

## Antenatal utilization, family planning and fertility preferences in Tari

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### SUMMARY

**This paper reports on the results of a questionnaire on antenatal utilization, family planning and fertility preferences carried out on 2560 women in Tari in 1998. There is a very high level of utilization of antenatal and delivery services. There is also a broad knowledge of family planning methods, but very low uptake of these services. Part of the reason for this lies in high fertility preferences among women in Tari, part in a lack of confidence regarding the methods, and part in male opposition to their use. Comparison with elsewhere in Papua New Guinea confirms that health service utilization and fertility preferences are high, and family planning uptake is low in Tari. The decline in health services and the collapse of law and order in Tari bodes ill for the future of a family planning program in a district in which the need for such services is rising, due to the effects of population pressure on the environment.**

### Introduction

A questionnaire on antenatal utilization, family planning and fertility preferences was carried out in 1998 by the Tari Branch of the Papua New Guinea Institute of Medical Research (PNGIMR). The study was funded by AusAID through the Population and Family Planning Project in Port Moresby.

The questionnaire contained five broad sections: socioeconomic background, antenatal health service utilization, maternal and child health, family planning utilization and fertility preferences.

Details of the Huli environment and culture in which this study was set appear elsewhere in this issue of the Journal (1-3).

### Methods

Between 1970 and 1995 the Tari Research Unit (TRU), which was from 1985 part of the PNGIMR, maintained a demographic database covering people in the Tari Basin. In mid-1994 the de jure population under surveillance was 35,971, of whom 79% were present in the basin. 12 census units were selected from the 33 in the Tari Basin under demographic surveillance at that time (see Allen and Vail,

Figure 2 (4)). The sample was stratified geographically and according to access to health services, with 4 census units being selected from each of the areas to the east, north and west of Tari town. A hospital or health subcentre was located in one of the census units in each of these areas.

Population data at each census unit were updated before the commencement of the questionnaire, using former demography reporters or specially trained males with a grade 10 level of education. These reporters collected information on new births, deaths, marital events and movements at each census unit since 1995, and social information on education, employment, religion and house type. This information was entered into the TRU database. 33 female interviewers with a minimum standard of Grade 8 education were recruited from the 12 census units involved. Preliminary training sessions were held in Tari, and further sessions in the field. Despite their training, some interviewers had difficulty following the flow of the questionnaire, while others found it hard to condense into numerical codes the complex verbal histories presented by some women.

As the subject of family planning and

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fertility preference is by nature a sensitive one, some interviews, particularly those with young, unmarried women, proved difficult to conduct. Many interviewers were relatively young and unfamiliar with the contraceptive methods about which the questionnaire enquired. Problems were checked in the office, with follow-ups undertaken by supervisors in the field where required.

**Results: Findings in Tari**

**Demographic and social indicators**

Information compiled by reporters indicated that 83% of the sample female population aged between 15 and 49 years were present in Tari at the time of the survey. Over 2600 women were interviewed between January and March 1998. Of these, responses on 2560 forms were complete, and the women were identified on the TRU database. This total represents 79% of the de jure population, or almost 96% of those women present, an extremely high response rate that can be attributed to the diligence of the interviewers in seeking out female respondents. However, older women are slightly under-represented as a proportion of the total, though the bias is slight. Some doubt must also be attached to the thoroughness with which some women were interviewed, particularly in the latter part of the questionnaire.

For the purpose of this analysis, respondents were divided into five age groups: 15-19 years, 20-24 years, 25-29 years, 30-39 years and 40-49 years; three regional groups: less than 1 hour from hospital or health centre (33.9%),

1-2 hours from hospital or health centre (46.4%) and more than 2 hours from hospital or health centre (19.6%); and three educational groups: no education (54.5%), Grade 1-6 education (35.9%) and Grade 7 or better education (9.6%).

Over half of the respondents belonged to the Evangelical Church of Papua, and the remainder were distributed among the United, Roman Catholic and Seventh Day Adventist churches. Among the sample overall, two-thirds were married, but only 12% of 15-19 year olds (Table 1).

