

# **Tuvalu**

## **Demographic and Health Survey**

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## **PREFACE**

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The 2007 Tuvalu Demographic and Health Survey was one of four pilot demographic and health surveys conducted in the Pacific under the Asian Development Bank and the Secretariat of the Pacific Community Regional Demographic and Health Survey Pilot Project. The primary objective of this survey was to provide up-to-date information for policy-makers, planners, researchers and programme managers, for use in planning, implementing, monitoring and evaluating population and health programmes within the country. The survey was intended to provide key estimates of Tuvalu's demographic and health situation.

The findings of the 2007 Tuvalu Demographic and Health Survey are very important in measuring the achievements of family planning and other health programmes. To ensure better understanding and use of these data, the results of this survey should be widely disseminated at different planning levels. Different dissemination techniques will be used to reach different segments of society.

The Tuvalu Central Statistics Division would like to acknowledge the efforts of a number of organisations and individuals who contributed immensely to the success of the survey. The Government Statistician chaired the Steering Committee, which offered guidance on the implementation of the survey; Dr Stephen Kaimoko Homasi, Director of Health; Mrs Katalina Taloka, Director of Education; Mrs Saini Simona, Director of Women; Mr Letasi Iulai, Director of Planning and Budget; Mrs Emily Kopke, Coordinator for Tuvalu Family Health Association; and Mr Niuatui Niuatui, DHS Project Manager. .

Financial assistance was provided by the Asian Development Bank, United Nations Population Fund, the United Nations Children's Fund, and the Australian Agency for International Development. Macro International Inc. and SPC are greatly appreciated for having offered important critical technical support.

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## SUMMARY OF FINDINGS

The 2007 Tuvalu Demographic and Health Survey (2007 TDHS) is a nationally representative survey of 851 women aged 15–49 and 558 men aged 15 and over. The 2007 TDHS is the first for the country and one of four such studies conducted in the Pacific as part of the Asian Development Bank and Secretariat of the Pacific Community Pacific Demographic and Health Survey Pilot Project. The primary purpose of the 2007 TDHS was to furnish policy-makers and planners with detailed information on fertility, family planning, infant and child mortality, maternal and child health and nutrition, and knowledge of HIV and AIDS and other sexually transmitted infections.

### FERTILITY

Survey results indicate that Tuvalu's total fertility rate (TFR) is 3.9 births per woman. The TFR in Funafuti (4.2 births per woman) is much higher than in the outer islands (3.7 births per woman).

Education and wealth have a marked effect on fertility, with less educated mothers having more children (on average) than women with more than a secondary level education, and women in the lowest wealth quintile households having more children than women in the highest wealth quintile households.

Childbearing starts early and is nearly universal. Women in Tuvalu have an average of 1.7 children by the time they are in their late 20s and more than three children by the time they reach 50 years.

Initiation of childbearing in Tuvalu has changed little over time, although it seems that there is a slight increase in age at first birth in recent years. The median age at first birth in Tuvalu is 23.5 years for women aged 25–29, the youngest cohort for whom a median age can be estimated. The findings further show that women in the highest wealth quintile, women who live in Funafuti, and women who have more than a secondary education tend to have their first child at a later age than do other women. Women with a higher education begin having children at least two years later (25) than those with less education (23).

Marriage patterns are an important determinant of fertility levels in a population.

Age at first marriage for women does not appear to be increasing in Tuvalu. The median age at first marriage declined from 23 years among women aged 40–44 to 21.5 years among women aged 25–29. Women in Tuvalu tend to initiate sexual intercourse about the same time they enter marriage, as evidenced by the median age at first intercourse among women aged 20–49 of 21.7 years compared with the median age at first marriage of 22.1 years. Similarly, age at first sexual intercourse among women in Tuvalu does not show any increases. For example, the percentages of women who had sexual intercourse by exact age 18 is 13% among younger cohorts of women compared to only 7% among older women in the 45–49 age group.

Men, in contrast, tend to marry several years later than women and initiate sexual activity several years before marriage. The median age at first marriage among men aged 20–49 is 27.2 years, while the median age at first intercourse is 17.8 years. Age at first sex for men has increased very slowly over the years.

One out of three births in Tuvalu (32%) occur at least 24 months after the birth of the previous sibling, while 27% occur within 36 months. The overall median birth interval is 31 months. Birth intervals vary by place of residence: women in Funafuti have shorter intervals between births (28 months) than women in the outer islands (35 months).

