

User charges and utilisation of obstetric services in the National Capital District, Papua New Guinea

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Abstract

This cross-sectional study examined user charges on the utilization of obstetric services in the 4 urban clinics and antenatal and postnatal wards of the Port Moresby General Hospital (PMGH) in the National Capital District, Papua New Guinea. Analysis of previous records showed attendance to antenatal clinics on first visits declined by 30% soon after the introduction of use charges. However, the frequency of attendances increased and stabilized 12 months after the introduction of the user fees.

The mean age for the 482 mothers interviewed was 25 years (range=15-46 years, SD=5.3). Over 50% of mothers were between 15-24 years of age and 47% over 24 years. 98.6% were married and a small proportion were single and divorcees (1.4%). Over 85% of mothers had some formal education while 15% without.

The frequency of hospital deliveries did not change despite increased in user charges in the PMGH delivery and postnatal care services.

Twenty four percent of mothers interviewed indicated they were unable to pay user fees. Mothers unable to pay the user charges were those without income or whose spouses were without regular income. In 23.2% of

mothers with some income, majority indicated ability to pay the user fees. There was a minority group of mothers without income but relied heavily on their spouses income to meet the user fees. Mothers living in households with some income were twice more likely (OR=2.18, 95% CI 1.24-3.83, $p = 0.002$) to have the ability to pay user fees than those without. Two other significant indicators associated with mother's ability to pay user fees were employment and knowledge of existence of the user charges.

Over 79% of mothers indicated willingness to pay user charge fees. Mothers with income were nearly three times more likely (OR=2.77, 95% CI 1.36-5.78, $p=0.002$) willing to pay user charge fees than those without income. Other indicators that showed significant association with willingness to pay user charge fees were employment, income and knowledge of user charges. Although small proportion of mothers were unable to meet the user charges, results in this study showed majority of mothers were able and willing to pay user charges if they had prior information to the charges and supported by some form of income.

The results of the study suggests the typical support practised by the society where the spouse and relatives assist with health care especially with maternal health is encouraging. However, the scope of this study cannot be used to generalise the trend in PNG because the scenario in the rural areas will vary from urban.

Introduction

Papua New Guinea is the Eastern part of the island of New Guinea. A developing country with the population growth rate of 2.3% annually¹ and in 1998 the population was estimated at 4.4 million². Papua New Guinea (PNG) has a literacy rate of only 45.1%. The literacy rate is particularly low amongst women (40.3%). The government provide most of the health services in Papua New Guinea (PNG). But the expenditure favours urban than rural, although 80% of the population reside in rural areas. Health care spending has declined from 10% to 8.1% of the total government expenditure between 1985-1995 and between 1993-1995, rural health expenditure declined from 70 to 60%².

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Life expectancy for males and females were estimated at 52.2 and 51.4 years respectively¹. Women of reproductive age (15-45 years) represent about 24% of PNG population². The crude birth rate (CBR) was estimated at 34 per 1000 population and total fertility rate (TFR) at 4.8 births per woman. The infant mortality rate (IMR) is 69/1000 live births and the estimated maternal mortality rate (MMR) is 3.7/1000 births¹. The MMR is probably an under estimation of the true situation in PNG.

In the last 5 years, antenatal coverage has remained fairly constant, ranging between 66-71% and supervised delivery under 35%². The National Capital District (NCD) is the most densely populated district in PNG with an estimated population of 400,000 in a land area of 240 square kilometres. The population growth rate of NCD was estimated at 4.7% in 1990 (the national average is 2.3% in the same period).

Maternal and child health services under the support of the government in NCD are provided at 10 urban clinics. Only 4 clinics provide antenatal services apart from Port Moresby General Hospital (PMGH). Most of the deliveries in NCD are conducted at PMGH while a small proportion go to 2 private clinics.