Over a third of the married women were co-wives, and among these women about half had a single co-wife, while the remainder had two or more co-wives. A little over two in five of these families included three or more wives. Looked at by family rather than individual respondent, one-third of families in the sample were polygynous. However, it should be noted that co-wives often live quite separately from each other, and there is a tendency for the husband to cohabit most closely with his newest wife. Almost as many women with a high school education as uneducated women had co-wives, which suggests that the practice, though on the wane, is still broadly accepted by both genders in Tari.

Half of the married women interviewed slept in the same house as their husband. Two-thirds of married women with high school education slept in the same house as their husband, and two-fifths of these women slept in the same room.

**TABLE 1**

SAMPLE BY AGE AND MARITAL STATUS

	Age in years					Total
	15-19	20-24	25-29	30-39	40-49	
Married	12.1%	44.5%	81.3%	82.5%	83.4%	65.7%
Divorced	0.9%	2.2%	3.8%	6.8%	7.5%	4.6%
Widowed	0.0%	0.6%	0.4%	3.9%	6.2%	2.5%
Never married	86.9%	52.7%	14.5%	6.8%	2.9%	27.2%
Number	321	535	502	720	482	2560
	12.5%	20.9%	19.6%	28.1%	18.8%	100%

### Antenatal and delivery

Over 90% of women who had been or were pregnant at the time of the survey said they had attended antenatal clinics. Yet only half of those aged less than 20 years had done so. This may be because some of these women had only recently become pregnant, and were yet to go to the clinic; it may also reflect the recent demise in maternal and child health (MCH) clinic services in many rural areas. Almost twice as many high school-educated as uneducated mothers failed to attend antenatal clinics, probably because they were on average younger than were other women in the survey.

Among the 122 women who did not attend clinics, half said the clinics were too far away; the majority of women who gave this response lived in areas more than 2 hours from a health institution. Virtually all antenatal care was provided by clinic sisters, reflecting the good coverage of MCH services up until the last few years.

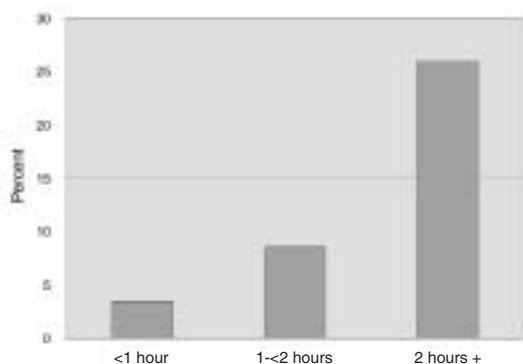


Figure 1. Percentage of mothers giving birth to their last child at home according to distance to the nearest health centre.

The vast majority of children were born at health centres or Tari Hospital. However, as many as 25% of those in areas 2 hours or more from a health institution were born at home (Figure 1). About 5% received no assistance with childbirth, the proportion being highest among the young and old, and those in remote areas.

### Family planning

The responses to the questionnaire suggest that fewer than 5% of women in Tari have ever used modern family planning methods. Three-quarters of women said they knew about pills and injections as family planning methods, while two-thirds had heard of tubal ligation. Among women less than 20 years of age only about 60% were aware of a modern family planning method. On the other hand, over 90% of high school-educated women knew of them (Table 2).

No woman aged under 20 years said that she had used contraceptives, and even among those aged 30 years or more, fewer than 10% had used modern family planning methods. About 3% had used the pill at some time in the past, while 2% had used Depo-provera. Less than 2% reported that they were using any method of family planning.

Three-quarters of women learned about family planning methods from nurses at the MCH clinic and 70% were also informed by friends. A relatively high proportion of high school students learned about family planning methods from teachers.