### FAMILY PLANNING

Overall, knowledge of family planning is very high in Tuvalu with 96% of all women and 98% of all men aged 15–49 having heard of at least one method of contraception. The Pill, injectables, condoms and female sterilisation are the most widely known modern methods among women and men.

About 64% of currently married women have ever used a family planning method at least once in their lifetime. Modern methods commonly ever used for family planning by married women are injectables, the Pill, and intrauterine device, with the rhythm method being the most commonly used traditional method.

Modern methods are more widely used than traditional methods, with 56% of currently married women using a modern method and 31% using a traditional method. The most popular modern method is the Pill. About one out of three (30%) currently married women currently use any method of contraception at the time of the survey. About 31% of married women in Funafuti and 31% of women in the outer islands currently use contraception.

The majority of currently married women (97%) obtain injectable contraceptives from public medical sources, while 75% applied sterilization at a public sector or government hospital, and only 25% did sterilized overseas.

Overall, 24% of currently married women have an unmet need for family planning services, 12% have a need for spacing births, and 12% have a need for limiting births. If all currently married women who want to space or limit the number of children they have were to use family planning, the contraceptive prevalence rate in Tuvalu would increase from 31% to 55%. Currently, only 31% of the demand for family planning is being met.

## **MATERNAL HEALTH**

Ninety-seven percent of women who had a live birth in the five years preceding the survey received antenatal care from a skilled health professional for their last birth. About seven out of ten women (67%) made four or more antenatal care visits during their entire pregnancy. The median duration of pregnancy for the first antenatal visit is 5.2 months, indicating that women in Tuvalu start antenatal care at a relatively late stage in pregnancy.

Among women who received antenatal care, over half (51%) reported that they were informed about how to recognise signs of problems during pregnancy. Weight measurements were taken for nearly 100% of women and blood pressure measurements were taken for 99% of women. Urine and blood samples were taken from 98% and 97% of women, respectively. Only 24% of women received two or more tetanus toxoid injections during their last pregnancy. An estimated 32% of births were reported to be protected against neonatal tetanus because of previous immunisations the mother had received.

Over nine in ten births occur in a health facility. Overall, 97% of births were delivered with the assistance of a trained health professional — a doctor, nurse, midwife, medical assistant, or clinical officer — while only 1% were delivered by a traditional birth attendant. About 0.9% of births were attended by other people while 0.2% of births were delivered without any type of assistance at all.

Postpartum care is not high in Tuvalu. About 33% of women who had a live birth in the five years preceding the survey received no postnatal care at all, and 51% of received postnatal care within the critical first two days after delivery. About 66% of women received their first postnatal care from a trained health professional while about 1% were cared for by some other birth attendant.

The most commonly cited problems in accessing health care in Tuvalu were a lack of drugs, no care provider and no female care provider available.

## **CHILD HEALTH**

About 51% of children aged 18–29 months were fully vaccinated at the time of the survey. About 84% had received the BCG vaccination, and 74% had been vaccinated against measles. Because DPT and polio vaccines are often administered at the same time, their coverage rates are expected to be similar. A small difference in coverage of DPT and polio is, in part, the result of not enough stocks of the vaccines.

Over 77% of children received the first doses of DPT and 79% received the first doses of polio. However, fewer numbers of children received their third doses, with 62% receiving a third dose of DPT and 60% receiving a third dose of polio.

The occurrence of diarrhoea varies by age of the child. Young children aged 12–23 months are more prone to diarrhoea than children in other age groups. Diarrhoea prevalence is more common among female children, and among children who live in households with a non-improved toilet facility. Children in Funafuti are more likely to get diarrhoea than children in outer islands. There is no clear pattern of diarrhoea prevalence with mother's education due to small numbers of cases. Children in the lowest and fourth wealthiest

households are more likely to have diarrhoea than children in other wealth quintile households.

Nearly one out of two (48%) children with diarrhoea were treated with some kind of oral rehydration therapy or increased fluids. More than four in ten children (44%) were treated with oral rehydration salts prepared from an oral rehydration salts packet, 6% percent were given recommended home fluids, and 7% were given increased fluids.

