alcohol, soap, clean thread, a razor blade or knife and sharp scissors (new and clean) along with a clean mattress. The husband must recommend for the birth attendant to wash his or her hands with soap and clean water. Other information the husband should have is how to monitor the progress of labor (and not wait for 12 hours after the labor begins to seek assistance). If there are signs of early breakage of the waters, if the waters smell bad, if the baby is abnormally placed in the womb, if there are twins, bleeding which requires more than two cloth lengths to clean, fever, seizures or reduced consciousness, the woman must quickly receive help from a trained health worker, which means that transportation must be ready to get to the closest hospital with the help of the community (friends and neighbors).

Educational material about the post-partum period must also be targeted at husbands, covering actions that must be taken, including safe and spontaneous placenta removal, clean cord care, monitoring of the possibility of tears in the birth passage, and bleeding, and signs of tetanus in the newborn. Also advice for the husband not to force sexual relations on his wife too soon after the birth, in order to prevent infection, and to discourage his wife from putting any traditional fluid concoctions into the vagina until the wounds have healed and the bleeding has stopped. During the first six weeks after the birth, the husband must join in with the care and holding of the baby, so that his wife can rest enough, clean her body and any wounds (to the genitals) from the birth, consume a nutritious variety of foods, such as fish, beans and nuts, vegetables and fruits, and drink enough fluids. A breast feeding mother should be encouraged to breast feed exclusively and not to give any supplementary foods for four months, to prevent another pregnancy from occurring too soon. A husband who cares for his wife and is aware of the importance of the partnership function of marriage and of his wife's vital role in the household, should recommend the use of contraception as soon as the baby is no longer exclusively breast feeding, so that an unintended or unplanned pregnancy does not occur. Information about the issues above must be widely disseminated using effective media according to the local culture. Besides the husband, other family members who can help with care of a pregnant or post-partum woman should also be considered a target group.

Abortion

Abortion can occur at different gestational ages, but the definition of abortion is the interruption or termination of pregnancy before the resulting fetus attained viability, which is before the pregnancy reaches 20 weeks, and the fetus is still below 500 grams in weight (Berkow and Talbott, 1977:949). If abortion occurs between 20 and 38 weeks of gestation, this is no longer called abortion but premature birth. Efforts to abort a pregnancy that is over 20 weeks long are called infanticide. Causes of abortion include: 1) spontaneous abortion; 2) induced abortion; and 3) therapeutic abortion (ibid). Induced abortions not based on medical reasons are illegal in Indonesia, according to article 15 (paragraph 1) of the Health Law No.23/ 1992.

According to the WHO (WHD 98.7, 1998), it is estimated that about one out of eight maternal deaths is related to abortion attempts. Thus, efforts to reduce the maternal mortality rate will not succeed if the issue of unsafe abortion by untrained providers continues to be ignored. Currently, there is no national or provincial level abortion data in Indonesia, either facility based or from surveys, because of the sensitivity of this issue. However, without accurate

information about the size and significance of the problem, about the risk of complications from unsafe abortion and the impact on the maternal mortality rate, there can be no effective policy implemented to address maternal mortality. The indicator which must be monitored is the annual number of deaths of women due to causes related to unsafe abortion per 100,000 treatments (cited by Utomo et al., 1982:54). However, this measure can only be obtained in a country with an adequate reporting and recording system. If health recording and reporting system and vital registration system are unavailable, it is very difficult to obtain a denominator for this calculation. As a proxy indicator, one can use: (a) the percent of deaths to women due to causes related to unsafe abortion per total maternal deaths, for example, “15% of maternal deaths are caused by unsafe abortion”; or (b) the percent of women of reproductive age who have ever had an abortion versus the total number of women of reproductive age in a certain place and time period.

So far, data on abortion in Indonesia is difficult to analyze, because the quality of recording and reporting of this data in medical records at health centers and hospitals is poor. Abortion data at hospitals reported by the MOH since 1989 show that the abortion rate is about 17.8% in 27 provinces (cited by MacDonald, 1996:2). Abortion is clearly not limited to adolescents or unmarried women, but also occurs among married women, who are sexually active and do not want more children but don't use contraception, or experience contraceptive failure.

Men's literacy and knowledge (especially on reproductive health)

Men are rarely targeted by health programs, although the paternalistic culture in Indonesian places them as the decision-makers in the household, including in relation to the decision to seek care from modern medical facilities such as ANC care, or referrals to the hospital and permission to operate (such as a Cesarean Section). Literacy among men in general is higher than among women, 92% versus 82% in 1995 (BPS, 1997a:14). This means that it is easier to target written IEC materials at men. However, most often health and family planning programs only target women with their IEC materials, because they are easier to find at home while the men are usually out during the day. Actually, creative IEC channels should be found, which can reach men with health and family planning messages, such as via farmers' organizations, work places or factories, during Friday Islamic prayer sessions, and other such opportunities.

The gender roles or social roles of men are also more visible in the environment and community, providing great potential for reaching the community with reproductive health messages, with a view to reducing maternal mortality and infant mortality. Qualitative study data from Lombok (West Nusa Tenggara) show that most men do not plan the number of children they want before they get married, because they marry first at a young age. Among the few who do think about family planning, the tendency is to think about it in terms of the sex of the children they want, i.e., how many boys. Meanwhile, the culture of marrying more than once indicates higher social status. A basic illustration of “health” according to this group, is “... as long as we still have food to eat.” Or, mental health means, “...calm thoughts, no difficulties, and able to carry out the will of God.” The husbands answered the question about signs of pregnancy with the answer: “no menstrual period, cravings, frequent nausea, dizziness, pale and vomiting.” The life or death of a woman during pregnancy or childbirth according to them is the will of God, rarely related to the detection of signs of high risk pregnancy (Kollman, ed, 1997:3-7).

It’s clear that assistance and protection by husbands at the family level is insufficient and they need to be provided with instruction about the fact that maternal and infant death can be prevented. It is not “fate” which is the main cause, but late decision-making at the household level, and the lack of a plan about how many children to have and how to space pregnancies. There needs to be information about the availability of contraception targeted at men, the importance of planning the size of your family, the relationship between maternal age and risk of death, the detection of risk via ANC visits, the need for tetanus toxoid immunizations (TT2) to prevent infant mortality from tetanus infection, and a referral plan to seek quality care.

There are still husbands who view seeking care from a traditional healer (*dukun*) as a way to calm or tranquilize the soul during times of stress or difficulty. Most husbands (51% according to the 1995 *SUSENAS*) promptly call on a *dukun* if their wives are about to give birth, the reason being to seek a “...calmer, family atmosphere, they are easier to reach and more friendly in their services” (BPS, 1997b:106; Kollman, ed, 1997:12). The tradition that was confirmed by all men was the need to do a “stomach cleansing” ceremony at 7 months gestation for the first child, lead by a *dukun*, who will consequently become the birth attendant for the birth of that baby (Kollman, ed, 1997:8-13). Husbands still also believe that the first breast milk (the colostrum) must be discarded, and don’t know for sure when it is alright to resume sexual relations after the birth (ibid). Focused intervention at the family level needs to be directed at promotion of childbirth assistance by a village nurse-midwife (*bidan di desa*), preparation for the

birth including a savings scheme and transportation in case the woman is referred to the hospital, and further knowledge about danger signs for obstructed labor, more than 12 hours labor, hemorrhage, stomach pain, pre-eclampsia (dizziness, blurred vision, swelling, and high blood pressure), and infection (fever).

