

# ANC

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## Adequate visits, inadequate service: comprehensiveness of ANC in Samarinda & Balikpapan, East Kalimantan

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### Abstract

**Introduction:** With reference to the recommended essential antenatal services in Indonesia, this study assessed the provision of essential minimum care to pregnant women who attended government primary health care centres.

**Methods:** Using a structured questionnaire, exit interviews were conducted with 182 pregnant women in their third trimester following receipt of ANC at primary health care centres in two cities of East Kalimantan province, Indonesia.

**Results:** For those who attended the government health care centres, access to ANC in terms of number of visits and the timing of the visits were quite close to the national recommendations. At the government health centres a majority, however, did not receive the full set of even basic antenatal care components. The research also pointed that despite attending the government health centre for four or more ANC visits many women used the ANC services provided by the private doctors as well.

**Conclusion:** The ANC at the government primary care facilities lacks comprehensiveness, and quality improvement measures are necessary if these services are to contribute to better health of mother and babies. The health departments and those involved in managing national safe motherhood initiatives should not be satisfied with the information that a large number of pregnant women may now be accessing ANC from skilled health care providers. (*Pak J Public Health* 2013;3(1):34-8)

**Keywords:** Ante natal care; Quality of care; Safe motherhood; Primary health care; Indonesia.

### Introduction

Over the last decade, Indonesia has made significant improvements in the provision of health care to its population (1); however, progress in a number of maternal health indicators still remains at a relatively poor level (2). It is estimated that just 66% of pregnant women in Indonesia are receiving government recommended number of antenatal care (ANC). The maternal mortality ratio (MMR) is amongst the highest in South East Asia, and is about double that of the MMR in Philippines and three times that of Vietnam (3).

For women without any specific health conditions, at least 4 ANC visits to an appropriately trained health care provider are recommended (4). This recommendation by the World Health Organisation (WHO) has been adopted as a national policy for safe motherhood service provision by the Indonesian Ministry of Health. The Indonesian Ministry of Health has also stipulated that during every antenatal visit, all pregnant women should receive the basic minimum services of height and weight measurements, blood pressure measurement, and an abdominal examination,

and that blood and urine tests occur at least once during pregnancy.

The role of adequate and appropriate ANC provided by skilled health care providers is highly important. The ANC provides opportunities to address issues such as anaemia, malnutrition, education about breastfeeding, identification of risks such as hypertension and preeclampsia, and prevention against tetanus. Additionally, it provides opportunities for provision of information about access to care and referral, which can increase likelihood of skilled birth attendance (5).

As many life-threatening complications with no identifiable clinical risk factors are not apparent during ANC visits and occur during the delivery stage, the usefulness of ANC on its own for a decrease in maternal mortality is questioned (6). However, the importance of ANC for better health of mother and baby is undeniable. Extensive evidence supports the importance of ANC in reducing adverse pregnancy outcomes (7). The challenges to the effectiveness of ANC are predominantly such antenatal practices that focus solely on risk management, rather than

including health promotion aspects (8). The benefits of ANC to the mother for safer delivery and to the baby in terms of healthy growth and infection reduction are widely acknowledged (9). Such benefits require comprehensive and high quality ANC provided by skilled health care providers with access to needed resources. In East Kalimantan the government records points out that a large majority of pregnant women now receive ANC from skilled workers. Therefore, it is important to identify if the quality of ANC is in line with the recommended by the MOH and WHO.

This study is aimed at identifying whether women attending the government primary health care centres (puskesmas) are receiving essential minimum ANC services as mandated by the MOH in line with the WHO guidelines. Puskesmas provide access to primary care for a large number of people. Puskesmas provide a range of primary care services including ANC and PNC. Some of these puskesmas are also equipped with birthing units where trained midwives provide intrapartum care. While there has been some research conducted on the quality and responsiveness of Indonesia's primary health care services (2,3,10-12); there has been limited information provided with such studies conducted in the East Kalimantan province. East Kalimantan provides a valuable case study as the many districts in the province have access to significant relative wealth, which is being used by the decentralised district authorities for an improved network of primary care services, improving access by making health centres open for 24 hours, and by investing in the training and recruiting of human resource for health.

#### Methods

Using a structured questionnaire, exit interviews were conducted with pregnant women following their receipt of routine ANC at primary health care centres (puskesmas). The exit interviews were conducted at 15 puskesmas in the districts of Samarinda and Balikpapan. As the objective was to assess the quality of ANC services provided at the government health centres (puskesmas), only those women were interviewed who attended these centres in order to identify whether they received the needed essential minimum quality of care.

The research team, comprised of the University researchers and provincial and district health managers, strategically selected these puskesmas out of the total 46 puskesmas to represent different puskesmas size, puskesmas serving population living in different areas of these cities, and puskesmas based in areas of relatively different socioeconomic status.

The target population was the pregnant women attending government primary care centres (puskesmas) for ANC services. The sample size of 178 was calculated considering the current level of use of puskesmas in Indonesia for essential minimum number of four ANC visits, power of 80 and a significance interval of .05. A weighted sample was calculated to calculate the number of participants needed from each puskesmas. The weightings were based on activity data showing last year's antenatal patient visits to each puskesmas. On the days of data collection all women of 28 week gestation who attended the participating puskesmas for ANC during were requested to participate in the study.