The government has experienced difficulties to maintain financial support to keep health services going. To offset the budget deficit the Department of Health has sought alternative ways to generate budgetary income. Following the recommendations of the World Bank on user charges, the government of PNG set a policy of user charges for the public health sector advocating the principle of cost-recovery and cost-sharing between the provider and consumer. The user charge fees was introduced in some hospitals in 1974 and in some rural health services in 1980s.

The user charges was introduced in NCD in May 1993 for the general outpatients. In July 1995 the fee for delivering in the hospital was increased from K5.00 to K20.00 (US \$1.75 to \$7.00). In February 1996, the user charges for antenatal care services was introduced at PMGH. User charges fees were not introduced in the 4 urban clinics that conducted antenatal care services.

User charge fees is defined as are out-of-pocket payments by users of government health services. The administration of user charges varies between countries⁶. It was suggested that introduction or increasing the user charges in government facilities may not be affordable by many patients of low income status¹. In Kenya the attendance declined sharply after user charges were

introduced in government health services⁵. In Zaire, when the user charges were introduced there was declined in utilisation of health services from 37% to 31% and antenatal coverage fell from 95% to 84%⁶.

In PNG, attendance in a rural hospital declined by about 30% after the introduction of the user charges⁷ and in NCD where males (adults and children) utilised the health services more than females, the introduction of user charges seems to have widened the gap between males and females usage of health services⁸.

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The effects of user charges on utilisation of obstetric services in government health services in Papua New Guinea and the National Capital District is not fully established.

The aim of the study was to examine the effects of user charges on the utilisation of obstetric services in the National Capital District with the objectives set to describe the characteristics of the mothers utilising obstetric services in NCD and examine the relationship between user charge and some of the characteristics.

Methods

This cross-sectional study was conducted in 4 urban clinics that provided antenatal care services, the antenatal clinic and the postnatal ward of the Port Moresby General Hospital in the National Capital District (NCD) between November 1998 and February 1999. The 1st antenatal visit refers to the first time a mother enrol at the antenatal clinic for either first, or subsequent pregnancies. The first visit is also classified as new enrolment.

Purposive sampling method was used to recruit antenatal and postnatal mothers. Only mothers who were available and willing to be interviewed were selected in the study. The mothers were interviewed by the principal researchers and trained research assistants using structured questionnaires.

Selection criteria for a mother to qualify in the study were.

1. Pregnant mothers attending antenatal care services at the urban clinics and PMGH.
The individual interviews were conducted in the waiting area but away from the others ensuring privacy for both the interviewer and the interviewee, so the mothers can freely expressed their opinions.
2. Postnatal mothers in the postnatal ward.
Bedside interviews were conducted with selected