Knowledge among males is still also limited with regard to sexual behavior which increases the risk of spreading STDs, such as: having more than one sexual partner, not using protection (condoms), and not seeking treatment for oneself and one's sexual partner(s) immediately after becoming aware of the signs of infection. A study among male sailors and harbor workmen, and truck drivers or their assistants (*kenek*) in the cities of Jakarta, Surabaya and Manado in 1996 found that they only know of three types of STDs: syphilis, gonorrhea and AIDS. Syphilis in particular is the most well known (70%). However, other types of STDs, such as chlamydia, which may be just as prevalent as gonorrhea, or genital herpes or condiloma acuminata (warts), which can facilitate the transmission of HIV, are less known. The description of the men in this study show that 63-74% have wives, 24-36% are unmarried but not necessarily sexually inactive, while only a few (less than 1%) were divorced or widowed (Utomo, 1997:4). About 45-55% of the respondents had ever had sex with a commercial sex worker (CSW), and of those about 50% had done so within the past year, and on average they have had 4-15 contacts with CSWs. At the last sexual contact with a CSW, only 5-15% said they used a condom (ibid, p.11). Data from this study were used to calculate that the risk of being infected with an STD is eight times higher for men who have ever had sexual contact with a CSW compared with those who have never (ibid, p.12).

At the community level, there is a current need for promotion of awareness and concern among men about the prevention of STDs. In particular, messages about responsible sexual behavior as husbands and fathers. The threat of STDs is not only in terms of the disability to reproduce (infertility), but also can be fatal, as in the case of AIDS, for husbands, wives and newborn infants.

Lack of attention to special nutritional and workload issues during pregnancy

The cause of pregnancy problems, according to husbands in Lombok, is "lack of blood (anemia), because appetite declines during pregnancy." For example, there was a case where a woman could not eat rice throughout her pregnancy. More than half of the husbands said that

food portions eaten by their wives during pregnancy were the same as before the pregnancy (Kollman, ed, 1997:3-7). Despite this situation, the attention of the husband must be turned towards the need for additional nutrition during pregnancy.

Husbands also know that there is a connection between mothers and babies, but do not pay attention to the daily activities which tire out women and can influence the condition of the fetus, such as eventual birth weight, especially among malnourished or anemic mothers (GOI & UNICEF, 1995:117). Most feel that it is normal for the daily work load of women to continue during pregnancy as before (Kollman, ed, 1997:3). It is most unfortunate that we do not have national level data on pregnant women who work outside the home. Protection and care from husbands and family members in the form of sufficient food preparation, assisting with the household work, and encouragement to seek treatment if there are danger signs, must be increased. Myths that pregnant women should not eat meat and fish because of fears about malodorous blood and breast milk, must be challenged and eliminated. So far, the household work load is still considered a woman's domain even during pregnancy.

Environmental contamination (housing conditions)

Housing conditions, facilities for clean water, latrines and the floor of the house, influence the risk of illness in pregnant women and their babies, especially if the birth takes place at the home. Most women in Indonesia put all other family members first and only reserve a small amount of spare time for themselves. The unavailability of clean water, for example, takes a significant amount of time and energy, to carry clean water from the spring or other water source, which may be far from the household. Often husbands don't view pregnancy as a condition which preempts a woman from walking long distances or carrying heavy burdens. The risk of falling and miscarriage are often not considered by the husband or male adult family members at home, because they feel that fetching water is women's work.

Based on data from the 1994 IDHS, 50% of households counted in the census have drinking water sources in the house, 28% have water sources less than 10 minutes away, while 22% require 10 minutes or more to reach a source of drinking water (BPS, BKKBN, DepKes, Macro Intl., 1995:22). In urban areas, generally sources of drinking water are closer to homes

than in rural areas. Without adequate facilities for clean water, women have a hard time maintaining their personal hygiene, and that of family members and the household. This limitation influences women's behavior, such as not washing cooking equipment and dishes with soap, not wiping furniture or mopping the floor every day, not washing clothes and sheets really clean, and perhaps giving less care to washing their hands with soap before preparing food for children or themselves (often eaten without using spoon and fork). The result is that the risk of being affected by bacteria that spread by touch of hands and by food (diarrhea), clothes or sheets (skin diseases), and saliva (tuberculosis and hepatitis) increase, both at the household and community level.

Latrine facilities, without enough available water, are also not highly utilized, but increase the pollution of the environment. Since Pelita III (1979-1984), Indonesia has promoted environmental sanitation, including household latrines, but until 1994, IDHS data show that only 40% of households had their own latrine, 11% share a latrine with other households, while 47% have no access, meaning that family members go to the toilet in the river or garden (BPS, BKKBN, DepKes, Macro Intl., 1995:22). Overall, more households in urban areas (64%) than in rural areas (32%) have their own family facilities (ibid).

With regard to the type of floor material, 79% of households in the cities have a cement, red brick, tile or ceramic floor, compared with 42% in rural areas. About 34% of rural households have an earthen floor compared with 8% in urban areas (ibid:22-23). Earth or dirt floors make it easier for parasites to enter the body if the inhabitants don't wear shoes indoors. Humid conditions or lack of sunshine in the home facilitates the reproduction of certain bacteria, such as those which cause respiratory infection, especially if the residents are in the habit of spitting on the dirt floor. Diseases spread by mosquitoes (malaria and dengue fever) and parasites (worms) can worsen anemia in pregnant and post-partum women.

1.3 Protection, Participation and Empowerment (at the level of the family, household, community, state and society)

In this section we will discuss various social conditions which indirectly influence the maternal mortality rate, such as: (a) low awareness and understanding in the immediate social environment (community) towards the reproductive needs and rights of women; (b) inconsistent

implementation of the laws on maternity leave; and (c) community opinions and decisions which are not yet gender oriented so that implementation of basic laws does not help to better women's fate.

A study by Hanum in the district of Bengkulu in 1996, which investigated various characteristics related to marriage of children (under 18 years old) and marriage at a young age (18-19 years), found that such events are largely determined by tradition (*adat*), values and religious rules or norms effective in the community (the immediate social environment). In particular, the decisions of parents who subscribe to the norm of early marriage of girl children (soon after menarche), especially under bad economic conditions (Jones, 1987; Wirosuhardjo, 1987; Pujiastuti, 1983, cited by Hanum, 1997:2). In such a social environment, adolescent women's rights to choose their life partner or select by themselves when they will begin the function and process of reproduction, are clearly disregarded.

The existing laws do not firmly defend the reproductive rights of women and can be variously interpreted. For example, the Marriage Law No. 1/1974, article 6, mandates that any marriage be agreed to by both partners, and article 7 clearly indicates the legal minimum age at marriage as 19 for men and 16 for women. However, article 6 also mentions "...for a person who is not yet 21 years old, there must be consent of the parents." This sentence is often used as a justification or rationalization of the norm of marrying off girl children under 18 years of age (Hanum, 1997:3). The results of early marriage is added risk during pregnancy and childbirth, such as eclampsia (seizures and loss of consciousness), obstructed and extended labor, premature birth or low birth weight, and tearing of the bladder, vagina and uterus, which may leave permanent scars and disabilities.

Early marriage or teenage pregnancy is usually associated with leaving school for adolescent girls, which leads to economic dependency on her husband and the loss of opportunities to find appropriate work due to lack of preparatory work skills. In this way, women often find themselves in a subordinated position, or even under multiple subordination, first because the marriage occurred at the demand of the parents and second, because after marriage, women are under the moral authority of their husbands. The feeling of low self esteem and regret of one's fate is expressed in women's complaints as reported by Hanum (1997:40): "...if I had continued school, maybe now I would be able to earn money" ... "if my parents had been rich, for sure I would not have been married young..." Consequently, Hanum (1997) states

that the behavior of asking for financial or material assistance from their families is commonplace, and this entrenches a feeling of non-self-sufficiency in a young family. Mentally, a young bride is not yet ready to shoulder the responsibility of being a mother, because she herself still needs the social protection and affection of her parents.