## **ORPHANHOOD**

Over three in ten households in Tuvalu Islands included one or more children who stayed with neither their natural father nor their natural mother. A higher percentage of households with foster children were found in Funafuti (37%) than in the outer islands (35%). Only one in ten households in Tuvalu has orphans. More households have single orphans (8%) than double orphans (1%). No major variations exist between the outer islands and Funafuti regarding households with orphans.

In Tuvalu, nearly six out of ten (55%) children aged less than 18 years live with both parents, while 18% live with their mother but not with their father even though the father is alive somewhere. Male children living in Funafuti are more likely to be found living with their mothers than children in the outer islands.

About 20% of children in Tuvalu do not live with either biological parent. These children are likely to be between the ages of 2–4 and 10–17 living in the outer islands and Funafuti, and living in the lower, middle and highest wealth quintile households. There is very little variation by sex.

Overall, over one-fifth (23%) of children do not live with their biological parents, which is likely to increase as the age of the child increases and more likely to occur in Funafuti. The parents of about 6% of these children are dead.

## **BREASTFEEDING & NUTRITION**

Breastfeeding is nearly universal in Tuvalu Islands, with 91% of children born in the five years preceding the survey having been breastfed at some time. There is very little difference in whether children were ever breastfed by most background characteristics.

The proportions of children being breastfed are likely to be higher among mothers in second lower wealth quintile households compared with mothers in wealthier households.

The median duration of breastfeeding is 11.3 months, while the median duration for exclusive breastfeeding is 1.5 months, and the median duration for predominant breastfeeding is 3.6 months. In contrast, the mean duration is longer with overall mean duration of breastfeeding at 15.4 months, while the mean duration for exclusive breastfeeding is 3.2 months and the mean duration for predominant breastfeeding is 4.8 months. There is little difference in the duration of breastfeeding by sex of the child. Children in the outer islands are breastfed for a slightly longer time (12 months) than children in Funafuti (8 months). Mother's with a secondary and higher education breastfeed their children for less time than mothers with less education.

Between the ages of 6 and 23 months, children consume food made from grains more often than any other food group. More than 54% of breastfed children and 85% of non-breastfed children in this age group consumed food made from grains in the day and night preceding the interview. The next most commonly consumed food group is meat, fish, poultry and eggs. Around 45% of breastfed children and 80% of non-breastfed children ate food from this group. The third commonly consumed food group is food rich in vitamin A, consumed by 41% of breastfed children and 70% of non-breastfed children.

About 86% of children aged 6–23 months who live with their mother received breast milk, other milk or milk products during the 24-hour period before the survey; 62% had a minimally diverse diet (i.e. they had been fed foods from the minimum number of food groups, depending on their age and breastfeeding status), and about 43% had been fed the minimum number of times appropriate for their age. In summary, only 33% of children aged 6–23 months in Tuvalu met the minimum standard with respect to all three World Health Organization Infant and Young Child Feeding practices

About 87% of young children aged 6–35 months who live with their mother consumed vitamin A-rich foods in the 24-hour period before the survey. Consumption of foods rich

in vitamin A is much higher for non-breastfed children (96%) than for breastfed children (78%).

The staple diet of mothers of young children consists of foods rich in protein (87%), food made from grains (84%) and food rich in vitamin A (70%). Almost two in five women (39%) consume food made from roots and tubers, whereas 29% of women consume other fruits and vegetables. Among mothers aged 15–49 with a child under age 3 years living with them, about 42% drink milk while 74% drink tea and coffee, and 86% drink other liquids.

Observations made during the 2007 TDHS on thinness and wastage among children aged 0–5 years for whom wasting was observed for selected parts of their bodies show that about 2% children of these children have low weight-for-age, and 0.3% are severely underweight. Underweight children are more common among children aged 36–47 months, children whose mothers have less education or only a primary education, and children living in the lowest wealth quintile households.

About 10% of children aged 0–5 years were stunted (i.e. low height-for-age). Stunting is more common among children aged 9–17 months, children in the outer islands, children whose mothers have no education or only a primary education and, surprisingly, children living in the highest wealth quintile households. Only 3.3% of children aged 0–5 years were reported to be wasted (i.e. have low weight-for-height).

## **HIV, AIDS AND STIS**

Knowledge about AIDS is almost universal among the adult Tuvalu population. A very high proportion of women and men have heard of the disease, although men have a more comprehensive knowledge about AIDS (99%) than women (97%). The results also show that the level of knowledge is quite high for both women and men of different ages and marital status, place of residence, education level and household wealth quintile.