Figure 1a Attendance in 1994

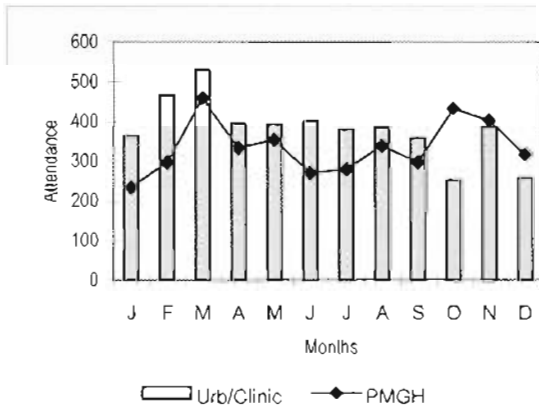


Figure 1b Attendance in 1995

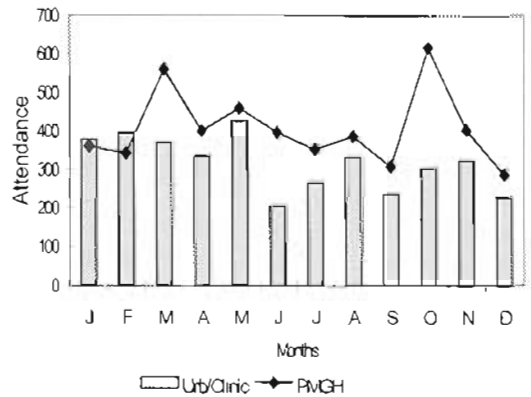


Figure 1c Attendance in 1996

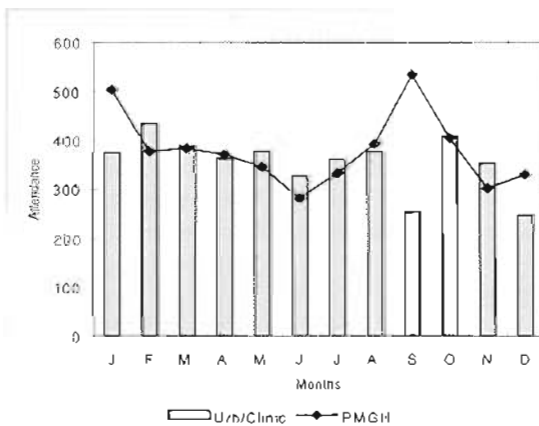
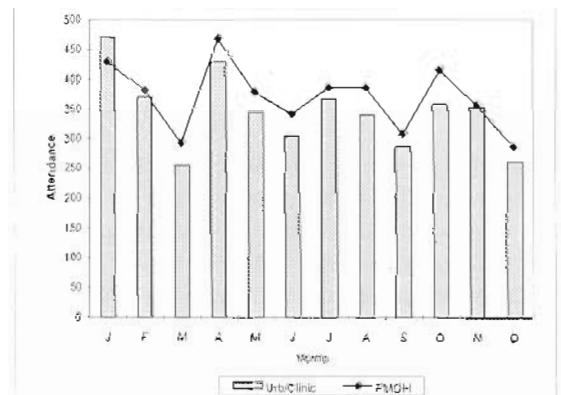


Figure 1d Attendance in 1997



mothers in postnatal ward, between 24-48 hours after delivery. The interviews were done outside of the visiting hours (6-7 AM, 12-1.00PM and 5- 8 PM) in order to avoid influence of guardians and relatives on mothers' responses. Except for mothers with complicated labour, most of the postnatal mothers were discharged from the ward within 48 hours after delivery.

3. Past obstetric records.

The obstetric services records in the last 5 years from the urban clinics and PMGH were examined. Attendances in each month of the year dating between 1997 to 1994 were recorded on the pre-designed questionnaire.

4. Data analysis and management.

Data collected were entered and analysed using EpiInfo 6.04b software⁹.

Results

Retrospective analysis of obstetrics attendances of health facilities in NCD

The monthly antenatal (A/N) enrolment for Port Moresby General Hospital (PMGH) and urban clinics between 1994 and 1997 are shown in Figures 1a - 1d. Analysis of the data showed the number of new enrolment between January and February in 1995 (Figure 1b) were slightly higher in the urban clinics than in PMGH. But between March and December of the same year the attendances were continuously higher in PMGH than urban clinics. In January 1996, there were 500 new A/N enrolment in PMGH (Figure 1c). The user charges of K1.00 (PGK1.00=US\$0.35) for antenatal services was introduced in February in PMGH antenatal clinic. After the introduction of user charges, there was a 30% decline in A/N attendance in PMGH and subsequent 5 months in comparison with urban clinics. In February 377 mothers attended PMGH and 434 attended urban clinics (Figure 1c). One year after the introduction of user charges, the monthly antenatal attendance (1st visits) increased in

PMGH more than in urban clinics (Figure 1d). The annual trend of new A/N enrolment in five years showed the attendances were predominantly high in PMGH than urban clinics, except in 1994. On average, each facility recorded between 600 to 800 new enrolment. A similar trend showing predominance of attendances in PMGH was also shown when total attendances (1st and repeat visits) were analysed between 1994 and 1997.