Abuses of women's reproductive rights come in many forms. Women workers (*nakerwan*) do not all receive special guarantees or insurance as they should, such as for menstrual leave and maternity leave. Although in writing, businesses show their adherence to these worker rights, in practice the procedures necessary to claim these rights make it so difficult that women workers almost never exercise these rights. Besides this, many businesses have created a system of temporary work (such as contract work, daily fee work and work by order) which makes it easier to exclude them from receiving support and insurance which are mandated for full-time workers. There are also businesses which recommend that pregnant women workers quit their jobs so that they don't need to pay for their maternity leave and pregnancy care (YLKI and Ford Foundation, 1997:ii).

As stated earlier, community opinions and decision-making processes are still paternalistic, so that implementation of basic laws such as the Marriage Law No. 1/1974, the Labor Law No. 14/1969, and the Laws on Ratification of the UN Convention of the Elimination of All Forms of Discrimination Against Women (CEDAW) No. 7/1984, are not put into effect to improve women's fate. The problems of harassment or abuse of the rights of women laborers, low wages, lack of guarantee for sanitary facilities, occupational health and safety, are among the topics facing women in the industrial sector, and have an effect on their status when they are pregnant or in labor. Gender oriented vision and concern from the authorities and the creators of policy (who are mostly men) are still inadequate. Often these authority figures are of the opinion that "reproductive health issues are women's issues." Ironically, they often voice the general opinion that, "development of human resources must begin in the womb," but in reality the function of protection, participation and responsibility of men, families, the community and the government towards improving the welfare of future mothers, pregnant women and post-partum women has not yet been put into practice. Based on the Law No. 10/1992 on Population Development and Family Welfare, for example, often program managers for Family Planning (*KB*) provide information and services only to legitimately married women, according to the law. This shows a complete lack of consideration

for the consequences of this policy, namely that sexually active adolescents and unmarried women, at high risk of pregnancy and unsafe abortion, do not have access to family planning information or services.

Inadequate coverage of essential obstetric care referral facilities

Upgrading the quality of and access to obstetric care which is available to all levels of the community was a goal of Pelita VI, and has not yet been satisfactorily achieved. When facing a pregnant woman with emergency obstetric complications, the family, and in particular the husband, is reluctant to refer her to trained health workers or to the hospital, because he may feel that they cannot afford it. As of 1996, births assisted by doctors only accounted for 6.8% of births, and those assisted by midwives 41.3%, and other medical staff 1.8% (BPS, 1997a:10).

Husbands need to be provided with the information that about 15-20% of births are at risk for complications, even if the risks were not detected during pregnancy. About 75-85% of complications are hemorrhage, infection and eclampsia, which cannot be handled by emergency obstetric and neonatal services at the *puskesmas* (community health center) level (services known as Poned). Referral must be made to a hospital which has 24 hour comprehensive emergency obstetric and neonatal service facilities (known as Ponek), such as for Cesarean section and blood transfusion. The family must be made aware that the services at the *puskesmas* (Poned) are limited to giving oxytocin injections, antibiotics and sedatives, manual placenta removal, curettage and birth assistance by vacuum extraction or forceps extraction. Meanwhile, scientifically, in the case of hemorrhage, one only has about 2 hours to save the woman after the bleeding starts. Therefore, in the case of hemorrhage, it is best to make a direct referral to the local general hospital, with the hope that she will receive immediate comprehensive care (Ponek). There are as yet no data on what percent of hospitals in Indonesia have the capacity for 24 hour Ponek, or have a staff obstetrician, an operating room and a blood transfusion unit which operates 24 hours.

One of the constraints is the lack of specialist obstetricians, and the uneven distribution of these specialists at 303 districts/capital cities in Indonesia, and the non-functional support of blood supply services. Distribution of obstetrician-gynecologists is concentrated at class A hospitals as opposed to class C and D hospitals at the district level. The ratio of specialist doctors according to hospital type is: about 35% at class A hospitals,

followed by only 6.36% at class B hospitals, and only 1.35% at class C and 0.35% at class D hospitals (DepKes-PusDaKes, 1997b:142).

At the village level, the trained health workers at the forefront in providing Poned are village midwives (*bidan di desa*). Among 68,724 villages in Indonesia, as of fiscal year 1996/97, 96.2% had a *bidan di desa* on location. Two provinces, that is the cities of Jakarta and Yogyakarta, had no *bidan di desa* because geographical access to hospitals is relatively easy. There are 12 provinces where placement of *bidan di desa* is actually more than 100% of needs (i.e., more than one per village). These provinces are: North Sumatra, Bengkulu, South Sumatra, West Java, Central Java, East Java, Bali, West Nusa Tenggara, North Sulawesi, South Sulawesi, Irian Jaya and East Timor (ibid, p. 148).

Having a *bidan di desa* does not automatically mean that their services are utilized by the community. From the community perspective, the services of a *bidan* cost about Rp.20,000-30,000 for childbirth assistance and Rp.1,000-4,000 for medication, which is viewed as expensive in comparison to a *dukun* (traditional healer) who will receive payment in the form of raw goods, such as sugar, rice, and coconut, when the baby is 5-9 days old (*puputan tali pusat*) (Mukti, 1996:44, 26). From another perspective, *bidan di desa* are often disappointed by the insensitivity or lack of interest of the community towards the programs that they are promoting. As a result, many programs which were meant to be carried out by the *bidan di desa* network have not yet been implemented in full, such as *posyandu* activities (mobile integrated FP/MCH services post), routine ANC, *polindes* (village maternity post), and others.

The close relationship between the general hospital, the community health centers (*puskesmas*) are other service posts, such as village maternity posts, must be publicized. Monitoring the total births assisted by a *bidan di desa* or doctor at the *puskesmas* must be done by the village heads, the sub-district heads (*camat*) and the district heads (*bupati*), not only by the heads of the local health departments. The budget for training which can improve Poned skills at the *polindes* and *puskesmas* by expert staff at the local hospitals must be allocated by the local government (*PemDa*).

The local government ensure that the general hospital runs a functional blood transfusion unit with doctors on duty 24 hours a day who can perform Cesarean sections. There must also be complete equipment available and maintained for anesthetic administration, operations and laboratory tests. In regions where there is only one obstetrician in the entire district, general

practitioners must be trained to support and strengthen PONEK services including Cesarean section, if the local government has the will to really reduce the maternal mortality rate.

Lack of community initiatives

The typical attitude of an Indonesian community is passive, waiting for the leadership of a role model or guide, with a lack of community initiative for self-help in tackling the problem of maternal and infant death. *Arisan*, a women's group lottery system, which is already common in Indonesian communities, is often used as a source of funding for lectures by the *bidan di desa*, but usually these gatherings are only attended by the members, so the total number of attendees is limited and gradually dwindles. Groups such as Health Funds apparently still lack support from the community, who choose instead to pay when they are sick, and cannot yet plan for the long term by taking advantage of a pre-paid capitation system.

Various strategies to mobilize the participation of the community still need to be preceded by the government apparatus via the initiative of the relevant government department. During Pelita VI various forms of community participation have already been promoted. Those paid for by the Development Budget and the National Budget (*APBN*) and Regional Budget (*APBD*) include:

- The Movement for Family Health and Welfare (*GKSS*) (*Takesra* and *Kukesra*), to improve the economic capacity and productivity of families via family planning;
- Self-Sufficient Health Care, for women and families, including Baby-Friendly and Mother-Friendly Hospitals, from the MOH;
- Sub-District Mother Friendly Competitions and the Mother Friendly Movement (*GSI*), by the State Ministry for the Role of Women (*UPW*) in cooperation with local government;
- Promotion of Community Health Insurance Services (*JPKM*) and savings schemes for pregnant women and for the birth of the first child (*Tabulin* and *Tadukap*), used to overcome one of the three delays that can cause maternal death, coordinated at the level of *Dati II*;
- Allocation of *APBD II* funds, between Rp.20-50 million, for hospital services compensation for low income women and families;

- The *Dasa Wisma* system (10 household monitoring network), implemented by community volunteers (*kader*) of the *PKK* (women's grass roots organization for family welfare);
- The Educational Program for Families with Children Under Five and Adolescents, by the *BKKBN*;

Added to these are activities sponsored by religious NGOs (*LSM*), such as the *Nahdlatul Ulama* and the *Muhammadiyah*, professional organizations such as the Indonesian Obstetrics and Gynecology Society (*POGI*), the Indonesian Doctors Association (*IDI*), the Indonesian Nurses Association (*IBI*) and others, the private sector and the mass media.