The research was conducted in Samarinda and Balikpapan. In consultation with the local health representatives, and in order to gather a sample of puskesmas that represented a varying demographic of the study districts, 15 puskesmas were strategically chosen from all of the 46 puskesmas in Samarinda and Balikpapan. Factors such as size, specialty field, catchment area, socioeconomic status of people attending the puskesmas and location were considered during the selection process.

Pregnant women over 28 weeks of gestational age attending the selected puskesmas were requested to participate in this study. The participants were interviewed, after gaining informed consent, immediately after an ANC appointment at the puskesmas. The interview questions enquired into history of care throughout that pregnancy, including timing, frequency and levels of essential care components. The primary variable of interest was adherence to the essential minimum ANC recommendations. The questionnaire included information on number of antenatal visits, time of first visit, membership in insurance schemes, years of education, income, direct/indirect costs incurred, gravidity and parity details, relevant pregnancy history and risk factors, any illnesses during the current pregnancy and distance travelled to the puskesmas.

The data was analysed using SPSS 17 to identify the number of ANC visits to both government and private sector providers and to identify if the women received the recommended essential ANC components as stipulated in the national recommendations i.e. whether the ANC service at the puskesmas included height measurement, weight measurement, blood pressure measurement and abdominal examination, and the timing of the first ANC visit as it is recommended that at least one visit be made during the first trimester.

**Table1: Receipt of basic ANC service components**

	Height measurement		Weight measurement		Blood pressure measurement		Abdominal examination		All ANC service components received	
	Received	Not received	Received	Not received	Received	Not received	Received	Not received	Received	Not received
Total	60 (33.5%)	119 (66.5%)	148 (82.7%)	31 (17.3%)	146 (81.6%)	33 (18.4%)	140 (78.2%)	39 (21.8%)	37 (20.7%)	142 (79.3%)

**Results**

182 pregnant women were interviewed over the 3-week data collection period. The data of 179 participants were analysed, due to missing data in 3 interviews. This total included 94 respondents from Samarinda and 85 from Balikpapan.

The median age of the participants was 26 years. Median gestational age of the participants was 33 weeks. Just over 37% of participants were experiencing their first pregnancy. For those who had been pregnant before, the mean number of prior pregnancies was 2.

Of the approximately 80% of the participants who disclosed their income to the interviewer, the average monthly household income was approximately 1.6 million Indonesian Rupiah (IDR) (\$200AUD). Nearly 37% of participants reported their monthly household income as 1 million IDR or less.

A large majority, 82%, of the respondents had attended school beyond primary school, and more than half of the respondents had obtained some form of post secondary educational qualification.

Very few participants stated that they suffered from any co-morbidity. Only 4% of women reported that they suffer from, or have previously suffered from hypertension.

Almost 44% of participants in this study made at least one visit to a private health care provider for ANC care.

Only 20.7% of participants across the both districts received all 4 minimum recommended ANC component services (height measurement, weight measurement, blood pressure test, abdominal examination) during the ANC visit after which the interview was conducted. Table 1 displays receipt of basic ANC care components. A majority of the women did receive one or more of these component services; however, few received all four.

Of all participants, 89.9% made 4 or more ANC visits by the time they were interviewed in the third trimester of their pregnancy, including the visit when the interview took place. Just over 63% made at least 4 ANC visits to a public

or private provider, including 1 in the first trimester of pregnancy. Table 2 demonstrates the statistically significant (using chi-squared test) positive relationship between participants who made an ANC visit in the first trimester of their pregnancy and at least 4 visits throughout the pregnancy, compared to those who did not make a first trimester ANC visit.

**Table 2: Minimum recommended ANC visits by ANC visit in first trimester of pregnancy**

		Number of ANC visits		Total
		4 or more visits	Less than 4	
First trimester visit	1 <sup>st</sup> visit in 1 <sup>st</sup> trimester	102	4	106
		96%	4%	100%
	1 <sup>st</sup> visit not in 1 <sup>st</sup> trimester	59	14	73
		81%	19%	100%
Total		161	18	179
		90%	10%	100%

About two thirds of women received four visits or more including one in the first trimester. However, only 48.5% of those who did not attend high school received ANC in the first trimester, compared to 76% of those who did attend the high school.

Although not statistically significant, there is a small difference between minimum basic services received at an ANC visit between participants who made an ANC visit in the first trimester and those who did not (Table 3). Seventy-three percent of the participants who received all recommended services also had an antenatal visit in the first trimester of their pregnancy.