Nearly one-half of the users of modern family planning methods reported experiencing

TABLE 2

FAMILY PLANNING KNOWLEDGE AND USE BY EDUCATION

	No schooling	Education Grade 1-6	Grade 7+	Total
Knows	79.2%	81.7%	91.5%	81.3%
Used	4.4%	5.1%	6.1%	4.8%
Number	1396	918	246	2560

Note: Family planning methods are pill, injection, condom, tubal ligation or loop

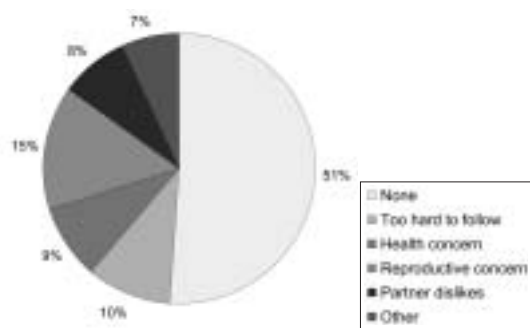


Figure 2. Problems reported using family planning; N=109.

some sort of problem (Figure 2). In several cases, pregnancy occurred while the woman was using the pill.

**Fertility preferences**

Among those women who wanted more children, two-thirds stated a numerical preference, while the remainder elected ‘as many as possible’, ‘up to my husband’ or ‘up to God’ as a response. The mean desired family size was 4.9. Younger and better-educated women desire slightly smaller families (Table 3).

About three-quarters of the women appeared to be satisfied with the spacing of their last child, a result that seems consistent with birth interval data collected in Tari between 1988 and 1993 (the latest years for which reliable data are available). Almost two-thirds of births followed more than 30 months after the previous child, suggesting that the current regime of abstinence, post-partum taboos and

extended breastfeeding work fairly well in limiting pregnancy.

On the other hand, 15% of births occurred less than 24 months after the previous birth, an interval that most Huli mothers regarded as too short (unless the previous child had died). The responses from the questionnaire suggest one-fifth of women aged under 40 years wanted to wait longer, and one-fifth of women 40 years or older did not want their last child (Table 4). Thus it seems there was a substantial need for family planning among those either unwilling or unable to follow traditional practices.

Most women expressed no gender preference. Two-thirds of women said that ‘love for children’ was the reason they wanted more children, while a quarter said that old age security was their main motivation. Women aged 40 years or more were more likely to provide the latter reason.

Among the 838 women overall who said that they wanted no more children, 49% said that they already had enough. A further 32%, predominantly younger women, thought themselves infertile. Very few said that costs of raising children or land shortage were the primary reason for stopping having children. However, more than a quarter of high school-educated women did regard these reasons as important.

**Results: Provincial and national comparisons**

Comparisons of the results in Tari with provincial and national rates are based on the

**TABLE 3**

MEAN IDEAL NUMBER OF CHILDREN BY EDUCATION AND AGE OF MOTHER

Education	Age of mother (years)							Total
	15-19	20-24	25-29	30-34	35-39	40-44	45-49	
Nil	4.7	4.6	4.9	5.2	5.9	5.9	5.8	5.0
Grade 1-5	4.6	4.9	4.8	5.0	4.6	6.0	-	4.8
Grade 6	4.8	4.8	5.0	5.6	5.3	6.0	-	5.0
Grade 7+	4.4	4.5	4.6	4.8	6.2	5.8	-	4.6
<b>Total</b>	4.6	4.7	4.8	5.2	5.5	5.9	5.8	4.9

**TABLE 4**

FERTILITY PLANNING AND MOST RECENT BIRTH

Mother's age (years)	Planning status of birth			Number
	Wanted then	Wanted later	No more	
15-19	83.3%	16.7%	0.0%	12
20-24	80.3%	18.9%	0.8%	132
25-29	74.0%	24.8%	1.2%	242
30-34	71.4%	24.6%	4.0%	175
35-39	74.4%	18.8%	6.8%	133
40-44	69.2%	11.0%	19.8%	91
45-49	65.9%	15.9%	18.2%	44
<b>Total</b>	<b>73.7%</b>	<b>20.7%</b>	<b>5.5%</b>	<b>829</b>

National Demographic and Health Survey of 1996 (5, 6).

**Demographic and social indicators**

Tari experiences lower fertility and mortality rates than Southern Highlands Province in general. The mean number of children ever born is 2.30 compared to 2.78 for Southern Highlands Province, and mean number of children surviving is 2.07 compared to 2.38. There are higher levels of infertility in Tari – at age 45-49 years 6.3% of women reported never having given birth, compared with 4.4% across the province. Huli women wait longer to marry and have slightly higher levels of educational attainment than women elsewhere in the province.