II. COUPLES AND WOMEN OF REPRODUCTIVE AGE (15-49 YEARS) as the Target Population

2.1 Survival and Development (at the individual/dyad level)

Women who have many children (> 2 children)

Data from the 1994 IDHS show that about 13% of women have 3 children and about 25% have four children or more (BPS, BKKBN, DepKes, Macro Intl. 1995:46-47). One of the reasons is the lack of awareness among couples of reproductive age (PUS) 15-49 years, that contraception can help them plan the spacing of pregnancies, reduce the risk of pregnancy and low birth weight and perinatal death. Information that “too many pregnancies, too often, too young and too old” are dangerous for women and children needs to be disseminated in the community. The facts show that often the one who makes the decision about whether contraception is stopped or continued is the husband. The result is that many wives who already wish to end childbearing are not using contraception. This shows the need for women’s empowerment to be able to make her own decision not to get pregnant again. Other reasons are marriage at a young age, since the earlier a woman begins to reproduce, the more likely it is that she will have many children. Similarly, if there are repeated marriages/divorces, generally a woman must bear children for each husband.

Inappropriate spacing of births (< 2 years, >5 years)

Women’s health status is closely connected to the amount of time that has passed since her last pregnancy. Women need time to regain their strength before the next pregnancy. Still about 17% of women have children more closely spaced than 2 years apart (BPS, BKKBN, DepKes, Macro Intl., 1995:53). In this condition, women face the risk of experiencing hemorrhage pre or post partum, anemia and obstructed labor. Moreover, the baby that is born as a result is at higher risk of morbidity and death. Clearly childbirth must be assisted by trained health workers and there must be preparation for a referral after the first ANC visit. Post partum, the breast feeding period for the previous child is cut short due to the need to breast feed the newborn baby. In the case of births more than 5 years apart, women face the same risks as the first pregnancy again, that is the risk of obstructed

labor and infection. Referral to emergency facilities must be made if the labor continues for more than 12 hours without progress.

Too young or too old at childbirth (< 20 years, > 35 years)

In Indonesia, the percentage of women who have their first child before the age of 20 has declined over the years. Data from the 1994 IDHS however still show that 8.9% of women aged 15-19 have already had their first child (analysis by BPS, 1997b:105). The available literature shows that the risk of maternal mortality in young women aged 15-19 is about twice as high as among those over age 20 (PRB, Sept.1997). The main cause of high rates of illness, disability and death is obstructed labor and pre-eclampsia or eclampsia (where blood pressure rises sharply, accompanied by seizures and loss of consciousness). An immature pelvic cavity can cause obstructed or extended labor, with the risk of tears to the birth passage which can damage the bladder and the anal area, along with the risk of damage to the brain tissue of the baby if it is too long in the birth channel. Babies born to adolescent mothers have a high risk of prematurity and/or low birth weight which increases the risk of death to the baby, as well as the risk of impaired growth and development, and various other consequences (PRB, 1996). Besides this, if the pregnancy is unplanned or unwanted, the girl may be at high risk death from the consequences of an unsafe abortion.

In pregnancies to women over age 35, the risk of complications during childbirth also rises, especially if the mother does not really want to have another child and decides to terminate the pregnancy by traditional or unsafe abortion methods. The result is an increased risk of hemorrhage and infection. Based on data from the 1994 IDHS, the total number of mothers who give birth beyond the age of 35 is still high, about 12.1% (BPS, BKKBN, DepKes, Macro Intl., 1995:46).

Chronic malnutrition in women

Adult women's nutritional status is a consequence of the nutritional status as children. This in turn will influence not only her own health but that of her future children. To monitor the condition of low stores of fat in the body due to chronic energy deficits, the upper arm circumference of reproductive age women can be measured. From the 1995 Survey of Maternal and Child Health, we see that about 24% of women of reproductive age have chronic energy malnutrition or an upper arm circumference of less than 23.5 cm

(normal cut off point) (BPS and UNICEF, 1995:22). By age, the group with the highest percentage with chronic energy malnutrition are adolescents aged 15-19, that is about 35.5%. Chronic energy malnutrition in adolescents tends to be caused by the desire to be thin. These girls are at high risk of having a baby with low birth weight. If the baby with low birth weight is also a girl, it is likely she will also grow to be an adolescent and adult with chronic energy malnutrition and/or anemia. Then, when pregnant as an adolescent or adult woman, she will repeat the experience of her mother before her. In this way, a vicious cycle of malnutrition continues due to poor nutritional status in women.

Early detection of risk for chronic energy malnutrition by monitoring of upper arm circumference is already being implemented among women of reproductive age. Those with poor nutritional status are recommended to increase their consumption of nutritious foods and postpone pregnancy.

Nutritional anemia (iron deficiency)

Nutritional anemia is a common problem for adolescent girls and pregnant women, because during these times the need for iron and folic acid is highest. Each day, she needs 15 mg of iron and 400 micrograms of folic acid (AAWH, 1998). Pregnancy and childbirth will worsen a pre-existing condition of anemia, so anemic pregnant women must get frequent ANC check-ups. Data from 1990 shows that 30% of women workers suffer anemia, and this condition reduces their productivity by about 20%. The high rate of anemia in women workers is probably closely linked to their wages, which constrain their ability to buy nutritious foods. A goal of Pelita VI (1999) is to reduce the prevalence of anemia in women workers to 20% (DepNaKer, 1997:2-3).

Macro and micro iron deficiency in women of reproductive age including adolescents and women workers will have a negative effect of the growth and development of the women themselves and their infants. Therefore, the MOH since 1997 has developed a strategy to combat malnutrition in women of reproductive age by early intervention, before pregnancy, targeting brides-to-be, adolescent girls in school and women workers. This strategy focuses on the problem of anemia because about 46.7% of maternal deaths are caused by hemorrhage.

Health lectures and counseling on nutrition are integrated with activities and pre-marital course, extra curricular education at school and lectures for women workers, with

the hope that this will increase women's awareness about prevention of anemia by use of iron tablets. The recommended dose is one tablet per week for 16 weeks and during each menstrual period its recommended to take tablets daily for 10 days (ibid).

Iodine deficiency

In Indonesia, various provinces are vulnerable to endemic iodine deficiency disorders, such as Aceh, Jambi, Bali, West and East Nusa Tenggara, Central Kalimantan and Maluku (DepKes, 1997:84). In 1994, it was estimated that 42 million people lived in endemic low iodine areas, approximately 750,000-900,000 of them suffered from endemic cretinism and 10 million had goitre, which 3.5 million had other iodine deficiency disorders (Kodyat, 1998). The Survey of Iodized Salt 1997 indicated that still about 14.8% of households use non-iodized salt. This rate is lower than the rate in 1995 and 1996, which were 21.8% and 16.4%. The total number of households using enough iodized salt is about 62.1%, and another 23% of households use salt containing insufficient iodine content (BPS, nd). The goal of Pelita VI is to reduce the rate of total goitre in endemic areas from 28% (1993) to 18% (1998), along with elimination of cretinism in newborns (GOI & UNICEF, 1995, Annex 1, p.3). The percentage of women of reproductive age with iodine deficiency disorders should be monitored, because data has not yet been reported.