Men and women were specifically asked if it is possible to reduce the risk of acquiring HIV by consistently using condoms, limiting sexual intercourse to one uninfected partner who has no other sex partners, and abstaining from sexual intercourse. The results show that 82% of women and 91% of men agree that using a

condom at every sexual intercourse can reduce the risk of getting AIDS, while 90% of women and 93% of men agree that limiting sexual intercourse to one uninfected partner is a way to avoid contracting HIV and AIDS.

Generally, most women and men are aware that the chances of getting HIV through these specified prevention methods can be prevented by limiting sex to one uninfected partner (90% women, 93% men), abstaining from sex (87% women, 93% men), and using condoms (83% women, 91% men).

About 69% of women and 93% of men know that a healthy-looking person can have the AIDS virus. Knowledge that people cannot get AIDS by mosquito bites is lower among women (71%) than among men (75%). On the other hand, knowledge that people cannot get AIDS by supernatural means is higher for men (91%) than for women (78%).

About 38% of women and 60% of men have a comprehensive knowledge about HIV and AIDS. Women in Funafuti are more likely to have a comprehensive knowledge about HIV and AIDS (44%) than women in the outer islands (32%). Women who are married or in a living together arrangement, women who have more than a secondary education, and those who live in the highest wealth quintile households are the most likely to have a comprehensive knowledge about HIV than other women. Comprehensive knowledge is more common among men in Funafuti who are single but ever had sex, those with a higher education and those in higher wealth quintile households.

About 82% of women and 70% of men know that HIV can be transmitted from a mother to her child by breastfeeding. A low proportion of women and men (both 30%) know that HIV can be transmitted through breastfeeding and that the risk of transmission can be reduced by special drugs. About the same proportion of women and men (34% and 38%, respectively) aged 15–49 know that there are special drugs that a doctor or nurse can give to a pregnant woman infected with the AIDS virus to reduce the risk of transmitting the virus to the baby.

Less women than men expressed positive attitudes and opinions toward family members with AIDS. For example, 64% of women and 72% of men reported that they would not want to keep it a secret that a

family member has AIDS while only 81% of women and 86% of men are willing to care for an HIV-infected family member. About 57% of women and 67% of men reported that they would buy vegetables from a shopkeeper who has AIDS.

More than 80% of women and 90% of men in the 15–49 age group agree that a wife is justified in refusing to have sexual intercourse with her husband if she knows that he has a sexually transmitted disease. Almost the same proportion of women and men also agree that a wife is justified in refusing sexual intercourse or asking her husband to use a condom.

## **WOMEN'S EMPOWERMENT**

Data from the 2007 TDHS show that 57% of currently married women and 93% of currently married men were employed at some time in the year prior to the DHS. About 85% of these women and 71% of these men are likely to be paid in cash. Men are more likely to work but not receive payment (23%) than women (4%). Similarly, women are more likely to be paid in-cash and in-kind than men, with 9% of women paid in-cash and in-kind as compared with about 1% of men.

Overall, 33% of women mainly decide by themselves how their earnings are to be spent. More than one in two women (52%) report that they make the decision jointly with their husband or partner, while 13% report that the decision is mainly made by their husband.

About 35% of women make decisions regarding daily household purchases on their own, and 24% report that they make decisions about major household purchases by themselves. About 37% of married women independently decide on their own health care while about 45% of women report that this decision is made jointly with their husband or partner.

About 72% of men think that mainly the wife should make decisions about purchases of daily household needs while only 25% think that this decision should be made jointly by a wife and her husband or partner. About 65% of men think that a joint decision is required to purchase major household items compared with only 7% of men who think that this decision should be left entirely to the wife.

Over 20% of men think that wives should decide for themselves how they should spend their earnings while 63% percent of men think that this should be a joint decision between husbands and wives.

Data show that most women find that wife beating is justified in certain circumstances. About 70% agree that at least one of the reasons asked about during the 2007 TDHS is sufficient justification for a wife to be beaten. This indicates that women in Tuvalu generally accept violence as part of male–female relationships, which is not surprising because traditional norms teach women to accept, tolerate and even rationalise battery.

