

Key Tonga DHS Indicators



	Residence			Educational level		
	Total	Urban	Rural	No education/ primary	Secondary	More than secondary
Marriage and fertility						
Women aged 20–24 married by age 18 (%)	5.6	na	na	na	na	na
Men aged 20–24 married by age 18 (%)	6.0	na	na	na	na	na
Total fertility rate (children per woman)	4.1	3.6	4.2	2.8	4.4	3.3
Women aged 15–19 already mothers or pregnant at the time of the survey	5.4	7.6	4.7	*	4.8	(14.7)
Median age at first birth for women aged 25–49	24.9	-	24.7	-	24	-
Married women with 2 living children wanting no more children (%)	28.8	37.7	25.5	0.0	29.5	27.7
Family planning (% currently married women aged 15–49)						
Current use						
Any method	34.1	31.9	34.7	*	35.1	30.7
Any modern method	28.4	27	28.8	*	29.9	23.1
Female sterilisation	13.9	11.2	14.7	*	14.7	10.6
Male sterilisation	0	0.2	0	*	0	0.2
Injectables	6.7	7.4	6.4	*	7.6	3.6
Pill	2	2	2	*	2	2
Male condom	1.6	2.4	1.4	*	1.3	2.7
Unmet need for family planning						
Total unmet need (%)	25.2	28.9	24	*	25.1	25.3
Unmet need for spacing (%)	13.2	14	12.9	*	12.8	14.7
Unmet need for limiting (%)	12	14.9	11.1	*	12.3	10.6
Infant and child mortality (0–9 years before DHS)						
Neonatal mortality rate	7	7	7	*	6	9
Infant mortality rate	13	14	14	*	13	16
Under-five mortality rate	18	18	18	*	18	19
Maternal and child health						
Maternity care (births in the last 3 years)						
Mothers who had at least 4 antenatal care visits for their last birth (%)	70.4	71.7	70	na	na	na
Births delivered in a hospital or health facility (%)	98	97.7	98.1	*	97.9	98.9
Mothers who received post-partum care from a doctor/nurse/midwife for their last birth (%)	85.2	87.6	84.4	*	84.1	88.5
Mothers who received their first post-partum checkup within 2 days of delivery of their last birth (%)	75.9	76.9	75.6	*	75.3	78.3
Child immunisation						
Children aged 18–29 months fully immunised (BCG, measles, and 3 doses each of polio and DPT) (%)	46.3	52.6	44.4	*	43.3	57
Children 18–29 months who have received BCG (%)	89.4	91.1	88.9	*	88.2	93.3
Children 18–29 months who have received 3 doses of polio vaccine (%)	67.8	69.3	67.4	*	66.3	73.7
Children 18–29 months who have received 3 doses of DPT vaccine (%)	65.7	66.8	65.4	*	65	69
Children 18–29 months who have received measles vaccine (%)	66.2	71.4	64.6	*	63.9	74.6
Children aged 6–59 months given de-worming medication in the last 6 months (%)	7.8	11	6.9	*	7.7	8.6
Treatment of childhood diseases						
Children with fever in the last 2 weeks taken to a health facility or provider (%)	63.7	74.8	57.9	*	61.4	(72.8)
NOTE: Figures in parentheses are based on 25–49 unweighted cases. * Indicates a figure based on fewer than 25 unweighted cases. na: not available - = omitted because less than 50% of the women had a birth before reaching the beginning of the age group						





	Residence			No education/ Primary	Secondary	More than secondary
	Total	Urban	Rural			
Nutritional status of adults and children						
Mothers aged 15–49 who consumed food made with oil, fat or butter in the day and night preceding the survey	54.3	70.1	49.5	np	52.0	61.0
Mothers aged 15–49 who consumed sugary foods in the in the day and night preceding the survey	49.1	62.6	45.0	np	48.1	51.3
Children under 5 years breastfed within 1 hour of birth (%)	79.1	84	77.6	*	78.7	80.7
Children aged 0–5 months exclusively breastfed (%)	52.2	na	na	*	na	na
Children aged 6–8 months breastfed and receiving complementary foods (%)	54.6	na	na	*	na	na
Children under 5 years who are stunted (%)	8.1	9	7.9	*	7.1	9.7
Children under 5 years who are wasted (%)	5.2	4.8	5.3	*	5.9	5.1
Children under 5 years who are underweight (%)	1.8	0	0.7	*	0.7	0.3
Children under 5 years who are overweight for their age (%)	10.5	10.9	10.4	*	9.8	14.4
Children under 5 years who are overweight for their height	17.3	20.7	16.4	np	16.9	17.0
Knowledge of HIV and AIDS (women and men aged 15–49)						
Women who have heard of AIDS (%)	95.6	96.6	95.3	(78.4)	95	98.7
Men who have heard of AIDS (%)	95.3	97	94.7	*	94.4	99
Women who know where to get an HIV test (%)	72.1	75.2	71.1	(51.7)	69.7	81.2
Men who know where to get an HIV test (%)	71.6	73.5	71	*	69.5	83.3
Women who know that consistent condom use can reduce the chances of getting HIV and AIDS (%)	72.7	75.7	71.7	(59.2)	71.1	78.7
Men who know that consistent condom use can reduce the chances of getting HIV and AIDS (%)	76.6	69.8	78.8	*	75.4	83.1
Women with comprehensive knowledge of HIV and AIDS (%)	17.6	15.5	18.3	(10.2)	14.8	27.4
Men with comprehensive knowledge of HIV and AIDS (%)	21.2	18.2	22.5	(7.6)	19	33.6
Women who know that HIV can be transmitted from mother to child via breastfeeding (%)	48.8	45.5	49.9	(41.3)	48.2	51.3
Men who know that HIV can be transmitted from mother to child via breastfeeding (%)	50.6	34.1	56.2	*	50.1	52.4
Women who had high-risk sex in the past 12 months (%)	5.2	6	4.9	*	5.5	4
Men who had high-risk sex in the past 12 months (%)	18.2	21.9	17	*	19	15.8
Women who used a condom during last high-risk sex (%)	6.2	*	3.4	*	7.6	*
Men who used a condom during last high-risk sex (%)	21.2	(23)	20.4	*	21.2	(20.1)
Women's empowerment						
Currently married women who usually participate in household decisions	74.1	74.9	73.9	*	72.6	80.3
Men who agree that at least one of the reasons for violence against women is justified (burns the food, argues with him, goes out without telling him, neglects the children, or refuses sex)	20.6	15.9	22.1	*	21.5	15.6
Other respondent characteristics						
Media access at least once a week – women aged 15–49	95.7	96.7	95.4	(92.6)	95.4	97.0
Media access at least once a week – men aged 15-49	91.4	95.0	90.1	np	91.7	90.1
Lack of health insurance – women aged 15-49	88.1	88.5	88.0	(92.4)	91.5	76.8
Lack of health insurance – men aged 15-49	90.3	86.9	91.4	np	93.6	75.3
Tobacco use – women aged 15-49	13.5	16.8	12.4	(8.4)	13.4	14.2
Tobacco use – men aged 15-49	48.0	48.1	48.0	np	47.3	50.9
Women's earnings are greater than their husband's/partners earnings	35.8	38.0	35.1	np	31.5	42.9
Men's earnings are greater than their wives/partners earnings	32.0	30.5	32.5	np	35.6	26.1
Percentage of de jure population in the lowest wealth quintile	20	7.8	23.8	na	na	na
NOTE: Figures in parentheses are based on 25–49 unweighted cases. * Indicates a figure based on fewer than 25 unweighted cases. na: not available						