Predisposing health conditions which increase the risk of morbidity and mortality in new mothers (Malaria, Tuberculosis, STDs and AIDS)

One of the constraints in calculating the risk of morbidity now is that data on morbidity by sex and age, as well as by status of recent childbirth, is not yet available. The level of accuracy needs to be further monitored because data collection is more difficult to collect than mortality data. In one years, the occurrences of illness per person can change and repeat several times, while death is only recorded once per individual.

Analysis of health survey data for 1992 and 1995 shows that tuberculosis (TB) is still the main cause of death among individuals of productive age. In the age group 15-34 years, TB was ranked third in 1992 and second in 1995 as a cause of death. Meanwhile, for the age group 35-44, TB was the number one cause of death in 1992 and number two in 1995

(Iskandar, 1997:218-219). Although data by sex is not available, we can conclude that TB is a threat that heightens the risk of morbidity and mortality in post-partum mothers, especially those with poor nutritional status and living in conditions of poor environmental health and sanitation (due to poverty). Combined data from *puskesmas* records (LB1), hospital in-patient care (RL2a), outbreak reports (KLB), and out-patient care (RL2b), as recorded on the Integrated Surveillance System (SST) of the MOH, shows a trend towards reduced incidence of TB as detected by sputum tests positive for acid resistant bacteria (BTA+). That is, from about 9 per 10,000 population over 14 years (1991) to about 6 per 10,000 population over 14 years (1995) (DepKes-DitJen PPM&PLP, 1996:32). Seeing that TB is still very high ranked as a cause of death in adults, it is likely that many cases of TB are not detected by the sputum test, either because of lack of access to appropriate health facilities with microscope testing capability, or because the cost of the test is prohibitive. The incidence rate (new cases) of malaria, as detected by clinical examination, according to SST data has also declined from 81.2 per 10,000 population (1991) to 60.3 per 10,000 population (1995) (*ibid*, p.45). In 1995, 8 provinces reported outbreaks of malaria cases with a total of 2297 cases, and 48 deaths (case fatality rate of 2.08%). Provinces that are susceptible to malaria are: Jakarta, West Java, Yogyakarta, East Java, South East Sulawesi, Bali, West Nusa Tenggara and Irian Jaya (*ibid*, p.45). Even data on malaria has not yet been broken down and reported by sex, let alone by pregnancy or post-partum status.

Data from the SST show that the incidence rate of syphilis has not changed from 1991 to 1995 (0.2 per 10,000 population), although it did rise slightly in 1992-1993 (0.4 per 10,000 population). Data on gonorrhoea show a decline from 2.0 per 10,000 population in 1991, to 1.4 in 1995 (*ibid*, p.42,41).

It is regrettable that SST central data on TB, malaria, syphilis and gonorrhoea are not yet available by sex, although in fact they are originally collected with that information. However, apparently there are still those decision makers who do not yet feel that the importance of analysing this data by sex is greater than the cost of printing reports with extra pages to accommodate the additional data. Other than this, it is very likely that this information is not reported accurately, because there are still many victims of these illnesses who are never examined using confirmatory testing for these illnesses (sputum test, blood

test, TPHA test, gram stain or culture). Thus unreported cases are suspected to be many, so that the available data in fact under report the severity of the situation. This must be rectified and program planners must be made aware of this problem in development of data collection and analysis of indicators to monitor the achievements of infectious disease control efforts, including STDs.

As of March, 1998, reports from 22 provinces to the Directorate General of Contagious Disease Control and Environmental Health (CDC-EH) show the absolute number of HIV cases to be 631 (of which 33.75% are women) plus 156 AIDS cases (16.7% women) (DepKes-DitJen PPM&PLP, April, 1998:2). From 631 cases, 68.5% were infected via sexual transmission, and 88.9% of the sufferers were between the ages of 15 and 49 years. More than half (52.3%) were youth aged 15 to 29, at the peak of sexual and reproductive function (*ibid*, p.5). With the existing data reports we still can not know for sure the real extent of the spread of HIV/AIDS in Indonesia because these numbers do not represent prevalence rates or incidence rates per total population. It is vital to realize that HIV infection interacts synergistically with TB, which acts as an opportunistic infection often manifesting as an early sign of HIV infection. This means that provinces with high TB levels must monitor the prevalence rates of STDs including HIV/AIDS more closely, including TB and STDs among pregnant and post-partum women.

Efforts to monitor the prevalence rates of reproductive tract infection (RTIs), including STDs in the general population of women (housewives) plus reported data from the MOH from sentinel surveillance data among commercial sex workers, can give a more complete picture of morbidity and mortality among women as caused by infectious diseases. It turns out that prevalence of RTIs and STDs in non-sex worker women is fairly high. Results from a study of primary health care facilities for family planning in North Jakarta found that almost 40% of 486 women FP clients who were screened by laboratory testing were positive for one or more RTI, and 14.4% had one or more STD. Chlamydia, one of the STDs which is usually diagnosed only as a non-specific genital infection, was found in 9.3% of the women, much more prevalent than gonorrhoea (1.2%) (Iskandar, et al., 1998).

Lack of psycho-social security for women

Marital status is important in a paternalistic community, because while the wife is dominant in the household (domestic) the public role is still that of the husband (Sulandjari, 1997:29). Data from 1995 show a significant number of households headed by women, 12.9% (BPS, 1997b:145). From this total, 81.2% are either divorced or widowed. On the other hand, among households headed by men, only 2.6% are divorced or widowed. Among all women heads of households, only about 65% work, while of all men heads of households, more than 93% are working (ibid, p.142). We can infer that in general households with female heads are worse off economically.

This weak economic status causes a sense of psychological and social insecurity in women heads of households. Even more distressing, these women have no fixed job to provide regular income within specific time periods. Consequently, this influences health seeking behavior, if for example the mother or her child is ill. Especially if the woman is pregnant with no husband by legal marriage. The likelihood of seeking antenatal care at a *puskesmas* is very low, or if the decision is made to terminate the pregnancy, it is likely that this will be done secretly by a *dukun* or untrained provider. Unsafe abortion often brings death and contributes greatly to the risk of maternal death. Data on unsafe abortion, if it were collected, would reflect the low level of psycho-social security among these women, including those who are heads of households. Thus they do not dare even to seek care from a trained health care provider.

Lacking mental and cognitive capacity

So far, there is no reported data on mental capacity or intelligence or reproductive age women. The existing literature indicates that depressive disorders in women are more prevalent than in men, especially those due to the following causes: single parenthood, infertility, victim of abuse or violence, moving to a new place, poverty, and family-related causes (Lewis, et al., 1996). The suicide rate, smoking habit, alcoholism, and use of addictive substances, is another indicator of mental disturbance which clearly effects mental capacity and intelligence.

If these mental disorders began in the early stages of the reproductive years (during adolescence), this would influence the quality of the woman's future family, especially the quality of marital relations and child rearing. Data from the *SUSENAS* and HHS 1995 show that smoking among women rises with age. from 0.4% of women smokers aged 15-19, the

rate doubles 8-fold to 3.2% in women aged 45-49 years (Suhardi, 1997:23). This means that the number of women who stop smoking is very small, while the number who start smoking increases as each cohort ages. A study by the MOH in West Java and Bali with 2,111 adolescent respondents aged 13-19 years found that 7.5% of adolescent women in urban regions of West Java and 1.5% in urban regions of Bali are smokers, compared with 1.3% in rural areas of West Java and 0.6% in Bali (Kristanti, 1996:App. Table 5a). Data from the same study show that 3.3% of adolescent women in urban areas of West Java and 0.7% in urban areas of Bali use addictive substances, while 0.3% and 0.0% do so in rural areas of West Java and Bali respectively.