Analysis of previously collected data showed between 1994 and 1997 majority of mothers delivered their babies in PMGH. Only a insignificant proportion of unbooked mothers delivered at PMGH.

Analysis of cohort data

A total of 482 mothers accepted to be interviewed and were included in the study. 281 were antenatal mothers from urban clinics and PMGH and 201 postnatal ward in PMGH. Age of mothers ranged between 15 and 46 years (mean=25 years, SD=5.3). Highest number of women (40%) were in 20-24 years age group. A relative cumulative frequency of >50% of mothers were in less than 25 years of age. Majority of mothers (98.6%) were married and a very small proportion (1.4%) unmarried (single or divorcees). A relative cumulative frequency of more than 77% of mothers have had less than 3 children (ie. parity 0-2). 17.8% were para 3-4 and 4.6% parity 5 or more.

Majority of the mothers interviewed (85.1%) had formal education; 41.1% primary and 33.6% secondary; 10.2% college or university education. Less than 15% of mothers did not have formal education. Over 50% of mothers' origin was Southern region with Highlands as the next commonest. Momase and Islands regions were the least commonest.

76.8% of mothers were unemployed and without income and 23.2% were employed. Of the 23.2% mothers employed, 2.4% earned less than K 100.00 (US\$30.00) per fortnight and 3.3% K400.00 (US\$120.00) or more. 25.7% of spouses (husbands) were without income and 74.3% were wage earners. Household income of mothers interviewed ranged up to K1000.00 per fortnight. Majority of mothers lived in household where the income was more than K100.00 per fortnight.

Knowledge and opinions on user charges

Over 85% of mothers knew about the user charges prior to enrolling in antenatal clinics in PMGH and urban clinics

. 68.1% of the mothers indicated that the user charges were too expensive. In the individual interviews the mothers were asked if they should pay for obstetric services according to these categories of services; 47.7% were happy to pay for antenatal care, 62% hospital delivery and 60% postnatal care.

Mothers ability and willingness to pay

The relative frequency of mothers expressing willingness and ability to pay user charges are shown in figure 6. 75.7% of mothers had the ability to pay while 24.3% could not pay the user charge. 79.7% of mothers were willing to pay while 20.3% were unwilling to pay the user charges.

Indicators of mother's ability to pay

The analysis for associations between indicators and mother's ability to pay the user charges, showed mother's employment ($p<0.001$) and income ($p<0.001$) were significant factors. Household income was significant ($p=0.002$) when categorised as high and low.

The analysis for associations between indicators and mother's willingness to pay the user charges showed mother's employment ($p=0.003$), knowledge of user charges ($p<0.001$) and mother's income ($p=0.002$) were significant factors.

Mother's income determined the choice of facility

The PMGH antenatal clinic charge K1.00 per visit, but the urban clinics are free of charge. Mothers earning income are most likely to attend PMGH antenatal clinic because they can afford to pay than those without who will go to the urban clinics.

Discussions

In the National Capital District (NCD) antenatal services are provided in private and government health facilities; especially urban clinics and Port Moresby General Hospital (PMGH). Deliveries are mostly in PMGH with a small proportion of mothers who can afford high cost of service prefer to deliver at a private hospital. However, affordability is not an issue as shown in this study. Several factors contribute to making the decision of where to acquire obstetrics services and age of mothers may determine the choice of practice especially in urban areas of Papua New Guinea (PNG). Majority of mothers utilising obstetric services are usually young whose spouse has a employ-

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ment that can support services such as health and this study indicated overwhelmingly that 75.7% of mothers indicated positively their ability to pay user charges through some mechanism of financial support. Majority of young mothers in the National Capital District (NCD) are the frequent utilisers of obstetric services shown in this study.