Infant and child mortality

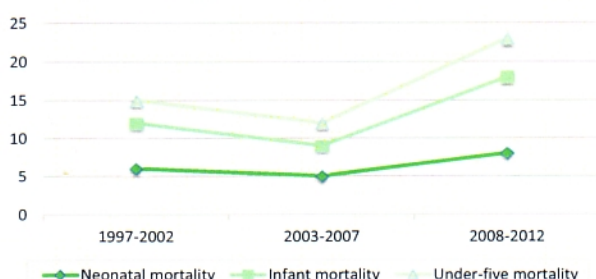


Infant and child mortality data are important not only for demographic assessment but also for design and evaluation of health programmes and policies. Primary and preventative health services target improving the quality of life for Tongan people; this includes reducing infant and childhood mortality and the incidence of high-risk pregnancies.

Neonatal mortality	The probability of dying within the first month of life
Post-Neonatal mortality	The probability of dying between 2 and 12 months
Infant mortality	The probability of dying before the first birthday
Child-mortality	The probability of dying between age 1 and the fifth birthday
Under-five mortality	The probability of dying before the fifth birthday

For the 5 years preceding the 2012 Tonga Demographic and Health Survey (DHS), the estimated infant mortality rate was 17 deaths per 1000 live births (Fig. 1). This means, 2 of every 100 Tongan children died prior to their first birthday. Of those who survived until their first birthday during this period, 6 out of 1000 died before reaching their fifth birthday. This results in an estimated under-five mortality rate of 23 deaths per 1000 live births.

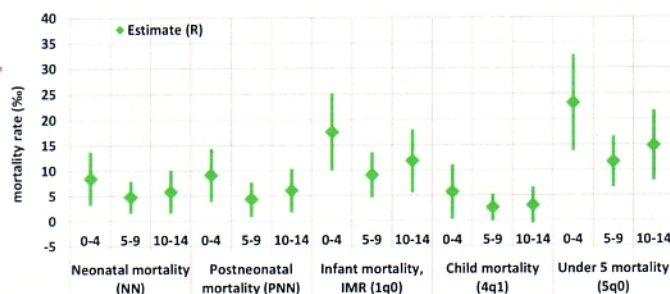
Figure 1: Childhood mortality trends



While historical trends seem to indicate a better situation 10 and 15 years ago, some caution is required in over-interpreting change over time, that is based on retrospective birth histories of a sample of women of child-bearing age. When viewing these values in the context of statistical standard errors and confidence intervals, which allow us to say with 95% certitude that the true values lie within a specific range as illustrated in Figure 2, it becomes clear that these ranges overlap from one period to the next, and therefore include the same range of possible value. This means, no conclusive evidence is available about a true change over the past 15 years.

The childhood mortality indicators need to be interpreted in connection with their standard errors (Fig. 2). While the estimated mortality values appear to show a better situation 10 to 15 years ago, their associated confidence intervals overlap and, therefore, include the same range of possible values. As a result, the true mortality value of each period could be located anywhere in the confidence interval, and as such, the true trend could theoretically be the opposite of what the mortality indicators suggest.

Figure 2: The childhood mortality indicators



A comparison of the 2008–2012 DHS figures with recent census-based estimates shows a very close resemblance, with the 2011 census-based under-five mortality rate estimate of 20 tracking well with the 2012 DHS estimate of 23. Having said this, the 2006 census derived estimate of 22 is substantially higher than the DHS-based estimated value of 12 for the period 2003–2007, illustrating the caution expressed above. With infant mortality having the single biggest impact on under-five mortality, a review of infant mortality rates derived from the last three population censuses shows that there have been no major changes over the past 15 years, as illustrated in IMRs of 19 for both 1996 and 2006, and 17 in 2011.

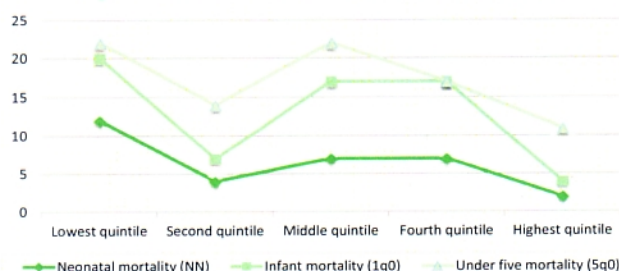
Having said this, Tonga's infant mortality is among the lowest in the region.

Infant and child mortality by socio-economic characteristics

There is a documented relationship between a mother's level of education and the health outcomes of her children. Better health outcomes, including child survival, are associated with higher education of mothers. However, no such conclusive pattern emerges from the Tonga DHS – to the contrary, with minute differences reflecting the opposite.

A somewhat more pronounced relationship between child-survival and socio-economic determinants emerges when considering child mortality patterns across wealth quintiles, with neonatal, infant and overall under-five mortality rates all substantially higher in the lowest wealth quintile, and lowest in the highest wealth quintile. No such clear and consistent relationship, however, emerges across the other three wealth quintiles.

Figure 3: Infant and Child mortality by wealth quintile



No differences at all emerge between urban and rural neonatal, post-neonatal, infant, child, and under-five mortality rates. When differentiating between Tongatapu-rural and the remaining rural areas throughout the Kingdom, some considerable and surprising





differences emerge, with rural areas elsewhere not only showing substantially smaller infant and child mortality rates than Tongatapu rural, but also consistently better results than rates in Nuku'alofa. Two immediate explanations come to mind: as already suggested in the main report, higher risk rural families' relocating in Tongatapu-Rural, where (health) services and employment are more readily available than in the outer islands, and where housing is less expensive than in Tongatapu-urban. On the other hand, it could also reflect better rural health services in the outer islands than in Tongatapu rural. Available data per se, cannot tell the story.

