KNOWLEDGE AND PRACTICE OF MATERNAL HEALTH CARE IN INDONESIA

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Abstract

This article is aimed to discuss the utilisation of maternal health facilities by pregnant women during the pregnancy, delivery and postnatal care in Indonesia. The description about women's knowledge to understand the danger signs of pregnancy complication is also presented. Furthermore, to some extent, the effect of the women's knowledge about the danger signs of pregnancy complication to influence the utilization of maternal health care can be analysed by using Indonesia Demographic and Health Survey (IDHS) 2002-2003. It is very important to understand the factors that determine the utilization health facility since the main causes of maternal dead are preventable. IDHS 2002-2003 show that utilization of maternal health care is relatively low, especially for delivery care and postnatal care. Moreover the women's knowledge about danger signs of pregnancy complication is also low. In addition The Mann-Whitney test shows that women who utilized maternal care services and who did not utilized maternal care services have different score of knowledge. It can be said that women's knowledge is more likely influence the utilization of maternal health care.

Key words: Pregnant women, Utilization of health facilities, Health's knowledge

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Artikel ini bertujuan untuk mendiskripsikan penggunaan fasilitas kesehatan oleh ibu hamil selama kehamilan, kelahiran dan setelah melahirkan di Indonesia. Gambaran mengenai tingkat pengetahuan perempuan mengenai tanda-tanda komplikasi yang potensial menimbulkan masalah kesehatan selama kehamilan, kelahiran dan setelah melahirkan juga dihadirkan dalam artikel ini. Analisis juga dilakukan untuk mengetahui dampak pengetahuan tersebut terhadap penggunaan fasilitas kesehatan. Hal tersebut merupakan aspek yang penting untuk dikaji mengingat terjadinya kematian ibu selama kehamilan dan melahirkan pada umumnya disebabkan oleh komplikasi yang seharusnya dapat ditangani. Data yang digunakan bersumber dari Survey Demografi dan Kesehatan Indonesia (SDKI) 2002-2003. Data SDKI 2002-2003 menunjukan bahwa penggunaan fasilitas kesehatan oleh wanita hamil di Indonesia masih relatif rendah terutama saat melahirkan dan setelah melahirkan. Selanjutnya tingkat pengetahuan wanita hamil mengenai gangguan kesehatan selama kehamilan dan melahirkan juga relatif rendah. Rendahnya pengetahuan tentang gangguan kesehatan juga berdampak pada rendahnya penggunaan fasilitas kesehatan. Hal tersebut didukung dengan Mann-Whitney Test yang menyimpulkan bahwa wanita yang menggunakan fasilitas kesehatan dan tidak menggunakan fasilitas kesehatan mempunyai skor pengetahuan yang berbeda.

Kata kunci: Ibu hamil, Penggunaan fasilitas kesehatan, Pengetahuan kesehatan

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INTRODUCTION

Even though the level of health condition in Indonesia improves but Indonesia has a high maternal mortality. An estimate from the Indonesia Demographic and Health Survey (IDHS) of 1997 shows a maternal mortality ratio (MMR) of 334 per 100,000 live births for Indonesia (Thind & Banerjee 2004, p. 285). Estimates from IDHS 2002-03 show an MMR of 307 per 100,000 live births (BPS & ORC Macro 2003). These estimations show that MMR in Indonesia has declined. Unfortunately it is still very high, especially when compared with others countries of the Association of Southeast Asian Nations (ASEAN). Even Indonesia's MMR is the highest in ASEAN (MCGeown, 2004). Therefore, maternal mortality is rightfully a matter of great concern of the Indonesian government, which has set itself the ambitious target of reducing it to 125 per 100,000 live births by 2010 (Thind & Banerjee 2004, p. 285).

One aspect which relates to MMR closely is reproductive health. Therefore McCarty & Maine (1992) mention that health status and reproduction status of women belong to intermediate variables determine maternal mortality. Health status of women describes about nutritional status, prior history of pregnancy complication or morbidity such as infectious/parasitic diseases and chronic diseases. It is clear that women's health plays a significant role to perform her reproductive function. Another factor that affects maternal mortality directly is reproductive status. It consists of maternal age, parity and marital status. Maternal age relate to women's physical condition. If woman pregnant at too young age or too old age, her physical condition will not support her pregnancy because of immature body structure at a young age and physical fitness at an old age. Furthermore, the number of children (parity) also influences the vulnerability of women. High parity creates short birth interval, which do not give enough time for mother to recover from previous birth. That is why family planning program is often included as one solution to reduce maternal mortality.