Huli women are more likely to be engaged in polygynous unions than their counterparts elsewhere – 33% of Huli women have at least one co-wife, compared to 13% of women elsewhere, and 25% of highlands women. Twice as many Huli women as other highlands women have more than one co-wife.

**Antenatal and delivery**

Huli women made considerably more use of antenatal clinics than did women in PNG in general. 92% of pregnant women in Tari saw a trained nurse compared to 66% elsewhere and 70% in the highlands. 89% of Huli women delivered in a health facility versus 51%

nationwide. Only one in eight women in Tari over 35 years delivered at home, whereas elsewhere five times as many similarly aged women did so. Nationwide, more than 33% first-time mothers delivered at home, but less than 10% of Huli women did.

A doctor or nurse assisted 88% of Huli women at delivery, compared to 51% of women countrywide. Throughout the country 10% of deliveries were unassisted, twice as many as in Tari.

**Family planning**

At least one modern family planning method is known to 81% of Huli women, compared to 72% of PNG women overall. A probable explanation for this difference is the high level of attendance at MCH clinics in Tari. Yet even with this higher rate of knowledge of modern family planning methods, far fewer Huli women than PNG women overall have used a modern method. 7% of married Huli women say they have used a method compared with four times as many married women throughout the country who claim to have done so. Only 1% of married 20-24 year old Huli women have used a modern method compared to 20% for all PNG women.

Among married Huli women, 3% were using a modern family planning method, compared to 20% for women throughout PNG. Among the high school-educated women, 5%

of Huli females are current users versus 33% overall.

### **Fertility preferences**

Some differences in the data must be allowed for in comparisons of fertility preferences. In deriving Tari figures, pregnancies were not allowed for, and sterilized women were not removed from the total, but neither of these factors is likely to influence the comparison greatly. Whereas more than half of Huli women said they wanted more children, only about a third of women overall did so. The gap was particularly marked at higher parities – for those women with four children nearly four times as many Huli, compared to PNG women overall, want more children. Conversely, only a quarter of Huli women are sure they want no more children, compared to half of all PNG women.

On average, Huli women desire 4.9 children, compared to 3.5 for PNG as a whole and 3.6 in the highlands. The Huli estimate may be slightly biased by the fact that never-married women were specifically asked to state a numerical preference. Over a quarter of Huli women thought that 6 or more children were desirable, compared to only 6% throughout PNG. The higher preferences among Huli were consistent across the range of ages for women, and among married and single women. High school-educated Huli women aged under 20 years desire families twice as large as their counterparts elsewhere in PNG.

### **Discussion**

In Tari there is a pattern of high utilization of antenatal and delivery services, but little use of family planning. The reasons for this pattern lie in the geographical and cultural setting in which the utilization of these services occurs.

Health services in Tari were, until recent years, both accessible and reliable. MCH clinics reached even the more remote parts of the basin. These services were highly valued by Huli women, who have a strong belief in the efficacy of western medicine in curing and preventing illness.

The social aspect of the MCH clinic is an important attraction for women (7). However, this is not necessarily the case for antenatal clinics. Women are reluctant to attend antenatal clinics until they are into their last four months of pregnancy. This is because Huli women count only eight months of pregnancy. The first four months are held to be 'bad', and there are proscriptions on the mother working too hard lest she endanger the fetus, while the second four months are held to be 'good'. Some of the motivations for attendance may be negative. A woman who has not attended an antenatal clinic may fear censure upon arrival at a health centre for delivery. Also, there is a widespread, if officially discouraged, practice of imposing fines on women who fail to deliver in health centres.

Huli women prefer to deliver their children under supervision. Traditionally childbirth was a solitary experience, and mortality rates among mothers and children were high (8). Children were also felt to be at risk in later life if they ingested blood at birth (9). Mothers believe this is avoided by the use of suction to clear fluid from the mouth of their baby immediately following delivery.

The decay in the rural health service over the past few years threatens the high attendance figures reported in this survey. This may already be reflected in the lower utilization of antenatal and delivery services by younger women.