Urban-rural variations in infant and child mortality (2003 – 2012)

Residence Characteristics (Location)	Neonatal mortality (NN)	Postneonatal mortality (PNN)	Infant mortality (1q0)	Child mortality (4q1)	Under-five mortality (5q0)
RESIDENCE					
Urban	7	7	14	4	18
Rural	7	7	14	4	18
RESIDENCE					
Tongatapu - Urban	7	7	14	4	18
Tongatapu - Rural	8	9	17	5	22
Other Rural	4	2	6	0	6/5

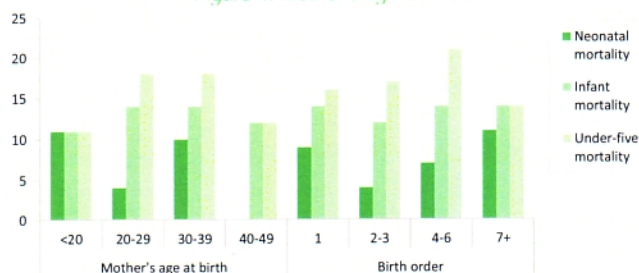
Infant and child mortality by demographic characteristics

Unlike reported trends in other Pacific island DHSs in recent years, Tonga DHS results suggest a higher female than male under-five mortality. Although the data indicate that males and females had an equal risk of dying in the first month of life, female post-neonatal mortality was substantially higher (10/1000) than that of infant boys (4/1000); this contrast carried through to differential infant mortality rates, and with no gender differences reported for child mortality (1-4 year olds), determined the final under-five mortality rates.

An old saying, that 'too early and too late increases child mortality', also holds true in Tonga for neonatal and postneonatal mortality rates, whereby teenage mothers are most prone to losing a child in the neonatal period, and mothers in their forties are most likely to lose a child aged more than one month and less than one year old.

Birth order does not appear to have an impact on child mortality rates in Tonga as no clear trends were apparent in the 2012 Tonga DHS. Similarly, although short birth intervals (< 2 years) generally have a negative impact on a child's chances of survival, no such pattern can be observed in Tonga.

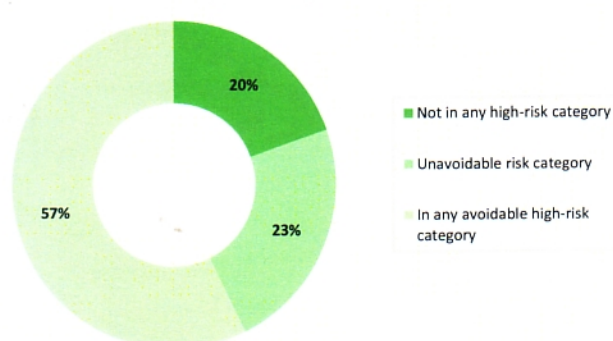
Figure 4: Mother's age at birth



High-risk fertility behaviour

Generally, infants and children have a greater probability of dying if they are: born to mothers who are too old (over 34 years) or too young (under 18 years), born after a short birth interval (<24 months after a previous birth) or of high birth order (i.e. the mother has previously given birth to three or more children). Against this back-drop, only one in five births were not in any high-risk category; an additional 23% of births were first-order births to mothers aged 18-34, which is considered an unavoidable risk category, whereas most births (57%) are in at least one of the specified avoidable high-risk categories.

Figure 5: High-risk births



Policy note

While DHS data indicate a reversal in under-five mortality trends in recent years, this pattern cannot be substantiated by census data over the past 15 years

With infant mortality having the single biggest impact on under-five mortality, a review of infant mortality rates derived from the last three population censuses, highlights an absence of major changes during this period, as illustrated in IMRs of 19 for both 1996 and 2006, and 17 in 2011. In other words, the DHS reported IMR values of 9 and 12, for the periods 2003-07, and 1997-2002 appear implausible.

Having said this, with Tongan infant and child mortality levels among the lowest in the region, a flat IMR for fifteen years around 17-19/1000, suggests either that sustainable child survival levels have been achieved and accepted as such, or perhaps less than what could have, has happened in the recent 15 years in terms of MCH policies and programs.

With all levels of infant and child mortality highest in the lowest wealth quintile, or being recorded in rural Tongatapu, and with more than half of all births associated with at least one avoidable high-risk category, specific health policy and prevention programs might be stepped up to target these specific population groups.

*For more detailed information on infant and child mortality see chapter 8 in the 2012 Tonga DHS report.





Population characteristics and processes are both the drivers and results of a country's social and economic development processes. A good understanding of national population dynamics is therefore essential for informed decision-making, policy development and planning.

Population and housing censuses provide the backbone of this information in most countries. But these 'snapshots' taken every five to ten years are not enough to inform policy and enable regular monitoring of development progress.

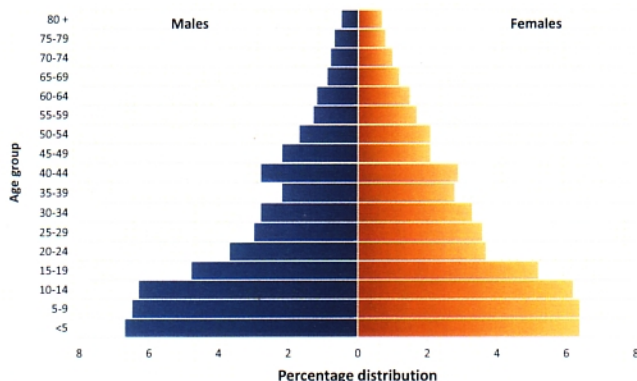
Regular household surveys, such as the 2012 Tonga Demographic and Health Survey (DHS), address this data and information gap by providing high-quality, up-to-date statistics and information in their own right, as well as being a basis for calculating important development indicators. The 2012 DHS provided more than a hundred indicators covering development features relevant to both national and international agencies and conventions, such as the Millennium Development Goals (MDGs), International Conference on Population and Development (ICPD), Convention on the Elimination of All forms of Discrimination Against Women (CEDAW), United Nations General Assembly Special Session (UNGASS) and United Nations Children's Fund (UNICEF), to name but a few that are included in this development snapshot.

The population of Tonga

Tonga holds a census every five years. The most recent one was in 2011.

Tonga has a young population with 39% of the population surveyed younger than 15 years of age (Fig.1). The youthful population is the result of a continued high fertility rate, which would normally result in high population growth. However, this is not the case in Tonga given its high rate of annual net emigration, which during the recent intercensal period (2006–2011) amounted to -1800 people per year.

Figure 1: Percentage distribution of de facto household population by age and sex

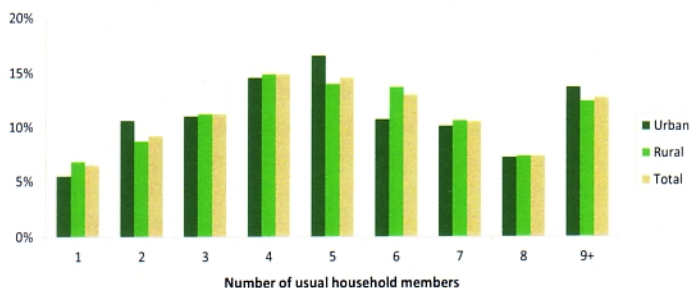


Household composition

The average household comprises slightly more than five members (Fig. 2) and generally households are headed by men

(73%). These results vary slightly from those in the 2011 census, which indicated an average household size of 5.7 people.

Figure 2: Household composition – number of usual members



As is common throughout the Pacific, fostering is reasonably widespread in Tonga, with near equal proportions of rural (30%) and urban households (28%) including foster and/or orphaned children. Seventeen percent of children aged under 18 years of age do not live with a biological parent.