On the other hand, one crucial question that must be answered to understand why maternal deaths take place at such high rates in Indonesia and how to solve the problem of high maternal mortality in the country is whether women are aware of the warning signs of pregnancy complications and of the need of maternal health care (WHO 2004: 1). This is important because it is generally believed by women in developing countries that pregnancy is a natural phenomenon and a part of women's reproductive functions. Problems or complications during pregnancy are also considered by such women as being natural to pregnancy. Such beliefs lead to low utilization of medical health care services, often with the ultimate consequence of maternal deaths due to untreated complications.

That is why this article aims to discuss about women's awareness about signs of pregnancy complications or about health problems during delivery or after delivery in Indonesia. To some extent this article also explains the importance of that knowledge to influence the utilisation of maternal health care services. In addition the condition of

maternal health practice in Indonesia is described as a preliminary analysis of the effect of women's knowledge.

DATA AND METHODOLOGY

In order to achieve the objectives, this study uses data from Indonesia Demographic and Health Survey (IDHS) 2002-2003. This survey was conducted in 26 provinces, which represent around 96 percent of the total population of Indonesia. The sample was chosen by using a census sampling frame which contains a list of census blocks. Ever married women aged 15-49 years and currently married men aged 15-54 years were eligible for interviews. In every block 25 eligible women and eight eligible men were interviewed. In those blocks where there were fewer than 25 eligible women, all eligible women were interviewed. Three questionnaires were used to collect data in the IDHS 2002-03. One questionnaire was used to collect data about household conditions, and is called the Household Questionnaire. The two other questionnaires are women's questionnaire and men's questionnaire. From the women's questionnaire there is much information which could be obtained such as women's characteristics, women's reproduction, women's knowledge about maternal care, utilization of maternal health care, maternal mortality and so on. Therefore the tabulation of IDHS data can reveal the women's knowledge and practice of maternal health care in Indonesia.

The Mann-Whitney U-test is used to find whether women's knowledge has an association with the utilization maternal health care. This test is often called a Sum Rank test (Gosling 1996) because the statistic to test the hypothesis is calculated from the ranks of individual cases. The Mann-Whitney U-test is used to find out whether women with better knowledge of maternal health use maternal health care services more than women who have less knowledge of maternal health. The null hypothesis for this test is that women who use maternal care and those who do not use maternal care have the same average knowledge score about maternal health. The knowledge score is calculated form the question whether women know about the danger signs or complications during pregnancy, delivery and after delivery. The U statistic to test null hypothesis (Gosling 1996 p. 161) is:

$$U = \max(U_x, U_y)$$

$$U_x = n_x n_y + \left(\frac{n_x(n_x + 1)}{2}\right) - S_x$$

$$U_y = n_x n_y + \left(\frac{n_y(n_y + 1)}{2}\right) - S_y$$

with n_x = The number of women who use health care services (x)
n_y = The number of women who do not use health care service (y)
S_x = Sum of the ranks of all x respondents in combined ranking of the two data taken together (x and y)
S_y = Sum of the ranks of all y respondents in combined ranking of the two data taken together (x and y)

For large samples the distribution of U statistic follows the normal distribution with mean, μ_U and standard error, σ_U (Gosling 1996 p. 161). The test statistic becomes

$$Z = (U - \mu_U)/\sigma_U$$

With $$\mu_U = \frac{n_x n_y}{2}$$

$$\sigma_U = \sqrt{\frac{n_x n_y (n_x + n_y + 1)}{12}}$$

The null hypothesis is rejected if the absolute z-test statistic is larger than the tabulated value of z.

Women's Knowledge about MHC

In order to save women's lives from preventable causes of maternal death, crucial information is needed so that the most effective and efficient treatment can be organised. This information consists of whether women are aware of the danger signs of pregnancy-related complications, whether they know that they need treatment, whether health facilities are available and accessible, and whether women receive adequate treatment at the health facilities (WHO 2003: 1). Qian and Yue (2002) state that one of the main factors shaping behaviour is knowledge. Therefore information about women's awareness of danger signs of pregnancy complications and the need for treatment is important because it indicates the existence of knowledge which can be transferred into action. The importance of knowledge to shape health-seeking behaviour is mentioned by several other scholars (Myer & Harisson 2003; Sandya et al. 1994; Smith et al. 2004; Stekelenburg et al 2004).

Unfortunately, majority of women in Indonesia do not have adequate knowledge about pregnancy complications and their treatment, even though such knowledge is important. It is revealed by the results of IDHS 2002-03 that only 40.7 percent of the women, who had their most recent birth in the five years preceding the survey, knew about the signs of pregnancy complications. In other words, about 6 in 10 women were not aware of the symptoms of pregnancy complications. Among women who reported that they knew the signs of pregnancy complications, 51.4 percent mentioned vaginal bleeding as one of the signs. Wrong position of the baby in the womb, women's