In contrast to the high demand for health services in general, there appears to be little interest in modern family planning methods in Tari. This may reflect both the fertility preferences of Huli women, and their attitude towards family planning.

The mean desired (by women) family size of 4.9 is higher than the total fertility rate of 4.3 calculated from the Tari database in the early 1990s. If infertile women are excluded, the total fertility rate per fertile woman would approach the desired family size more closely, but even so women on average desire a family that is, if anything, a little larger than actual family sizes.

The survey suggests that most women

continue to value highly their traditional role as child bearers. Women do not consider children to be costly, or land to be scarce. Even at a census unit at which a major pitched battle had been fought over a piece of land less than five years earlier, none of the respondents cited shortage of land as a reason for not wanting more children. But land degradation and shortage is already apparent in many parts of the basin, and levels of clan fighting have increased alarmingly over the past decade. The population will double in 30 years at current growth rates.

If we look specifically at modern family planning methods, demand may be low for at least 4 reasons:

1. Beliefs surrounding sexuality which work in opposition to contraceptive methods (7).
2. The perceived opposition of men to family planning. Some men may see contraception as impinging upon their right to control their wives' fertility as they see fit. Health workers normally seek the husband's consent before providing a woman with contraceptives. Although male opinions were not considered in this survey, anecdotal evidence suggests that men desire even larger families than women.
3. Little promotion of modern family planning methods; also the availability of contraceptives is unreliable in areas distant from Tari Hospital.
4. Problems using some contraceptive methods – half of the few women who have used a family planning method have experienced a problem.

Huli women are more concerned with spacing births adequately than with exact family size. Although they were unaware of the fact, many were observing traditional methods of birth control by observing post-partum taboos, breastfeeding their child until well after its first birthday and, in many cases, living separately from their husband. However, the survey shows there is an unmet demand for contraception. Many older women want no more children, and many women of all ages would have preferred to better space the births of those they have.

Hence there is a need for a more active family planning program in Tari. Several elements are of importance. Firstly, it is essential to enlist male support, in the form of community health workers, and church and lay leaders. More emphasis must be placed upon the quality of children's lives, which entails both an improvement in the rural living standards and better education of parents in their role as child raisers. Family planning services and counselling must be widely available, and problems experienced with methods by a few past users must be dealt with adequately. However, for such a program to be mounted there must be a functioning, well-managed health service, which is not the case in Tari at present.

In fact, fertility decline has already commenced in parts of Tari, without recourse to modern family planning methods. Demographic data collected by TRU indicate that there was a sharp decline in the fertility rate in the East Basin in the early 1990s (10). This decline was associated with a drop in infant mortality rates, and was represented by a lengthening of birth intervals. Short birth intervals follow infant deaths as parents seek to replace lost offspring (11). Young women in these parts, who are better educated, more travelled and more involved in the cash economy than their counterparts elsewhere, are also marrying later (12). Older women, on the other hand, may be experiencing an involuntary reduction in fertility through the effects of untreated STDs (10).

There does appear to be a growing awareness of land shortage in the Tari Basin, but it is unclear what effect it may have upon family size. In the past land was considered plentiful, as people had access through their kinship system to gardens in many parts of the basin. However, multiple residency has become less common in recent years. Old men say that their land is 'shrinking', and women express a preference to marry men who live in areas where the gardens are not too small and subdivided. On the other hand, fighting over land increases insecurity and may encourage larger families as clans feel the need to maintain strength in numbers.

The increased monetization of the local

economy may lead to a reassessment of the cost of raising children. Sharp increases in prices due to the depreciation of the kina and increasing transport costs have made purchased foods, such as flour, rice and tinned fish, to which many people have become accustomed, more expensive. The survey indicates that educated women are already aware of the cost of children.

However, the increasing lawlessness in rural areas, and the decline in health and education services may slow social and economic change. Linked to this, if mortality rates increase due to epidemics of disease, such as HIV/AIDS and malaria, larger families may be needed to ensure enough children survive. Hence the government has a clear responsibility to maintain law and order, health, education and other government services in Tari and similar rural areas if it wishes to support the transition to lower fertility rates and a better quality of life for the people of Papua New Guinea.

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