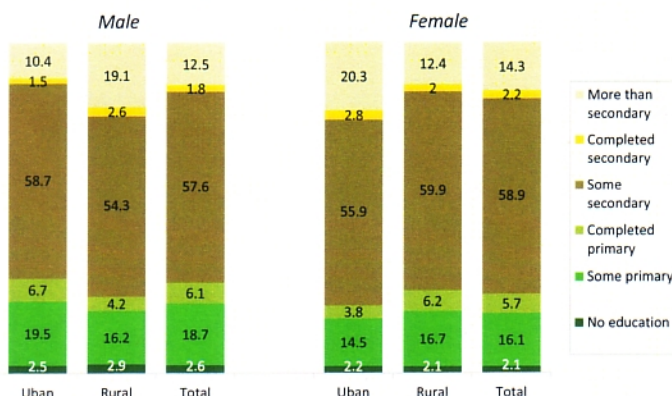
The 2012 Tonga DHS provides useful information concerning socio-economic background characteristics, which may provide important contextual information for key demographic and health outcomes. These include education (such as attainment levels), economic well-being (illustrated through wealth quintiles) and basic household amenities, such as access to safe water, sanitation and household characteristics. All of these factors are important for health and well-being, especially that of infants and young children.

Educational level

Education is free in Tonga and is compulsory from age 6 to 14 years. Some schools allow children to enrol from five years of age.

Most people in Tonga complete primary education, and the primary school dropout rate is very low. The small number of children who do drop out of primary school tend to be males who leave either in grade 1 or grade 6 (the final year of primary school). There is little difference between the educational achievement of males and females in Tonga (Fig. 3). The majority of people have completed some secondary education.

Figure 3: Educational achievement of males and females in Tonga - Highest educational attainment





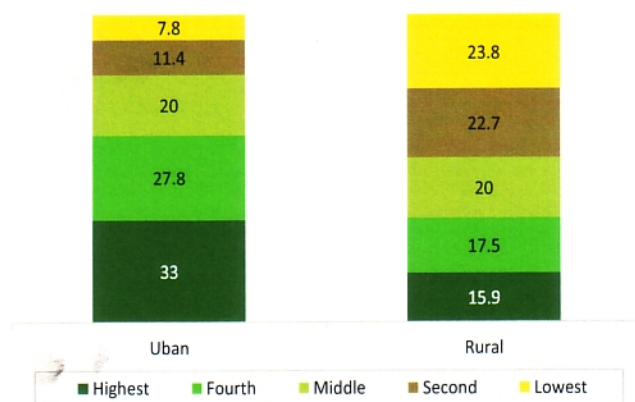
Net attendance ratio (NAR) measures the number of school-age children who attend school. According to the 2012 Tonga DHS, the primary school NAR is 93%, while the secondary school NAR is only 83%. The Gender Parity Index (GPI) indicates that there are the same proportion of males and females attending primary school, but at secondary level there are lower attendance rates for females relative to males in Tongatapu-Urban, and higher attendance rates for females relative to males in Tongatapu-Rural, other Rural and for Tonga as a whole.

Economic well-being

Household information on assets allows the calculation of a wealth index, which provides a useful proxy measure describing a household's long-term standard of living. It is not an absolute measure that can tell us if a household suffers hardships or lives in poverty. What it can tell us, however, is that a person living in a household in the second wealth quintile has a better socio-economic status than someone in lower quintiles and a worse socio-economic status than someone in the middle wealth quintile.

Wealth is distributed unevenly throughout rural and urban areas in Tonga, with wealth concentrated in urban areas. About 33% of the urban population are in the highest wealth quintile compared with 16% of the rural population (Fig.4).

Figure 4: Wealth quintiles

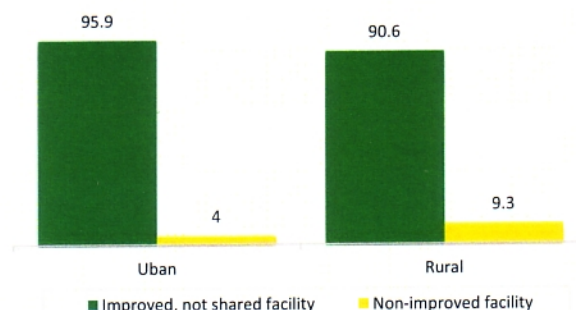


Access to safe water and sanitation

Poor sanitation coupled with unsafe water sources can increase the risk of waterborne diseases and illnesses due to poor hygiene. Households without proper toilet facilities are at more risk of diseases such as dysentery, diarrhoea, and typhoid fever than those with improved sanitation facilities.

Eight in ten households in Tonga have improved toilet or latrine facilities (Fig. 5). Open pit latrines are most common in rural areas, where almost 6% of households use this type of toilet.

Figure 5: Household sanitation facilities



Access to safe drinking water

Overall, 78% of households have an improved source of drinking water from a piped source. Rural households have greater access to piped water sources than urban households. Six percent of households rely on bottled drinking water.

Access to electricity

Ninety-three percent of households have access to electricity.

Policy note

The broad-based population pyramid shown in Figure 1 indicates continued high fertility in Tonga, which would normally translate into high population growth. However, sustained heavy emigration counteracts high growth. While this process acts as a short-term demographic safety-valve, Tonga would face considerable policy challenges if it suddenly faced a substantial return of migrants; for example, older Tongans deciding to retire at 'home', having spent all their productive life abroad. With population aging, and older populations more likely to require ongoing health care for chronic illnesses and disability, this would have major implications for social services and health policy, and their respective budgets.

Many health outcomes are determined by factors outside the health sector, such as people's social and economic environment, their housing and access to infrastructure (e.g. water and sanitation) and services. It is worth remembering that when comparing demographic and health patterns across the country, one in three people in urban areas (33%) are in the top wealth quintile, compared to only 16% in rural Tonga; one in two rural Tongans are represented in the bottom two wealth quintiles, compared to one in five urban inhabitants.

Tonga has one of the highest levels of educational attainment across the region and has the oldest law in the world calling for compulsory education of its people, which currently is from age 6 to 14. In light of this, it seems incongruous to find a net primary attendance ratio of less than 100%. This statistic might be of policy interest to Tonga's education authorities.