Low educational achievement and literacy levels

Literacy and educational achievement among women are lower than in men. Data from the 1995 *SUSENAS* show that the percentage of women population aged 10 and over who may not be able to read and write due to never having attended school is 16.9%, compared with only 7.6% of men. Among those who have been to school, 30.3% of women graduated from elementary school, compared with 32.1% of men. At the level of lower secondary school, about 10.8% of women graduated as compared with 13.1% of men, and among those who went to high school, 9.8% of women graduated compared to 13.8% of men (1.4 times higher). As for higher education, 1.6% of women have graduated compared with 2.8% of men (1.75 times more) (BPS, 1997b:34-35). The opportunity to go to secondary school or university is also more rare for women, according to Raharjo (1997:172), among those who register for secondary school, the sex ratio is about 81% females to males, and falls drastically to 48% at the university level.

Knowledge about reproductive health

Knowledge about reproductive health includes knowledge about growth during puberty and sexuality, pregnancy and risk factors, birth and complications, referral services that may be needed, post-partum care for women and neonates, the benefits of breastfeeding, methods of contraception, STDs and their consequences, as well as reproductive rights and available reproductive health services. Currently, the level of reproductive health

knowledge among women of reproductive age is insufficient, both from the client perspective and the provider perspective. Consequently, the interaction between the client and provider is not used optimally for exchange of information about reproductive health, and behavior of women of reproductive age is not as providers or program managers would expect or wish. For example, among pregnant women, the reach of ANC first-time visits (84.1%, DepKes-PusDaKes, 1997b:103) is not followed up by the fourth visit (only 65.7% of pregnant women come). The Pelita VI goal for all four ANC visits is 75% of pregnant women. The percentage of women who give birth under the age of 20, over the age of 35, with more than 4 previous deliveries and/or assisted by a *dukun* (TBA), is still relatively high. Data from the 1994 IDHS shows that about 5.7% of women under age 20 and 6.0% of women over age 35 have their deliveries assisted by a *dukun*, and 15.1% have more than 4 children (DepKes-PusDaKes, 1997a:103, 94).

The unmet need for family planning among women of reproductive age is still fairly high also. Among only married women, about 11% of women wish to have no more children or wish to postpone their next pregnancy but do not use any contraception (BPS, BKKBN, DepKes, Macro Intl., 1995:110). It is very likely that among unmarried sexually active women this percentage is much higher than 11%. There are no data on the unmet contraceptive needs of unmarried women, including adolescents, who are sexually active but do not have access to family planning services or information. This data must be collected, because according to the existing literature, unmet need for contraception is closely related to unsafe abortion and contributes significantly to the maternal mortality rate. Adolescents are one group of women of reproductive age who need reproductive health information and services.

Other unmet needs are the need for information and services, including treatment for RTIs, including STDs. It is suspected that knowledge among women of reproductive age about signs and symptoms, necessary testing or examination, treatment and prevention of STDs is still relatively low. Collection of data on this topic should also be started, because the data reported from the service units for skin and venereal infections (STD clinics) is extremely inadequate.

2.2 Care and Protection Risks (at the dyadic/family, household & community level)

Unmet need for quality family planning services

Currently, along with the advancement in education, social and economics status of the people, there seems to be a higher demand for better quality of family planning services. Quality of information given by family planning providers need to be improved. Low contraceptive use in an area is often associated with low quality of information exchanged between providers and the clients. This may turn a family planning acceptor to stop using or switching to another method which is less effective to meet her reproductive intention. Dissatisfaction of limited choices of contraceptives available, untimely supply, distant source locations, and high costs may cause also low use of contraceptives. There are two interventions needed: a) increasing clients' motivation and knowledge by providing choices and complete information through a friendly and client-oriented services; and b) improving both technical competence and non-technical (communication) skills of medical personnel to guarantee safetiness of contraceptive use.

Husbands' willingness to become contraceptive users is almost not existed. According to IDHS 1994 data, the use of condoms and male sterilization were very low, both were below one percent and did not show increasing trends over the years. The use of condom was 0.8% in 1991 and 0.9% in 1994, while male sterilization was merely 0.6% in 1991 and 0.7% in 1994 (BPS, BKKBN, DepKes, Macro Intl., 1995:85). With confined gender awareness, it is difficult to make a significant increase in these methods use. Overall, even with other methods, husbands' support are an important factor to continuation of contraceptives use. Therefore, possible interventions should be directed to improve men's knowledge and positive attitudes that show caring and protection against the danger of unwanted pregnancies, too often, or too close intervals.

Efforts to improve the technical competence of providers should be directed to the following basic steps: (1) have written protocols and standard procedures/ethics; (2) competency-based training with objective evaluation; (3) monitoring of complications data; and (4) measuring process indicators in addition to input and output indicators.

Lacking participation of women in decision-making process on contraceptives use

Data about female contraceptive users who obtained methods without husbands' knowledge is unknown. A qualitative study in Lombok showed that there is an association between educational attainment and ability to make a decision about using a family planning method. In East Lombok, men dominated the decision to participate in family planning, especially among women with lower level of education, but women with junior/senior high schooling showed higher abilities to make the decision by themselves. However, in West Lombok, another study showed that men's domination existed in all levels, disregarded of women's educational level (Kolmann, ed, 1997:26).

The decision to use a particular contraceptive is actually in a woman's capacity to decide as long as adequate information are given to her. Women's choice of contraceptives followed the pattern of participation, which is dominated by men's approval (ibid). Providers suggestion will be very minimal if their roles are limited to recommending only. If, providers really master the material and persuasive techniques to increase couples' knowledge, the paternalistic condition can be used for increasing contraceptive usage.

Quality family planning information through easy-to-understand messages for husbands and wives, negative issues about the use of contraceptives can be minimized, or even be reversed. Men's domination is not only in Lombok but almost in all parts of the country including West Sumatra with its maternalistic customary tradition.

Qualitative data regarding care and protection at the household and community levels

Data regarding care and protection for women are not possible to be collected at the national level. But, at the local level, qualitative studies can be recommended to obtain information on factors contributing to:

- (1) discriminative patterns of resource allocation within households and community (time, food, health expenditures);
- (2) inadequate awareness among couples on reproductive and sexual health facts;
- (3) physical violence within families and communities (harassment, abuse, rape);
- (4) lack of psycho-social support and attention (frequent divorce and male polygamy).

2.3 Protection, Participation and Empowerment (at the level of the family, household, community, state and society)

Lack of access to secondary and tertiary education

Although basic education at the primary level has increased its coverages in the past 15 years, school participation does not show an increasing trend once children continue to junior high school, and even less in senior high school data. In general, data of 1996/97 showed that there was a declining trend in school participation among older age-groups, from 94.6% at elementary school (7-12 years age-group) to 43.2% at junior high school (13-15 years age-group), and even lower at 26.1% at senior high-school level (16-18 years age-group) (Bappenas, 1997:Table XVII-1, XVII-3, and XVII-4). The six-year compulsory education during the first long-term development period (1969/70 - 1993/94) had doubled the junior-high school participation rates in the 1990s. The 1994 IDHS data reported that junior high school participation rates reached 62.6% among female students and 67.9% among male students (BPS, BKKBN, DepKes, Macro Intl., 1995:19, Table 2.6).

Male and female participation differences are more obvious in the older age-groups. In 1991, female students admission rates were only 68% of the male, then improved to 83.9% in 1996/97 (BPS, BKKBN, DepKes, Macro Intl., 1991:99, Table 4.1.1; Bappenas, 1997:Table XIX-1). The new policy of nine-year compulsory education is supposed to increase admission rates at the senior high school level (post-junior high). However, the current monetary crisis will affect the economics status of families which will influence parents' decision (usually dominated by fathers) to support daughters to reach higher level of education (senior high or university).