Men were also asked about their opinions on the justification of wife beating under certain circumstances. More than seven in ten men agree that wife beating is justified for at least one of the specified reasons. This is slightly higher than the percentage of women who agreed with at least one of the reasons (73% for men compared with 70% for women).

Interestingly, the DHS data also show that over eight in ten women (81%) and men (84%) believe that a woman has the right to refuse sex with her husband for all of the specified reasons.

## **MORTALITY**

The infant mortality rate (IMR) for the most recent period (i.e. 0–4 years, reflecting roughly 2003–2007), is 31 deaths per 1,000 live births. This means that three in every 100 babies born in Tuvalu do not live to their first birthday. Of those who survive to their first birthday, 5 out of 1,000, die before reaching their fifth birthday. The overall under-5 mortality is 36 deaths per 1,000 live births, which implies that about four in every 100 Tuvaluan babies do not survive to their fifth birthday.

The first month of life is associated with the highest risk to survival. The neonatal mortality rate is 29 deaths per 1,000 live births, implying that nearly three out of every 100 infant deaths occur during the first month of life. As childhood mortality declines, post-neonatal mortality usually declines faster than neonatal mortality because neonatal mortality is frequently caused by biological factors that are not easily addressed by primary care

interventions. In Tuvalu, post-neonatal mortality is 2 deaths per 1,000 births.

The IMR in the outer islands during the 10 years preceding the 2007 DHS was 30 deaths per 1,000 births, as opposed to 26 in Funafuti. While the level of neonatal and infant mortality was lower in Funafuti than in the outer islands, it was higher for post neonatal and child mortality. As a result, the under-5 mortality was higher in Funafuti than in the outer islands.

Mother's education is strongly associated with status of child survival. Children born to a mother with a secondary or higher education have by far the lowest rates for all types of childhood mortality while the opposite is true for mothers with a lower education. The IMR estimated for mothers with less than a secondary education was 40 deaths per 1,000, while for those with a secondary education the IMR was 29 deaths per 1,000. This pattern is similar to the neonatal and under-five mortality. The neonatal mortality was 33 deaths per 1,000 births for women with less

than secondary while only 21 deaths per 1,000 for women with secondary education.

The 2007 TDHS also examined the relative importance of maternal fertility patterns associated with the increased risk of mortality. Generally, infants and children have a greater probability of dying if they are born to mothers who are too old or too young, or if they are born after a short birth interval, or if they are of high birth order. Only 22% of births in Tuvalu were not in any high-risk category. An additional 26% of births are first-order births to mothers aged 18–34, which is considered an unavoidable risk category. The remaining 52% of births are in at least one of the specified avoidable high-risk categories. About 29% of births are in only one of the high-risk categories (mostly birth order <24 months (13%), and birth orders >3 is 12%) while 23 % of births are in multiple high-risk categories implying these births are born from mothers aged > 34 years, with birth interval <24 and with more than 3 births.



## DEMOGRAPHIC AND HEALTH SURVEY INDICATORS REQUIRED BY INTERNATIONAL AGENCIES

Indicator	National	Differentials	
		Urban	Rural
Millennium Development Goal (MDG) /United Nations Population Fund (UNFPA)			
Net enrolment ratio in primary education (overall net attendance ratio)	98.1	97.5	98.7
Net enrolment ratio in primary education (net attendance ratio — males)	97.3	95.9	98.4
Net enrolment ratio in primary education (net attendance ratio — females)	99.1	99.3	98.9
Literacy rate of women aged 15–49	97.1	97.6	96.6
Literacy rate of men aged 15–49	92.7	96.9	93.2
Literacy rate of women aged 15–24	99.3	-	-
Literacy rate of men aged 15–24	97.9	-	-
Ratio of literate women to men aged 15–24	1.01	-	-
Ratio of literate women to men aged 15–49	1.04	1.00	1.03
Under-5 mortality rate (0–9 years before the DHS)	33	34	32
Infant mortality rate (0–9 years before the DHS)	28	26	30
Percent of 18–29 month-old children fully immunised (BCG, measles, etc.)	51	46	57
Percent of births attended to by skilled health personnel	98	98	98
Contraceptive prevalence rate (currently married women)	31	31	31
Percent of population cooking with solid fuels	18	2	35
Percent of population with sustainable access to an improved water source, Funafuti and outer islands	98	99	97
Percent of population with access to improved sanitation, Funafuti and outer islands	81	83	78

## MAP

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