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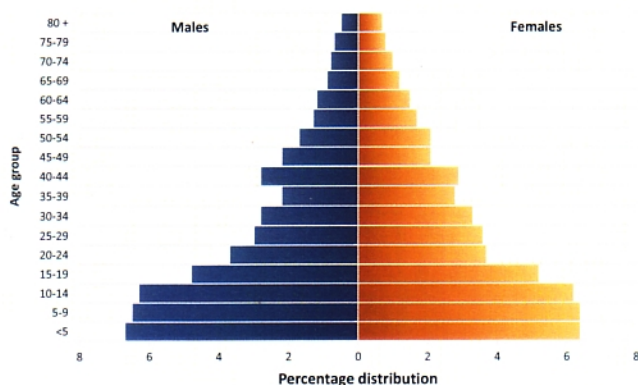
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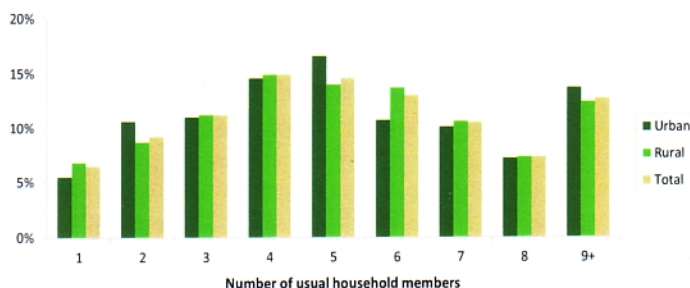


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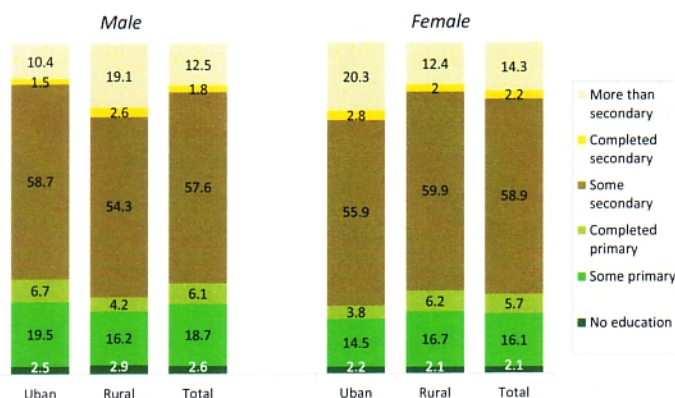
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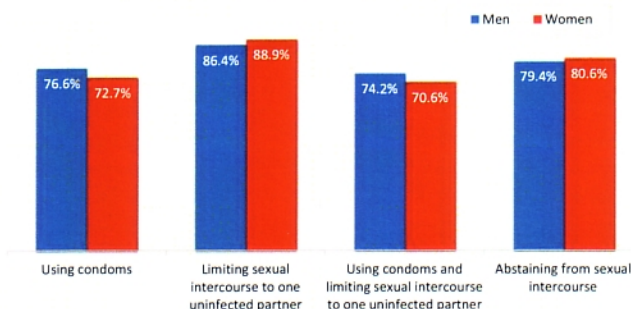
Human Immunodeficiency Virus (HIV) is a virus that causes Acquired Immune Deficiency Syndrome (AIDS). With the resulting weakening of their immune system, and without treatment, those infected become susceptible to and unable to recover from other opportunistic diseases that may lead to death through secondary infections.

The predominant mode of HIV transmission is through heterosexual sexual contact, followed by perinatal transmission, where the mother passes the virus to the child during pregnancy, delivery or breastfeeding. Other modes of transmission are through homosexual contact, infected blood and unsafe injections.

Tonga has a low HIV prevalence with 19 people having been diagnosed with HIV as of the end of 2012. Of those people, four remain living in Tonga.

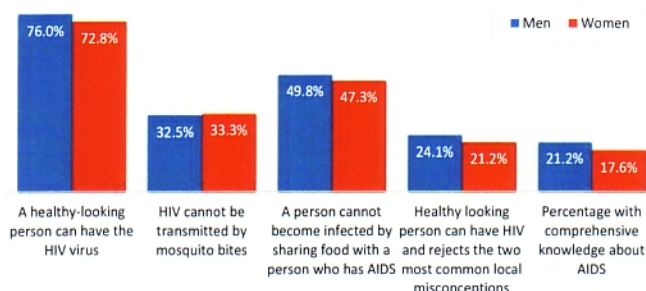
According to the results of the 2012 Tonga Demographic and Health Survey (DHS), most women (96%) and men (95%) in Tonga have heard of HIV and AIDS. Knowledge of how to prevent HIV infection was somewhat less widespread but still reasonably high. Young people had the least knowledge about how to prevent HIV with only two in three 15–24 year olds aware that using condoms can reduce the risk of getting HIV (Fig. 1 and Table 1).

Figure 1: Knowledge of HIV and AIDS prevention methods, Men and women aged 15–49



Despite most people having some knowledge of HIV and AIDS, only one in five people (18% of women and 21% of men) had comprehensive knowledge. There were widespread misconceptions; for example, slightly less than half of respondents knew that sharing food with a person who has AIDS could not infect them. Again, comprehensive knowledge of AIDS was lowest amongst Tongan youth, at just 10% of women and 13% of men aged 15–19 (Fig. 2).

Figure 2: Comprehensive knowledge of HIV and AIDS



Mother to child transmission

Around half of respondents (49% of women and 51% of men) were aware that HIV may be spread via breastfeeding. The number of people who knew that anti-retroviral therapy during pregnancy could reduce the risk of mother to child transmission was even lower (26% of women and 14% of men). Knowledge about mother to child transmission increased slightly with age and higher levels of education.

The provision of antenatal care can be an opportune time for health authorities to both test for HIV and inform women. Of the women who gave birth in the 2 years preceding the survey, 50% received HIV counselling during their antenatal care. Only 20% were counselled about HIV, offered and accepted an HIV test and were given the results.

Stigma and attitudes associated with HIV and AIDS

The 2012 Tonga DHS indicates strong stigma and negative attitudes towards people living with HIV. Only 3% of women and 11% of men aged 15–49 expressed overall tolerance and acceptance of people living with HIV. Although many people would be willing to care for a family member with HIV at home (68% of women and 70% of men), most people did not think a female teacher with HIV should be allowed to keep teaching (18% of women and 20% of men).

Previous HIV testing

Around three quarters of respondents knew where to obtain an HIV test. The incidence of people knowing where to get an HIV test increased with age. The number of people who had ever been tested for HIV was low (14% of women and 8% of men).

Attitudes toward negotiating safer sex

Almost all respondents (85% of women and 91% of men) agreed that a woman is justified in refusing to have sexual intercourse, or in asking that her partner wear a condom if she knows he has a sexually transmitted infection (STI).

Multiple partners and condom use

More men (8%) than women (3%) reported having two or more sexual partners during the 12 months preceding the survey. As so few respondents reported having multiple partners in the 12 months preceding the survey, clear conclusions cannot be drawn around condom use. However, usage appears to be higher among males (13%) than females (6%). Overall this is a low rate of condom usage, which corresponds to the very low rate of condom use for contraception reported elsewhere.

The proportion of those having experienced higher-risk intercourse in the 12 months preceding the survey was highest amongst 15–24 year old males (61%) compared to 18% aged 25–29, and lower proportions amongst older age groups. The corresponding figures for women are much smaller with 19% aged 15–24 having experienced higher-risk intercourse in the 12 months preceding the survey, and lower proportions amongst older women.





Tongan men reported having more sexual partners during their lifetime than women. The mean number of partners for men was 3.5 compared with 1.3 partners for women.