Limited access to appropriately paid employment

The wage difference between a female and a male labour is quite significant. Studies indicate that many companies and factories discriminate female employees by giving lower wages compared to the males. In addition to that, female employees were given less opportunities to get promotion, training and other benefits such as pension plans. On average, wages for female labours are lower than male labours, in both rural and urban

areas. A rural woman received an average monthly wage of Rp.81,585 compared to Rp.136,557 for a man, while an urban woman received Rp.142,221 compared to Rp.219,422 for a man. Wage differences are strongly correlated with levels of education, the higher the education attainment, the higher the wages. A high-school female graduate received only half of the wage earned by a university graduate. Only 26% of women in the labour force received wages above Rp.150,000 compared to 49% of men in the labour force (BPS, 1997b:62-63, 84).

Labour force participation in Indonesia shows that male participation is higher than female's. For example, in the 30-39 age-group female participation is 56% compared to male participation of 99%. Fifty percent of unmarried women and 73 percent of divorced women are in the labour force (ibid, pp.58-59). In the past 30 years, female labour force participation had increased from 29% (1961) to 40.5% (1990), and is estimated to reach 44% by the year 2000 (YLKI and Ford Foundation, 1997).

The increase of female labour force brings along social transformation problems which need serious attention from the government, business people and community. Social security benefits including health insurance and occupational hazard protection should be provided. Regulations to eliminate discrimination between female and male employees are often disobeyed and even impede female employees in daily practice. For example, married female labours are treated as single female labours, without additional child support (ibid).

Women in the labour force bear twice to five times heavier workload, both at home and at work. Consequently, women has less time for her own health and her children's. In the industrial sector, working women face the same risks as working men for injuries and chronic disabilities, and higher risks if there is no ventilation, good lighting and toxic substance preventive actions. However, occupational related diseases and accidents are seldom reported because most of occupational diseases are chronic diseases (i.e., anemia) and female labours tend to be recruited as part-time workers without health benefits. Thus, there is no recording and reporting that monitor occupational hazards among female labours.

Most of women in the labour force are in the informal sector, such as street-vendors, house-maids, prostitutes, or scavengers. Obviously they encounter higher level risks of infection and violence. Women in agriculture are highly exposed to pesticides. There is

very little enforcement on occupational hazard protection in the workplace, especially for pregnant women, and minimal health education for illiterate female workers about work-related accident prevention.

Prevalence of gender stereotypes linking women exclusively to reproduction, child-rearing and household chores

Traditional beliefs emphasize that a woman's traditional roles when she approaches reproductive ages consists of get married, get pregnant, give birth, do child rearing, become a company to the husband, and a creator of harmonious household. This gives an illusion that a child's welfare is a mother's full responsibility, because the family is the center of a woman's world and all her activities must be directed towards fostering children and husband's welfare. The role and responsibility of a woman include physical household chores such as food procurement, processing and preparation, clothing for children, and housing and environmental sanitation. Women become primary health care provider at the household level because they often enter critical situation when children illnesses need their decision for seeking proper treatment. The obstacle to equality between women and men is still eminent, in particular in efforts to increase men's responsibility and caring towards family life burden. There is very little discussion on equal rights and responsibilities between women and men in making a family and providing child care.

Data about protection for women at the society level

Currently, there is no information at the society level about the application of legislate protection for women, not only in terms of reproductive rights, but also protection for women's condition and women's position. Women's condition refers to the material context, while women's position refers to women's social and economic status in relation to men. For example:

- (1) women's discrimination in terms of ownership of productive assets (including land ownership and heritage rights);
- (2) women's dependency from husband's consent in terms of mobility, legal and monetary transactions;
- (3) lack of institutionalized protection of women's position at the community level.

CONCLUSIONS

Many unnecessary deaths among women in Indonesia can be prevented if women's health overall is improved. Women have a higher risk of suffering from health-impairing nutritional deficiencies, especially insufficient iron that leads to anaemia, and predisposes women to haemorrhage during pregnancy and childbirth. Women are also more vulnerable to poverty and other adverse economic impacts than men, especially in the context of the current economic, social and political crisis.

Despite many biological, social and cultural factors influencing women's health, addressing safe motherhood must go hand in hand with addressing gender inequality, the creation of better women's condition and position, starting during adolescence. At each stage of life, a woman's needs differ, and there is a cumulative effect across the life span. This calls for interventions at the family and community levels that improve not only the ways that pregnant and parturient women are treated, but also the ways that men work, live and care for their families. In addition to that, interventions are needed to promote equal opportunity for women in society, for example in the judicial, legislative, and employment sectors, which will directly promote and protect women's health and well-being.

REFERENCES

- AAWH. *Invest in Future: Support Safe Motherhood, Resources Booklet*. Washington, DC: American Association for World Health, 1998.
- BAPPENAS. *Lampiran Pidato Presiden Republik Indonesia 16 Agustus 1997*. Jakarta: State Secretariat RI, 1997.
- Berkow, R. and J.H. Talbott (eds). *The Merck Manual of Diagnosis and Therapy*. 13th edition. Rahway, N.J.: Merck & Co., Inc., 1977.
- BPS. *Statistik Kesejahteraan Rakyat 1996 (Statistical Year Book of Indonesia 1996)*. Jakarta: CV. Arief Brothers, Januari 1991.
- BPS. *Penduduk Indonesia: Hasil Survei Penduduk antar Sensus 1995*. Jakarta: CV. Antar Jasa, 1996.
- BPS. *Indikator Kesejahteraan Rakyat 1996*. Jakarta: CV. Pelangi Indah, 1997a
- BPS. *Indikator Sosial Wanita Indonesia 1995*. Jakarta: CV. Bina Makmur, 1997b.

- BPS, BKKBN, DEPKES, and Macro Intl. *Survey Demografi dan Kesehatan Indonesia 1991*. Jakarta: Biro Pusat Statistik, Badan Koordinasi Keluarga Berencana Nasional, Departemen Kesehatan, Macro International Inc., 1991.
- BPS, BKKBN, DEPKES, and Macro Intl. *Survey Demografi dan Kesehatan Indonesia 1994*. Jakarta, Indonesia: Biro Pusat Statistik, Badan Koordinasi Keluarga Berencana Nasional, Departemen Kesehatan, Macro International Inc., 1995.
- BPS and UNICEF. *Laporan Hasil Survei Kesehatan Ibu dan Anak (SKIA) 1995*. Jakarta: BPS and UNICEF, 1995.
- BPS. *Survey Garam Yodium*. Jakarta: BPS, nd.
- Burns A. August, et al. *Where Women have No Doctor: A Health Guide for Women*. Berkeley, California: The Hesperian Foundation, 1997.
- Campbell, Oona and Carine Ronsmans. *Verbal Autopsies for Maternal Deaths*. WHO Workshop held at the London School of Hygiene and Tropical Medicine, January 10-13, 1994. Geneva: WHO and London School of Hygiene and Tropical Medicine, WHO/FHE/MSM/95.15.15
- DepKes RI-BinKesMas. *Pedoman Penanggulangan Ibu Hamil Kekurangan Energi Kronis*. Jakarta: DepKes RI, Dir.Jen. Pembinaan Kesehatan Masyarakat, Dir. Bina Gizi Masyarakat, 1996.
- DepKes RI-PusDaKes. *Profil Kesehatan Indonesia 1996*. Jakarta: Depkes RI, Pusat Data Kesehatan, 1997a.
- DepKes RI-PusDaKes. *Profil Kesehatan Indonesia 1997*. Jakarta: Depkes RI, Pusat Data Kesehatan, 1997b.
- DepKes RI-Balitbangkes. *Survei Kesehatan Rumah Tangga (SKRT) 1995*. Jakarta: DepKes RI, Badan Penelitian dan Pengembangan Kesehatan, 1997.
- DepKes RI-Ditjen PPM&PLP. *Data Surveilans 1995*. Jakarta: DepKes RI, Ditjen PPM&PLP, Dit. Epidemiologi dan Imunisasi, Subdit surveilans, 1996.
- DepKes RI-Ditjen PPM&PLP. *Laporan Bulanan HIV/AIDS sampai dengan Akhir Bulan Maret 1998*. Jakarta: DepKes RI, Ditjen PPM&PLP, April, 1998.
- DepNaKer RI, et al. *Pedoman Gerakan Pekerja Wanita Sehat dan Produktif (GSWSP)*. Jakarta: DepNaKer, 1997
- Djaja, S. et al. *Seri Survei Kesehatan Rumah Tangga: Pola Penyakit Penyebab Kematian Maternal dan Faktor-Faktor yang Berhubungan dengan Kematian Maternal di Indonesia*. Jakarta: DepKes-Balitbang, 1997.
- Fortney, Judith A. *Reproductive Morbidity: A Conceptual Framework*. North Carolina: Family Health International Working Papers No. WP95-02, September 1995.
- Fortney, Judith. A and Smith, Jason B. *The Base of the Iceberg: Prevalence and Perceptions of Maternal Morbidity in Four Developing Countries*. North Carolina: Family Health International, December 1996.
- GOI and UNICEF. *Maternal and Child Survival Development and Protection 1995-2000: Master Plan of Operations and Plan of Operations*. Jakarta: Government of Indonesia and UNICEF, 1995.
- Hanum, S.Handayani. *Perkawinan Usia Belia*. Yogyakarta: Pusat Penelitian Kependudukan