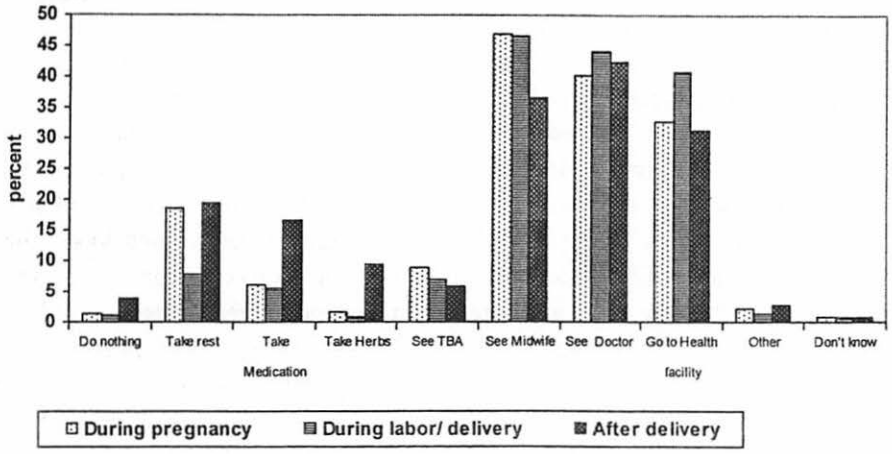
tiredness, prolonged labour and swollen limbs were mentioned as other signs of pregnancy complications by 26.1, 18.3, 17.7 and 14.9 percent respectively of the women. Other health problems such as fainting, convulsion and breathlessness were mentioned as signs of pregnancy complications by less than 5 percent of the women.

Women's awareness of the symptoms of complications during delivery (intrapartum) and after delivery (postpartum) is not much different from their awareness of symptoms of complications during pregnancy. Based on IDHS 2002-2003 data, the proportion of ever married women who knew of at least one symptom of complications during delivery and after delivery is 44.8 and 27.4 respectively, indicating that the majority of the women were not aware of the symptoms of complications at two crucial stages of their pregnancy and post-partum period. As a consequence, the proportion of women who understood the type of ill health during delivery and after giving birth is also low. For example, only 22.8 percent of the women knew that excessive bleeding is a health problem during labour and delivery. Some important complications such as fainting, fever and convulsion were perceived as health problems by less than 3 percent of the women. A worse situation is evident with respect to women's knowledge of complications after delivery. The proportion of women mentioning any health problem after delivery (except excessive bleeding and the undefined "other" category) is less than 5 percent. The above information shows a lack of women's knowledge about health problems that have the potential to influence women's health during pregnancy, during delivery and after giving birth and indicates their lack of awareness of their health status. This does not speak well for women's health in Indonesia.

Women also have a lack of knowledge about the correct treatment of health problems during pregnancy, during delivery or after delivery. Figure 1 illustrates that going to professional health service personnel or places such as doctors, midwives, or a health facility are the main actions which the women took to in order to treat their problems of pregnancy complications. However, the proportions of women taking such action are still less than 50 percent. This finding shows that women's proper treatment seeking behaviour in Indonesia needs to be much improved.

The lack of women's knowledge about pregnancy complications and how to treat such complications can be explained by the fact that only a small proportion of women were given such information. The IDHS 2002-03 data show that only 28.7 percent or a less than a third of the women who had their most recent birth in the five years preceding the survey, were informed about the danger signs of pregnancy complications by their antenatal health providers (BPS & ORC Macro 2003: 235). Among those who had received information about the danger signs of pregnancy complications, most women (93.6 percent) were advised where to obtain treatment for the complications. But if all women are considered, i.e., women who had received information and women who had not received information about pregnancy complications, the percentage of women receiving advice on the place of treatment

for complications is much smaller (26.89). Therefore, it is very important to provide information about complications to all pregnant women, so that they know where to seek treatment in case they have any pregnancy complications.



Source: IDHS 2002-2003 dataset

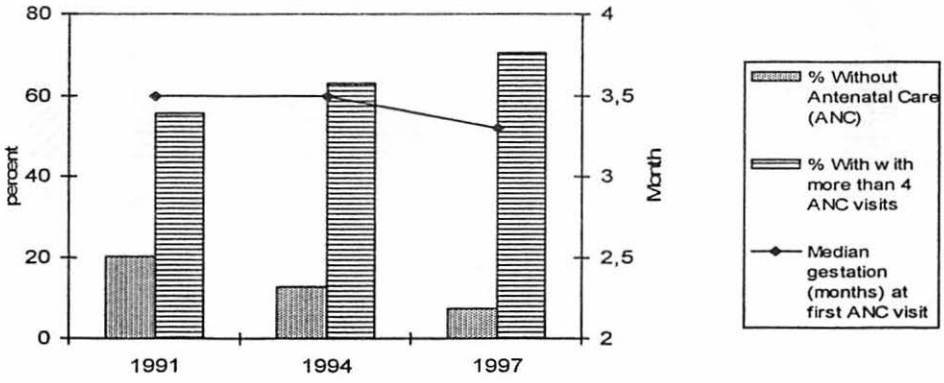
Figure 1. Percentage of women who had their most recent birth in the five years preceding the survey and knew the signs of complication during pregnancy, during delivery and after delivery, by action taken to treat the problems, Indonesia 2002-03.