**Table 3: Recommended minimum ANC service components received by first trimester ANC visit**

		Number of ANC visits		Total
		4 or more visits	Less than 4	
First trimester visit	1 <sup>st</sup> visit in 1 <sup>st</sup> trimester	102	4	106
		96%	4%	100%
	1 <sup>st</sup> visit not in 1 <sup>st</sup> trimester	59	14	73
		81%	19%	100%
Total		161	18	179
		90%	10%	100%



There was high variability in the basic services provided to patients during their ANC visit. Not only did the participating puskesmas differ from each other in terms of what ANC component services they provided, but additionally, within each particular puskesmas different women received a different set of ANC service components. That is to say that no puskesmas was found to provide a standard of care (ie. All basic recommended services) to all or most of its patients, nor was there a pattern of services identified between any of the 15 puskesmas where the interviews took place.

Many (43.6%) women attended a private care provider for at least one ANC visit. Of these participants who made at least one visit to a private health centre, the mean number of private health centre visits was 3.

### Discussion

The results of this study need to be considered within the context of some limitations. As this study recruited participants for interview at the point of service it did not measure the overall utilisation and the unmet need of ANC for women in East Kalimantan. The information about comprehensiveness and quality of ANC for women who do not attend puskesmas and for women who attend only hospitals and/or private physicians needs to be researched in order to obtain a reliable description of ANC quality in East Kalimantan. This study however remains important as it provides useful information about quality of care for those who attend the puskesmas and could be used to guide future planning, development, training and monitoring of services at these centres.

The Indonesian Ministry of Health had set the target of 90% pregnant women to receive 4 or more ANC visits. This study points to that in the two districts, access in terms of number of visits almost reached the target set. It is to be noted that these two districts are city-districts and are not representative of the districts which have larger rural and remote populations. Adequate number of ANC visits, as demonstrated in this study, provides an opportunity to provide quality services to at least those who attend the puskesmas, and improve the health outcomes for those mothers and babies. However, although frequency of access was relatively high, timing of first visit does not meet national recommendation, and receipt of basic essential antenatal service components during an ANC visit was far below the national recommendation. Services provided to pregnant women at puskesmas were highly varied in terms of comprehensiveness of care.

The correlation between making a first trimester visit and receiving all essential basic services may reflect a

better awareness amongst these women about the needed care, and that they may be in a position to ask/demand the puskesmas staff for the needed care. The income and past pregnancies and deliveries did not appear to have any influence on accessing puskesmas for ANC during the first trimester of pregnancy. The fact that a relatively larger proportion of women with high school education accessed the puskesmas during the first trimester compared to those who did not attend high school suggests that the information about the need for early visits and the information about the need for a comprehensive set of ANC services is not effectively communicated to those who are socioeconomically disadvantaged. Hence, relatively fewer women are received adequate number of ANC, adequate set of ANC components, and timely access to ANC. Maternal education has been identified as a major predictor of utilisation of ANC services (11). A larger study examining the quality of care across eight Indian states also pointed to the inverse care law, i.e. poorer quality of antenatal care received by the poor and illiterate women who generally need more and higher quality of care (11).

The variability between the 15 puskesmas in terms of comprehensive care and lack of standardisation of care could be because of inadequate understanding and lack of active monitoring of services. Considering that essential minimum ANC is easy to define and provide, the fact that many women did not receive such care could in some cases at least be due to lack of motivation of the staff. Harward and Choi has pointed to the concerns about the accountability within Indonesian health services, which according to them, might be due to confusion about roles and responsibilities. This reflects in part on the staff in terms of what service they ought to provide. It could also be a lack of monitoring (2).

The fact that many of the women, who attended government facilities, also visited private health care providers may reflect that these women consider the quality of puskesmas ANC as poor and/or they understand services at the puskesmas lacks comprehensiveness. In our study there was no significant correlation between income and access to a private health care centre.

Generally the majority of the women who use puskesmas are those who are not privately insured, are of poor economic background, and are often enrolled in the government health insurance schemes for subsidized care. Despite their poor economic background and despite that they have access to low cost care at puskesmas, many women in our study used the services of private medical practitioners in addition to the public services. This service

utilization practice could well be a response to perceived poor quality of care at government centres. It suggests that Indonesian women on limited incomes are left with a difficult decision on the provision of their health care. Pregnant women receive highly subsidised public sector services where the quality and consistency of care appears quite low and for that reason these women also visit private health care providers offering services that may be high cost but perceived as of better quality. It is not known at this point whether the care at private health centres in East Kalimantan is of a higher quality than that at public centres. Current literature from other Indonesian provinces suggests little difference exists between public and private health centres in terms of quality, even suggesting quality of services at public centres is slightly better (2,12). If this is the case, then women in Indonesia may be spending additional household income on private services, but may not be receiving any higher quality care. This points to the need for research about the quality of ANC and PNC in the private sector as well.

#### Conclusion

The ANC at the government primary care facilities is of inadequate clinical quality, due to the lack of essential recommended services. Service provision in the government sector requires huge sums of money from within the overall scarcity of resources in developing countries; hence, the need for effectiveness and quality care not only from a health outcomes perspective but also from an ethics and economics point of view. The health departments and those involved in managing national safe motherhood initiatives should not be satisfied with the information that a large number of pregnant women may now be accessing ANC from skilled health care providers. Quality improvement measures, including capacity to support and monitor and measures to motivate the trained staff, are necessary if these services are to contribute to better health of mother and babies.

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