- Universitas Gajah Mada, 1997.
- Hatcher, R.A., et al. *Contraceptive Technology*. New York: Irvington Publishers Inc., 1994 (16th Revised Edition).
- Iskandar, Meiwita B. "Health and Mortality", in G.W. Jones and T.H.Hull (eds). *Indonesia Assessment: Population and Human Resources*. Singapore: ISEAS, 1997:205-219
- Iskandar, Meiwita B., Budi Utomo, T. Hull, N.D. Dharmaputra, and Y.Anwar. *Unraveling the Mysteries of Maternal Death in West Java: Reexamining the Witnesses*. Depok: Center for Health Research Institute University of Indonesia, 1996.
- Iskandar, Meiwita B. , J. Patten, S. N. Qomariyah, C. Vickers, S. Indrawati. "Difficulties of Relying on Public Health Approaches for Detecting Cervical Infection among Family Planning Clients: The Case of Primary Care in Indonesia." Working paper, the Population Council Jakarta, 1998.
- Istiarti , T. *Pemanfaatan Tenaga Bidan Desa di Kabupaten Semarang*. Yogyakarta: Pusat Penelitian Kependudukan, Universitas Gajah Mada, 1996.
- Jalal, F. "Pangan dan Gizi Masa Depan: Meningkatkan Produktivitas dan Daya Saing Bangsa". Makalah disampaikan pada *Widya Karya Nasional Pangan dan Gizi (WKNPG) VI*, Serpong 17-20 Februari 1998.
- Koblinsky, M., K. McLaurin, P. Russel-Brown, and P. Gorbach (eds). *Indicators for Reproductive Health Program Evaluation: Final Report of Subcommittee on Safe Pregnancy*. North Carolina: Population Center, December 1995.
- Kodyat B.A. "Perbaikan Gizi dalam Rangka Menurunkan AKI". Makalah disampaikan pada *Pertemuan Evaluasi Safe Motherhood Umbrella Project*, Cisarua, 19-21 Januari 1998.
- Kollmann, N (eds). *Menelusuri Benang Kusut Kesehatan Reproduksi: Penelitian Kualitatif Lima LSM di Lombok*. Jakarta: POGI, DepKes, BKKBN dan AUSAID, 1997.
- Komala, Tri. HS. "Pengembangan Media Prototype Kampanye Ibu Sehat Bayi Sehat". Makalah disampaikan pada *Pertemuan Evaluasi Safe Motherhood Umbrella Project*, Cisarua, 19-21 Januari 1998.
- Kristanti, Ch. M. *Status Kesehatan Remaja Propinsi Jawa Barat dan Bali: Laporan Penelitian 1995/1996*. Jakarta: DepKes RI, Ditjen BinKesMas, Dit. Bina Kesehatan Keluarga, 1996.
- Lewis, Nancy et al. *Safe Womanhood: A Discussion Paper*. Gender, Science and Development Programme.
- Mukti, Ali G. *Menjaga Mutu Pelayanan Bidan Desa: Penerapan Metode Belajar Berdasar Masalah*. Yogyakarta: Pusat Penelitian Kependudukan Universitas Gajah Mada, 1996.
- MacDonald, Patricia. *Issues for Training in Essential Maternal Health Care in Indonesia*. Unpublished Draft Report. Jakarta: JHPIEGO, April 1996.
- Maine, Deborah et al. *Maternal Mortality: Guidelines for Monitoring Progress*. New York: UNICEF, 1995.
- PRB. *The World's Youth 1996*. Washington: Population Reference Bureau, Inc, April 1996.
- PRB. *How does Family Planning Save Lives? Fact Sheet*. Washington: Population Reference Bureau, Inc, September 1997.
- Prijanto M dkk. *Seri Survei Kesehatan Rumah Tangga: Status Kekebalan Tetanus pada Ibu Hamil di Indonesia*. Jakarta: DepKes, Balitbang, 1997.

- Raharjo, Y. "Women's Role in Demographic Transition and Human Resources Development", in G.W. Jones and T.H.Hull (eds). *Indonesia Assessment: Population and Human Resources*. Singapore: ISEAS, 1997:205-219.
- Sekretaris Kabinet RI. *Rencana Pembangunan Lima Tahun Keenam 1994/1995-1998/1999 Buku IV*. Jakarta: Perum Percetakan Negara RI, 1994.
- Soemantri, S. "Tingkat Kematian Ibu, Bayi dan Anak di Lima Propinsi CHN-3". Presented at *Lokakarya Hasil Analisis SKRT 1995: Studi Morbiditas dan Mortalitas Maternal di Lima Propinsi CHN-III*. Jakarta: DepKes RI, Badan Penelitian dan Pengembangan Kesehatan, 1997.
- Suhardi. *Perilaku Merokok di Indonesia: Seri Survei Kesehatan Rumah Tangga*. Jakarta: DepKes RI, Balitbangkes, 1997
- Sulandjari, S. *Alokasi Pendapatan Rumah Tangga dan Perawatan Kehamilan*. Yogyakarta: Pusat Penelitian Kependudukan, Universitas Gajah Mada, 1997
- Suwandono, Agus and S. Soemantri. *Seri Survei Kesehatan Rumah Tangga: Kesehatan Ibu Hamil: Pola dan Faktor yang Mempengaruhi Pemeriksaan Ibu Hamil serta Pertolongan Persalinan*. Jakarta: DepKes-Balitbang, 1995.
- Utomo, Budi, Sujana Jatiputra, Arjatmo Tjokronegoro. *Abortion in Indonesia: A Review of The Literature*. Jakarta: Faculty of Public Health, University of Indonesia, 1982.
- Utomo, Budi. "STD Knowledge and Treatment Seeking Behavior and Condom Use among Selected High-Risk Behavior Groups of Population in North Jakarta, Surabaya and Manado". Paper presented at *the Workshop on Improving Reproductive Health: International Shared Experience*, Bogor, December 4-5, 1997.
- WHO. *World Health Day: Safe Motherhood*. Geneva: WHO/WHD 98.7.
- YLKI and The Ford Foundation. *Kesehatan Kerja dari Perspektif Perempuan*. Jakarta: YLKI and The Ford Foundation, 1997.