Practice of Maternal Health Care

Indonesia, similar to other developing countries, has low utilisation of modern health care services. Maternal health care consists of treatment during pregnancy, at delivery and in the post-partum period after delivery. Health care during pregnancy or antenatal care is an important area of health intervention following evidence that maternal deaths due to puerperal sepsis, haemorrhage and obstructed labour tend to decrease and those due to eclampsia do not increase if health care intervention is available during early pregnancy (WHO & UNICHEF 2003). Dursin (2000) mentions that ignorance of antenatal care and poor health care services worsen women's health and cause high maternal deaths in Indonesia. This shows that pregnant women in Indonesia do not get appropriate antenatal care, which is crucial for their health. Romdiati (1996: 38), based on her analysis of data published by the Indonesian Ministry of Health, mentions that most pregnant women in Indonesia make fewer than the prescribed four antenatal visits to health care centres. Further, although according to

data collected at the IDHS 1991, the coverage of antenatal care in West Java, Central Java and East Java was reasonably high showing more than 75 percent of the women receiving antenatal care, the situation still needed improvement as significant proportions of the women received their first antenatal care after the first trimester of pregnancy or made less than four antenatal visits during the entire pregnancy (Romdiati 1996: 41).

According to IDHS survey in 1991, 20.1 percent of women giving live births in the five years preceding the survey did not obtain antenatal care (Figure 2). The proportion of women not receiving antenatal care reduced remarkably to 7.4 percent in 1997. This shows that the coverage of antenatal care in Indonesia has improved during 1991-1997. The improvement in antenatal care can also be seen from the increase in the percentage of women making more than four antenatal visits during their pregnancy, from 55.4 percent in 1991 to 77.4 percent in 1997. The timeliness of antenatal visits has also improved, though by a modest amount as demonstrated by the small reduction in the median gestation at the first antenatal visit (Figure 2).



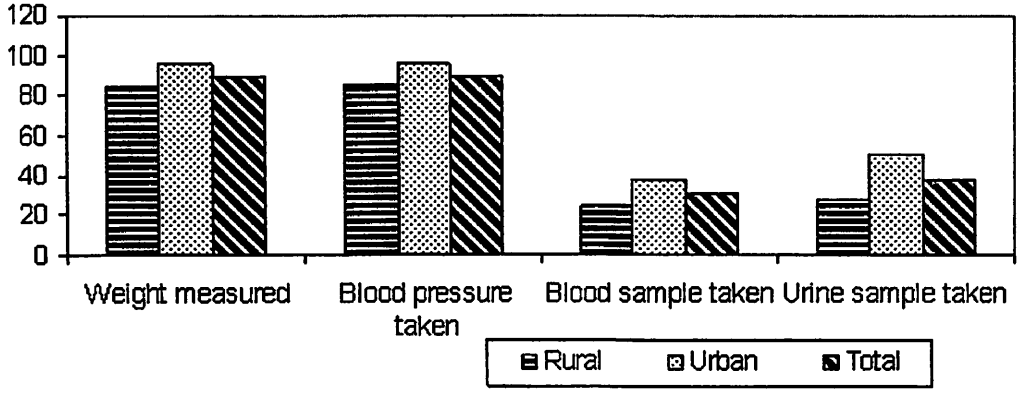
Source: CBS, MOH, NFPCB & ORC Macro 1992-1998

Figure 2. Antenatal care practices for live births during five years preceding the survey in Indonesia, 1991-1997.

The improvement in maternal health care has continued through to 2002. Based on IDHS 2002-03, more than 95 percent of ever married women who had their most recent birth in the five years preceding survey had received antenatal care. A high proportion of the women (about 92 percent) obtained antenatal care from professional health personnel like doctors, obstetricians, gynaecologists or midwives. This shows

that antenatal care is not uncommon in Indonesia any more and has become a part of the health behaviour of pregnant women in the country.

The World Health Organisation (WHO) recommends that the first antenatal visit should be made before 16 weeks of gestation (Myer & Harrison 2003: 268). Based on the IDHS 2002-03 data, the median gestation at first visit antenatal visit in Indonesia is 3 months or nearly 12 weeks (BPS & ORC Macro 2003: 121). Thus, it appears that most pregnant women in Indonesia are following the WHO recommendations regarding the timing of the first antenatal visit. However, a considerable proportion of women, namely 15.6 percent in rural areas and 8.9 in urban areas made their first antenatal visit after 16 weeks of gestation (IDHS 2002-03 dataset). The disparity between rural urban areas is also apparent from the providers and the place of antenatal care. This indicates that the coverage of professional health care services in Indonesia should be improved, especially in the rural areas since the majority of Indonesia's population lives in rural areas.