A trend noted in other recent DHS surveys in the Pacific region is an apparent discrepancy between stated ideals concerning marital fidelity and actual practice. This is also the case in Tonga. Although most respondents believed that married men should only have sex with their wives, only 49% of men and women reported that most married men they knew only had sex with their wives. Similarly, despite 90% of men surveyed considering that a woman should only have sex with her husband, only 53% stated that most of the women they know are faithful.

Most people consider that men and women should wait until marriage to have sex.

Payment for sex

The very small number of males who reported paying for sex was too small to draw any conclusions.

Sexually transmitted infections (STIs)

The number of people who reported having had an STI was low at 2% of men and women. Respondents were more likely (4% of women and 5% of men) to report having certain symptoms of an STI in the 12 months prior to the survey. More than three quarters of the women and more than half of the men who reported having STI symptoms, however, did not seek any treatment. As many STIs are asymptomatic, household surveys like the DHS are likely to under-represent actual STI prevalence. If people continue to live with symptoms and not seek treatment, STIs will continue to circulate within the population.

Table 1: HIV and AIDS prevention among young people

HIV and AIDS knowledge and prevention among young people aged 15–24 years old		
	Women	Men
Comprehensive knowledge of AIDS	12%	14%
Knowledge of condom source	53%	61%
Used condom during first sex	4%	20%
Percentage who had sex in past 12 months and had higher-risk sex	19%	61%
Percentage who reported using a condom during higher-risk sex	(5.3%)	23%

Age at first sexual intercourse (15–24 year olds)

The number of young women (6%) and young men (13%) who had sexual intercourse before they turned 18 was very low. Many

of Tonga's sexually active youth do not know where to obtain condoms, with just 8% of women and 14% of men who had sex before age 18 knowing where they could get condoms.

Premarital sex and condom use (15–24 year olds)

The survey results show that only 23% of unmarried young men who had higher risk sex in the past 12 months used a condom.

Alcohol consumption and sexual intercourse among youth

The influence of alcohol can impair judgment, compromise power relations and increase risky behaviour. Among young people aged 15–24 years, less than 1% of women and only 5% of men reported having sex while they or their partner were drunk.

Policy note

While most Tongan women and men have heard about HIV and AIDS, knowledge about prevention, and safe sex practices lag behind. Only one in five women (18%) and men (21%) report comprehensive knowledge about HIV. This is something Tongan health, education and social development authorities may wish to address as a matter of policy urgency.

Knowledge of HIV was lowest amongst Tongan teen-agers, with only 10% of females and 13% of males aged 15 and 19 reporting comprehensive knowledge about HIV transmission and prevention. Despite reported low levels of sexual activity amongst this age-group (36 males and 37 females reporting having had sex during the 12 months prior to the survey), a combination of lack of knowledge about transmission and prevention and risky behaviour (only 1 in 4 young men who had high-risk sex in the past 12 months reportedly used a condom) has the capacity to result in increased rates of sexually transmitted infections, including HIV infections.

This, and the high proportions of males aged 15–19 (74%) and 20–24 (56%) who engaged in higher-risk sex in the 12 months preceding the survey, compared to (35% and 16% of females in these age-groups), suggests sexual and reproductive health policies and programmes should more strategically target young people.

A small proportion of sexually active women (5.2%) and men (6.4%) reported having had some STI symptoms in the past. Yet three out of four women, and one in two men did not seek medical advice or treatment. As many STIs are asymptomatic, and household surveys are likely to under-represent actual STI prevalence, this situation warrants more specific attention in Tonga's sexual and reproductive health policies. Action is needed to help counteract a cycle where people continue to live with symptoms and do not seek treatment, thus contributing to increased circulation of STIs.

*For more detailed information on HIV/AIDS see chapter 12 in the 2012 Tonga DHS report.



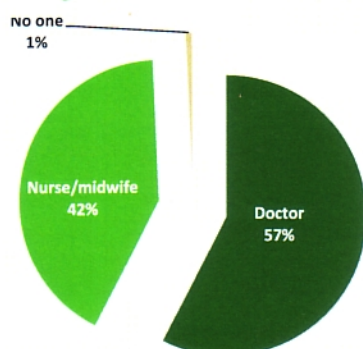


Providing adequate care during pregnancy and childbirth is important for the health of mother and baby. Reproductive health services cover antenatal, childbirth and postnatal care, in addition to general healthcare services. Gathering information on the availability and accessibility of these services will help identify any problems with the level of care provided and population groups whose health needs are under-served during pregnancy and childbirth.

Antenatal care

Antenatal care is almost universal in Tonga. Regardless of whether a woman lives in urban Tongatapu or on one of the more remote islands, she has a 99% chance of accessing a health professional during pregnancy. The 2012 Tonga Demographic and Health Survey (DHS) indicates that a doctor or a nurse/midwife most commonly provides antenatal care (Fig. 1).

Figure 1: Providers of antenatal care

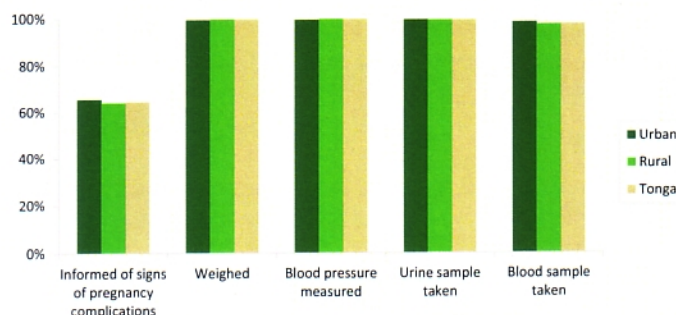


The reassuring findings on the widespread access to antenatal care in Tonga are carried through into the findings about how many antenatal visits a pregnant woman receives. Over 70% of women in rural and urban areas received more than four antenatal visits, the minimum number recommended by the World Health Organization. Most women have their first antenatal visit when five months pregnant. Women in urban areas are more likely to access antenatal care in the first trimester (weeks 1 to 12) of pregnancy than women in rural areas.

Quality of antenatal care

The 2012 Tonga DHS confirms that the quality of antenatal care provided in Tonga is high. Virtually all women (99%) were weighed, and had their blood pressure checked and urine tested on the other hand, only 65% of women recorded having been informed about the signs and symptoms of complications in pregnancy (Fig. 2). Women under the age of 20 years were most likely to report not being informed of these signs.

Figure 2: Selected services received by women attending antenatal care for their most recent birth
(Women aged 15–49 who had a live birth in the 5 years preceding the survey)



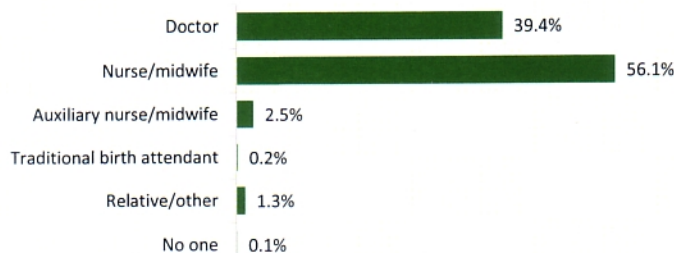
The survey results show that while less than half (41%) of women received two or more injections against tetanus during their last pregnancy, this may not be a cause for concern as most women (71%) were still protected against tetanus from the injections they received during their last pregnancy. As Tonga continues to perform well in reaching vaccination targets, those women (just under 30%) who were not completely protected against tetanus should have some protection remaining from the tetanus injections they received as part of their childhood immunisation.