Mothers with formal education were more likely to decide where to seek special health care services (i.e. obstetrics services). The high numbers of mothers with formal education in NCD is supported by data from National Statistics Office (1996). Education is an important factor in decision making in many aspects of life and health care is one of the important decision to make. Because majority (85%) of mothers interviewed were educated there is strong suggestion that education may have contributed to high attendances and preference to have a supervised delivery in PMGH than in settlements and villages. The question of knowing about an public health-related issue and utilising the services is an important preamble to decision making as illustrated in this study. Education was observed as an important factor in 85% of mothers who knew about the user charges and were still willing to go to facilities where they will receive the expected services for their money. Awareness in the community about the user charges and the amount payable is also very important to sustain service utilisation. Although utilisation was notably high in the mothers interviewed in this study, it was not possible to authenticate if community awareness was adequate or if there was further requirement to inform the community of the user charges. The hospitality and support provided by doctors and nurses in labour wards have convinced many mothers to support user charges in health facilities where delivery services are available.

Important indicators determining mothers' ability and willingness to pay user charges were employment, income, household income and knowledge of the fees. If income was an important predictor of ability to pay user charges, it was poorly supported in the study. However, having no employment was not a deterrent to obstetric services utilisation because there were other form of financial support in the household (HH). As the study results showed more than 70% of mothers were unemployed but the fact they indicated willingness to pay the fees supported the argument earlier of spouse's employment or close relative's support if there are more than one family living in the HH.

Three quarters of mothers indicating their ability to pay user charges was higher than unexpected because 76.8%

were unemployed. The main sources supporting their ability to pay the charges were spouses or relatives income indicated by similar proportion of spouses employment. In addition the household income was noted to have a significant association ($p=0.002$) with the mother's ability to pay user charges. Furthermore, unemployment was noted not to have any influence on majority of mothers expressing their willingness to pay the user charges at any of the health facilities. The minority of mothers who indicated unwillingness to pay were mainly unemployed. Community awareness of user charges is very important as it will enable mothers to be prepared to pay the fees as they utilise the services. On the hand, education and spouse's income did not have any significantly influence on mothers expressing their willingness to pay. Another interesting observation related to income was the preference in health facility. The study found that income earning mothers were significantly ($p=0.002$) more likely to visit facilities charging fees (e.g.

PMGH charging K1.00(\$US0.36) per antenatal visit) than those without

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In 1995 before the user charges for antenatal care services were introduced, the monthly antenatal attendance (1st visits) was high in the PMGH than at urban clinics suggesting mothers were by-passing the urban clinics and opting for services at the hospital. However, when the user charges (of K1.00 \approx US\$0.35) was introduced in February 1996, the monthly attendances for 1st antenatal visits were higher at the urban clinics than PMGH. The declined in PMGH antenatal attendances by 30% illustrated mother's dissatisfaction over the user charges. Mothers who would normally attend the antenatal clinics at PMGH decided to receive services at the urban clinics. It took 5 months before the attendance at the PMGH increased again. The increase in numbers at PMGH could suggest mothers were beginning to accept the user charges. In 1997 the attendances of 1st antenatal visits was much higher at the PMGH than urban clinics.

The total 1st antenatal visits in between 1995 and 1997 showed the attendance were consistently higher at PMGH than at the urban clinics irrespective of the user charges. The total antenatal attendances (1st and repeat visits) was again higher at PMGH than the urban for years between 1995 and 1997. The decline in monthly attendances noted in 1996 due to introduction of user charges was a temporary observation.

The number of hospital deliveries continued to rise between 1994 and 1997 despite increased user charges (for delivery and postnatal) from K5.00 to K20.00 in mid 1995. It is possible that the high numbers of mothers delivering in the hospital is partly due to the many

unbooked mothers (unregistered at a antenatal clinic) who turn up at the PMGH labour ward.

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... the mortality and nutritional transition, which appears to be mostly related to the declining consumption of traditional foodstuffs, constitutes a "biological time bomb" which must be seen as one of the most critical obstacles to development.

**Randy Thaman in
1987 Pacific Conference Nutrition Challenges
in a Changing World**