Source: IDHS 2002-03 dataset

Figure 3. Percentage of ever-married women who had a live birth in the five years preceding survey and who had received antenatal care, by place of residence and treatment during antenatal care for the most recent birth, Indonesia 2002-03.

Nearly 90 percent of the women who had received antenatal care had their weight and blood pressure measured at their antenatal visits (BPS & ORC Macro 2003: 235). This shows compliance with proper antenatal care because blood pressure is an important indicator of hypertensive diseases and a predictor of eclampsia. Blood test and urine test are important parts of antenatal care. In antenatal care it also recommended to examine blood and urine samples of the pregnant women. Blood tests are done to check for anaemia and the existence certain viruses that could be dangerous to the child, while urine tests are done to check for conditions of pre-

eclampsia which can be detected by the presence of high levels of protein in the urine (Haycock 2000). But, examinations of urine and blood samples are not common in antenatal care in Indonesia as indicated by the fact that only 37.8 percent and 30.3 percent of the pregnant women had undergone urine and blood tests respectively during antenatal care (Figure 3). Further, 26.2 percent of the women had not obtained tetanus toxoid injections, which is given to prevent post-partum sepsis, and 21.6 percent of the women had not taken iron folate tablets or syrup during pregnancy (BPS &ORC Macro 2003, pp 235-236). These statistics indicate that antenatal care in Indonesia still needs much improvement.

Utilisation of professional antenatal care is not followed through to delivery. More than 90 percent of the women who had their most recent birth in the five years preceding the survey, had received antenatal care from professional health care personnel, but a third of these women had obtained treatment from traditional birth attendants (TBAs), family members or others during delivery. This situation is in line with Natagara statement (cited in Dursin 2000) that many pregnant women tend to go to the TBA at the time of giving birth even if they had gone to a health centre for antenatal care. IDHS 2002-03 data show that economic factors continue to be a barrier to going to a health centre for delivery. Problems in arranging finance to pay for treatment are one of the obstacles to accessing health care. This was cited by 23.7 percent of the ever-married women (BPS and ORC Macro 2003: 242). Therefore, pregnant women tend to use the assistance of TBAs during delivery because TBAs do not cost much, they can be paid in kind and they are flexible about the time of payment. Furthermore, IDHS 2002-03 shows that women who live in rural areas and who have low levels of education prefer to use the services of TBAs. It is also clear that older women have a greater tendency to use TBAs for assistance during delivery than younger women.

The low utilisation of health care services is also illustrated from information on place of delivery. Based on IDHS 2002-03 data only 40.62 percent of the women, who had their last birth in the five years preceding the survey, gave birth at a health facility. The majority of births were delivered at home. A rural-urban disparity with respect to place of delivery is also apparent. The majority of women in urban areas gave birth at a health facility (government or private) while more than three quarters of the rural women delivered at home. Women with high educational levels preferred to deliver at health centres, while women with low educational levels tended to give birth at home.

The fact that the majority of births were delivered at home and significant proportions of births were assisted by TBAs is not conducive to the efforts to reduce maternal mortality. Delivery at home is risky, especially for women who have complications during delivery and need emergency obstetric treatment in a hospital or other health facility. Women can lose precious time because obstacles, such as long distance and unavailability of transport may arise in taking them to an adequate health

facility in case of an emergency (Supratikno et al 2002: 231). Deliveries at home are, in most cases attended by TBAs, who are not equipped with essential skills to treat complications during delivery (Dursin 2000; Supratikno et al 2002: 231). TBAs mostly apply traditional treatment, which may be harmful to the pregnant women's health.

Since maternal mortality comprises deaths due to pregnancy related causes during pregnancy, childbirth and until 42 days in the post-partum period, maternal health practices after births are also important factors to consider. One such practice is maternal health check-up after birth. About 12.5 percent of the women who had their most recent birth in the five years preceding survey did not perform a health check up after birth. Moreover home is the most common place for health check up after delivery although health facilities were also preferred by about 45 percent of the women. However, the utilisation of health facilities is not distributed evenly between rural and urban areas. Data from IDHS 2002-03 reveal that more than 60 percent of the urban women who had their most recent birth in the five years preceding the survey had used a health facility for health check up after birth, while only 27.5 percent of the rural women had used a health facility for such purposes. A wider gap is observable with respect to level of education. Only 15.2 percent of the women with no education had used a health facility for health check up compared to 85.6 percent of women with higher education who had used a health facility for health check up.