Childbirth care

The overwhelming majority of births in Tonga take place in a public health facility (96.6%), with most babies delivered at Vaiola Hospital. Only 1.1% of women delivered at home and 1.4% delivered in private sector facilities. This homebirth delivery rate is one of the lowest in the Pacific.

Nearly all women who delivered in Tonga (98%) were attended by a skilled professional (Fig. 3). Women from the higher wealth quintiles, those with post secondary education, urban dwellers, women in their first pregnancy and those younger than 20 years of age are most likely to be attended by a doctor rather than a nurse/midwife. The number of deliveries attended by a traditional birth attendant is much lower than in the rest of the Pacific (0.2%).

Figure 3: Assistance during childbirth



The national rate of Caesarean sections is rising, with the 2012 Tonga DHS indicating that 17.4% of deliveries were conducted by C-section. This is a marked increase from the 2004 national

Tetanus toxoid (TT) immunisation is given to pregnant women to prevent neonatal tetanus – a leading cause of neonatal death in developing countries. For full protection, a pregnant woman needs two doses of TT during pregnancy. If a woman was immunised before her pregnancy, she may require one or no TT injections depending on the timing of the last injection.



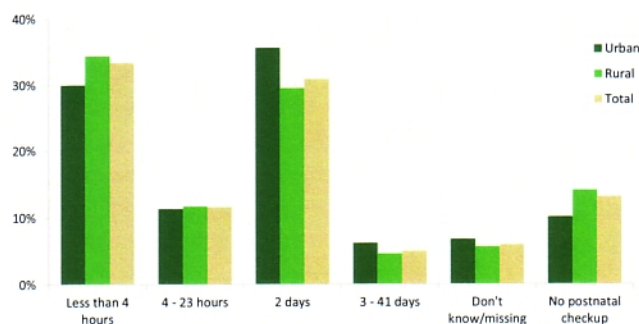


rate of just under 10%. There is a rising rate of C-sections in many Pacific countries and it is important that Tongan health authorities regularly audit the reasons for performing the procedure.

Postpartum care

Postpartum care is important to follow up on any complications after delivery and give the mother information on caring for herself and her child. The crucial period is during the two days after delivery when most complications arise. With 75.9% of mothers being seen for their first check-up within two days of delivery, and 86.4% of women receiving their first postnatal check from a doctor, midwife or nurse, the 2012 Tonga DHS confirms that the postpartum care system is working well, especially when compared with neighbouring countries across the Pacific (Fig. 4). Notwithstanding these high coverage rates, it should be noted that 13% of women report not having had any post-natal check-up at all. There are no real differences in terms of age of mother, educational status and birth order, except for some contrasts emerging between locations and across wealth quintiles. Slightly more women in the outer islands (16%) reported not having had any post-natal check-ups compared to women in Nuku'alofa (10%), with a similar pattern also emerging among mothers in the lowest quintile (18%) compared to the highest quintile (8%).

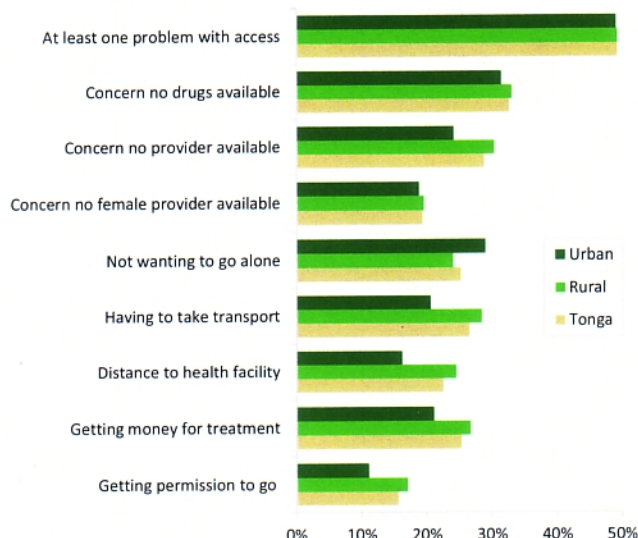
Figure 4: Timing of first postpartum check-up



General problems accessing health care

One in two Tongan women (49%) reported experiencing at least one problem in accessing health care (Fig. 5). The most common concerns raised were that no drugs or no provider would be available. Not wanting to go alone was a problem commonly raised by young women, those who were unmarried, those with no surviving children, urban residents and those who had

Figure 5: General problems accessing healthcare



Policy note

Survey results indicate that Tonga's public health system is providing robust and comprehensive maternal care, as illustrated by the very high proportion of women who report receiving satisfactory care during their pregnancies.

Seven out of ten women in rural and urban areas have benefited from the recommended four antenatal visits, and only 0.7% report never having taken up this opportunity. However, only two in ten women had their first check-up in the first trimester of their pregnancy. In terms of reproductive health policy, earlier visits ought to be promoted more strongly to allow antenatal providers to carry out appropriate screening and provide information that can have a positive impact on a healthy pregnancy, such as diet and what to expect during the pregnancy.

Despite high-quality antenatal care (99% of women reported checks of weight, blood pressure and urine), only two in three reported having been informed about signs and symptoms of pregnancy complications. This is an area that reproductive health providers might wish to assess.

Providers might also wish to address the fact that three in ten pregnant women are not completely protected against tetanus, instead relying on early childhood immunisation to prevent neonatal tetanus. Tetanus toxoid (TT) immunisation is given to pregnant women to prevent neonatal tetanus – a leading cause of neonatal death in developing countries. For full protection, a pregnant woman needs two doses of TT during pregnancy. If a woman was immunised before her pregnancy, she may require one or no TT injections depending on the timing of the last injection.

*For more detailed information on reproductive health see chapter 9 in the 2012 Tonga DHS report.



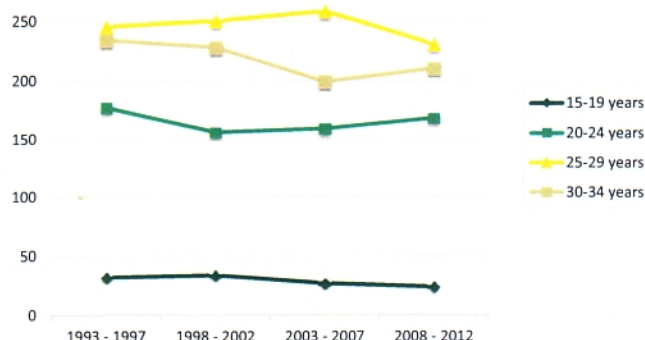


The results of the 2012 Tonga Demography and Health Survey (DHS) suggest that, on average, a Tongan woman will have 4.1 children during her reproductive life, with rural women (4.2) showing a slightly higher total fertility rate than urban women (3.6). Fertility is higher in rural Tongatapu (4.4) compared to other islands (3.8). There are no conclusive variations with educational status of mothers, but there are marked differences when considering economic circumstances, with women in the lowest wealth quintile (5.6) having, on average, two children more than women in the highest wealth quintile (3.4).