The Importance of Women's Knowledge

The importance of knowledge about pregnancy complications influencing maternal mortality can be revealed from a study of a semi-urban community in Southern Nigeria. One of the common causes of maternal deaths in Southern Nigeria is haemorrhage. Pregnant women are aware of the symptoms of haemorrhage but unfortunately they do not realise that they need medical treatment. This situation stems from a wrong understanding that haemorrhage is caused by sweet food during pregnancy, evil spirits, incest, illicit sex, disobedience of husband or will of God (Okolocha et al 1998: 294).

Several researchers have also stressed the importance of knowledge in affecting behaviour on maternal health care. In rural Gujarat and South Kalimantan the lack of women's knowledge about pregnancy complications has been attributed to delays in seeking medical help (Sandya et al 1994; Supratikno et al 2002: 231). In rural Gujarat, postpartum haemorrhage, fever, swelling of the hand, feet and face are considered natural effects of pregnancy and delivery. Women are also not aware of the fatal consequences of retained placenta and ante-partum haemorrhage. A district based audit in south Kalimantan shows that lack of knowledge about signs of pregnancy complications stimulate delays in decision-making to go to health facilities. Similar findings are obtained in rural South Africa where women lack awareness about health

risk during pregnancy, which affects their utilisation of antenatal care (Myer & Harrison 2003: 272). Together with other barriers, lack of perceived benefit from antenatal care discourages women from seeking antenatal care, makes them attend their first antenatal service late in their pregnancy or prevents them from returning for follow up care (Biswas 2004; Myer & Harrison 2003).

Some scholars maintain that knowledge is a crucial precondition for determining behaviour (Qian & Yue 2002; Rogers 2003; Salma 2004; Sloss & Munier 1991). Rogers (2003, pp. 171-3) explains that the personal decision to adopt a new innovation is influenced by the knowledge about that innovation. Knowledge consists of three types of information, namely information about the existence of innovation, information about how to use the innovation and the information about the fundamental principles that make the innovation work. Individual decision is influenced through persuasion. In the persuasion stage, knowledge/ information can influence individual attitude towards an innovation. A positive attitude leads to acceptance of innovation as part of individual behaviour. On the other hand a negative can cause rejection of the innovation (Rogers 2003: 171).

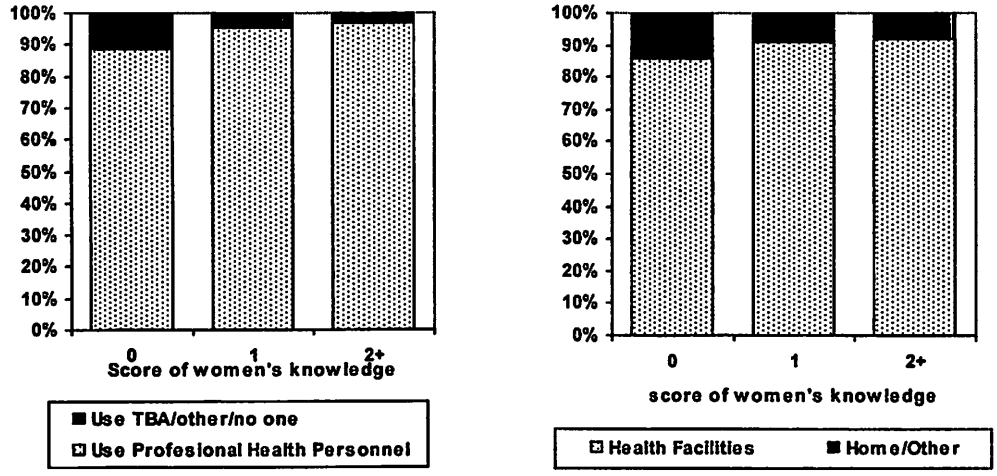
Salma (2004) explains that the relationship of knowledge with behaviour works implicitly through interrelationship between cognition, context and behaviour. In this case, knowledge forms a part of cognition. Cognition is defined as individual mental processes that involve several aspects such as knowledge, attitude, motives, beliefs, personal values, perceived cultural truths and memory (Salma 2004). Cognition can be transferred into action or behaviour if conditions allow it. In the other words, context, the setting of cognition and behaviour, which consists of culture, physical environment, law, norms, and so on determine whether behaviour change, as a result of cognition processes occurs or not.

In general, the relationship between knowledge and behaviour is described by a cognitive model which shows that firstly individuals learn about practice which produces as a positive attitude before translating knowledge into practice or behaviour. Several models may be applied to explain the relationship between knowledge and practice. Some scenarios may emerge which show that knowledge is acquired as a result of practice or knowledge is built from experience. Regardless of the order or direction all the models show that there is a relationship between knowledge and practice (Valante, Paredes & Poppe 1998: 368-369).

The influence of knowledge on health behaviour has been tested by the Mann-Whitney non-parametric statistic in Southern Laos (Phoxay et al 2001: 15). Then Mann-Whitney non-parametric test is also deployed in this analysis to find out the linkage between knowledge and utilisation of health care services. This test uses the mean of ranks to determine whether the maternal health care user-group and the non-user group have different characteristics in terms of women's knowledge about pregnancy complication. Each respondent is given a score related to the specific characteristic (knowledge of pregnancy complication) and the respondents are ranked

based on these scores. They are separated into two groups (maternal health care user-group and non-user group) and the mean ranks calculated in each group. If the mean of rank is significantly different between two groups then the two groups are considered to have dissimilar characteristics.

All women who had their most recent birth in the five years preceding survey are given a score based on the number of danger signs or complications which they cited as health problems during pregnancy, delivery or after delivery. For the knowledge of danger signs during pregnancy the maximum score is 10 because there are 10 possible health problems, which can be cited as danger signs during pregnancy in the IDHS 2002-03 questionnaires. A maximum score of 10 means that the respondent has cited all possible danger signs of complications. A score of 0 (zero) reflects that the respondent does not know about any danger signs of complications that may occur. The maximum score for knowledge of health problems during delivery and after delivery are 9 and 8 respectively, because the IDHS questionnaire lists 9 and 8 possible danger signs of complications during and after delivery respectively.

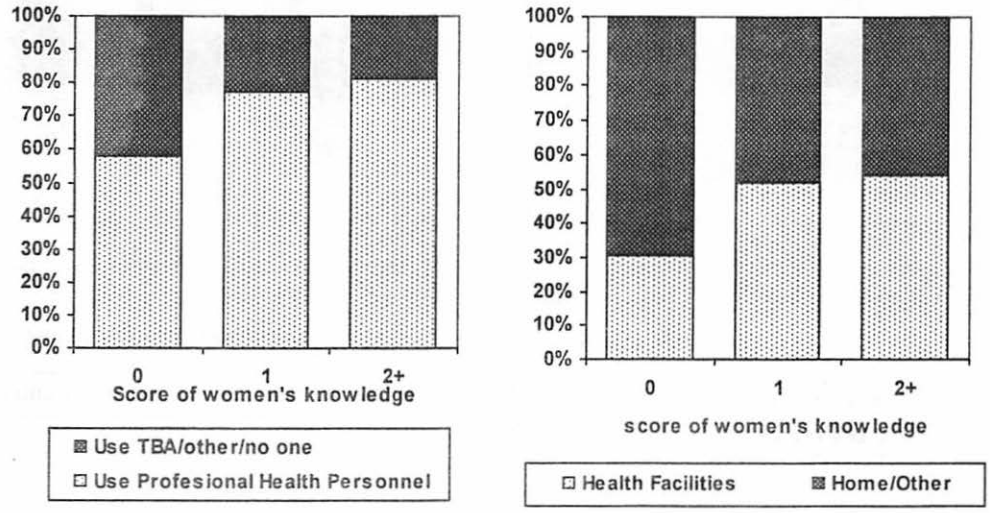


Source: IDHS 2002-2003 dataset

Figure 4. Percentage of women who had last birth in the 5 years preceding survey by score of knowledge about danger signs during pregnancy, utilisation maternal care services for antenatal care and place of antenatal care, Indonesia 2002-03

The IDHS 2002-03 data show that the utilisation of professional health service personnel or health facilities is more likely influenced by women's knowledge about danger signs during pregnancy. More than 10 percent of the women who had a score of 0 went to TBAs or the other health providers for antenatal care. On the other hand only 4.46 percent of women who had score of 1 went to TBAs or the other health

providers. Even this figure is 3.02 percent for women who had a score of knowledge 2+. This condition illustrates that the improvement of score of knowledge hand in hand with the improvement of utilisation professional health services personnel for antenatal care. The similar condition also occurs for place of antenatal care. The higher score of women's knowledge are also followed by the higher percentage of women who used health facilities (see Figure 4).

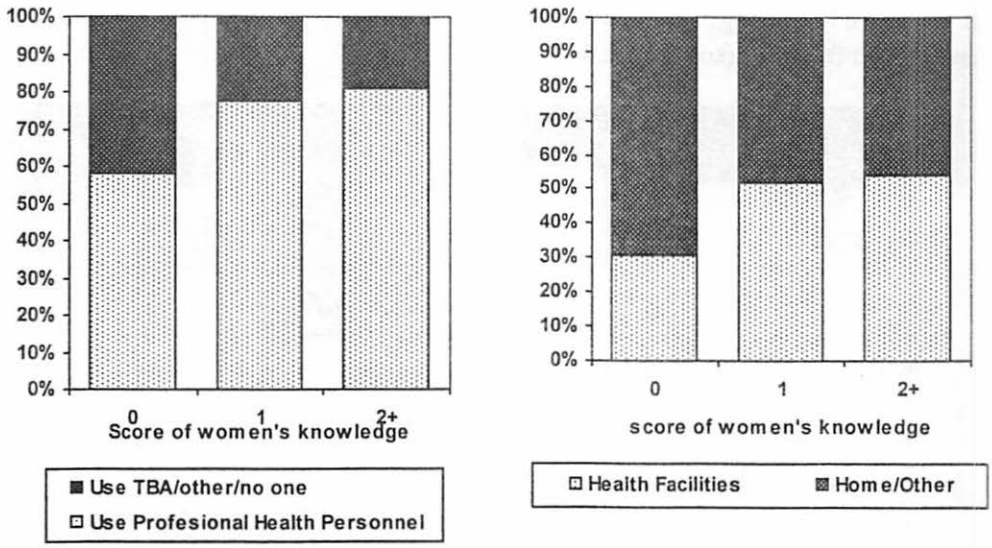


Source: IDHS 2002-2003 dataset

Figure 5. Percentage of women who had last birth in the 5 years preceding survey by score of knowledge about health problem during delivery, utilisation maternal care services for birth assistance and place of delivery, Indonesia 2002-03

The utilisation of maternal health care during delivery may also be affected by women's knowledge about health problems during delivery, i.e., a larger proportion of women with low knowledge about problems during delivery tended to use traditional health providers for their delivery compared to women with a higher knowledge of problems during delivery. Figure 5 shows that about 42 percent of the women who did not know any health problem during delivery (i.e., women with a score of 0) were assisted by TBAs or other non-professional health providers. Of the women who cited the possibility of at least two health problems during delivery, only about 19 percent were assisted by TBAs or the other non-professional health providers In terms of the choice of place of delivery, of the women who knew of at least two health problem during delivery, about 54 percent had used health facilities as place of birth. In contrast, of the women who knew of no health problem during delivery (i.e., of those who had a score of 0) only about 31 percent delivered at a health facility. A similar finding is observed in terms of postnatal care. A higher proportion of women

with knowledge about health problem after delivery tended to use maternal care services for postnatal care (see Figure 2.8) compared to women who had no knowledge of postnatal health problems.



Source: IDHS 2002-2003 dataset

Figure 6. Percentage of women who had last birth in the 5 years preceding survey by score of knowledge about health problem after delivery, utilisation maternal care services for health check up and place of health check up, Indonesia 2002-03

Based on figures 4, 5, and 6, it is apparent that the differences in the percentages of women using professional (or traditional) providers and the percentages of women using professional (or traditional) facilities for antenatal, delivery and post natal care are not large with respect to different levels of women's knowledge about signs of pregnancy complications. But the difference is large between women who had knowledge about signs of pregnancy complications (scores 1 and 2+ combined) and women who had no knowledge about signs of pregnancy complications (score 0). Then Mann-Whitney test supports the above conclusion. All the Mann-Whitney test statistics reject the null hypothesis that "women using maternal health care and those not using maternal health care have the same knowledge of pregnancy complications". In other words, women who utilize maternal health care services and women who do not use maternal health care have significantly different average of scores of knowledge.

Conclusion

There are several main points that can be revealed from the above discussions. First, the utilisation of maternal health care services by women who had their most recent birth in the five years preceding the survey is low, especially for delivery and postnatal care. Utilization of health care services for antenatal care is reasonably good. However, the coverage of some services such as blood test, urine test and consumption of iron tablets must be improved. Second, there is a lack of awareness about potential health problems, which can influence women's health during pregnancy, delivery or after delivery. Moreover, women also do not have enough knowledge to address pregnancy related complications, as significant proportions of women obtained treatment from non-professional health personnel. Third, The Mann-Whitney test show that women who utilized maternal care services and who did not utilized maternal care services have different score of knowledge.

Policy and Research Implication

Based on the analysis done in this article, the suggested policy implications which may enhance the women's health during pregnancy, delivery and post natal is by improving women's knowledge about pregnancy complication since women's knowledge can stimulate women's awareness to use maternal health care. Moreover the concept of health itself must be defined clearly. Blaxter (1990) stated that comprehension the concept of health will affect the ideas about responsibility including health attitude and behaviour. By understanding the health concept it is hoped that women also understand what they need as a result of diminishing of harmful cultural belief. Then it will influence demand for utilisation maternal health care. This is also hand in hand with Karsovec & Shaw (2000) opinion about health sector reform. It is stated that promoting healthy behaviours which create individual behaviour for better health and better health care utilisation belong to one important lever of health reform.

Furthermore the analysis in this article focuses on the women's knowledge which may affect utilisation health care. On the other hand there is another aspect, which also influences utilisation maternal care, the availability and accessibility of health facilities. If the facilities are accessible and easily reached by population it may also reduce economic barriers as consequence of transportation cost and foster healthy behaviour. Therefore the aspect of supply of health facilities is also important to be included in the analysis or research in the future.

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