Trends in age-specific fertility rates

After declining significantly between the 1950s and mid 1990s, fertility rates have remained steady in the past 15 years across key age groups (Fig. 1). The survey results indicate a tendency for women in urban areas to have children between the ages of 25 and 34 years of age, while women in rural areas are more likely to spread out the time they have children (20–34 years of age). The slightly delayed childbearing age of women in urban areas may result from women undertaking further education or taking advantage of more employment opportunities compared to rural Tonga.

Figure 1: Trends in age specific fertility rates



Family planning

Knowledge of contraceptive methods is high in Tonga, with 93% of all women and 97% of all men knowing at least one contraception method. More people reported knowing about modern contraceptive methods than traditional methods. Most commonly known is the male condom, with 86% of women and 95% of men reporting they know this method.

In contrast to this widespread knowledge, contraceptive use is low, with just one in three women reporting that they have used contraception at some time in their lives. Married women are more likely than unmarried women to have used contraception (60%). Men are more likely (44%) than women to have used contraception at some time. The male condom is the most popular modern method for males, being used by 20% of all men.

Married Tongan men and women expressed a desire to have some control over both the number of children they have and the timing of their births, with 31% of women and 38% of men reporting that they do not want another child.

The survey results also highlight that not everyone's family planning needs are being met. Overall, 25% of married Tongan women have

an unmet need for family planning, with slightly more women in urban areas (29%) reporting an unmet need compared to women in rural areas (25%). Fifty-eight percent of the total demand for family planning is being met currently.

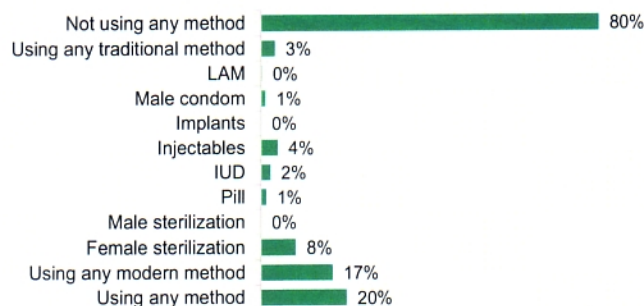
Regarding the notion of an ideal family size, men expressed a desire to have slightly larger families than women, with men's mean ideal number of children being 3.6, compared with 3.3 for women. These preferred family sizes are both lower than the total fertility rate of 4.1 children per woman. It may be a surprise to some that one in five Tongan men and women said they wanted no children at all.

Current use of modern contraceptives by women (15–49 years)

The current use of contraception is low in Tonga and larger families are the norm. Only one in five women reported they were using contraception at the time of the 2012 Tonga DHS (Fig. 2). Women are most likely to use a contraceptive method if they are currently married and aged between 35–39 years (42%). The most common method is female sterilisation.

There are no major variations in the use of modern contraceptives between urban (32%) and rural (35%) women. Use varies most noticeably in relation to the number of children women have had: 1% of married women with no children, 18% of married women with one to two children, 35% of married women with three to four children, and 47% of women with five or more children. Contraceptive use is also slightly more prevalent among married women in the lowest wealth quintile (36%) compared to women in the highest wealth quintile (28%).

Figure 2: Current use of contraceptive by women aged 15-49



Just 2% of women reported that they had used any form of contraception before having children. Around 11% of Tongan women start using a contraceptive method after they have their first child. The survey results suggest there is a declining trend in contraceptive use among young women, with just 9% of women aged 20–24 using contraception after the birth of their first child compared with more than 15% of women aged 30–39. Most younger women have never used any form of contraception, with less than one in five women aged 20–24 reporting that they have ever used a contraceptive method.

Female sterilisation is the most common form of contraception used by Tongan women and the median age for sterilisation is 34 years.

The majority of people using contraception obtain it from the public sector, mainly from government hospitals (74%), health centres



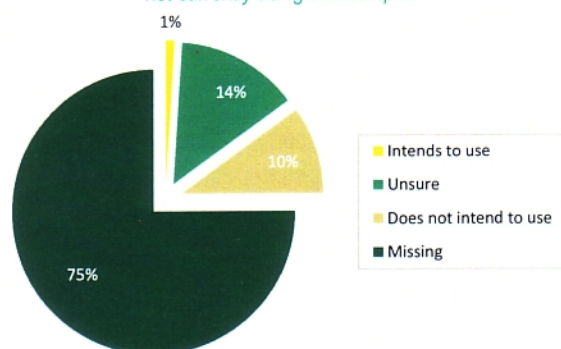


(14%) and family planning clinics (4%). Respondents indicated that contraceptives are generally available free of charge.

Intended future use of contraception

Three out of every four women in Tonga not currently using contraception do not intend to start using contraception in the future (Fig. 3). The low number of women who intend to start using contraception can be attributed to issues such as: health concerns (22%), fear of side effects (16%), being opposed to using contraception (15%), religious prohibition (11%) and a desire for as many children as possible (9%). The reasons for not wanting to use contraception do not appear to be related to a lack of knowledge or access.

Figure 3: Intended future use of contraception by married women not currently using contraception



Amongst women who expressed a desire to use contraception in the future, the three preferred methods of contraception are injectables (26%), the IUD (15%) and the pill (13%).

Various media are currently used to disseminate family planning information in Tonga and 68% of women and 57% of men reported that they had heard family planning messages on the radio. Television is also a common source of family planning messages.

Throughout the world, field workers have proved to be an effective means of providing family planning information. However, more than four out of five women (83%) reported that they had not discussed family planning with a field worker or staff at a health facility in the 12 months before the survey. Only around one in ten women reported that they had been visited by a health worker who discussed family planning with them in the 12 months prior to the survey.

Median age at first childbearing

The median age for a Tongan woman to have her first child is 24.9 years, which means, 50% of Tongan women delay childbearing until after 25 years of age. There are no substantial differences between women in urban and rural Tonga.

Age at first sexual intercourse

The median age at first sexual intercourse for Tongan women is 24 years, which is relatively late compared with worldwide norms.

The same trend is seen for men, whose median age at first sexual intercourse is also 24 years. The median age for first marriage is also around 24 years of age for men and women in Tonga, suggesting that many people wait until they are married before becoming sexually active. Marriage at a very young age is rare and less than 1% of men and women in Tonga were married at age 15.

Birth intervals

The median birth interval for Tongan women is 27 months. Wealthier women tend to have shorter birth intervals than women in lower wealth quintiles. Close to half of women in the highest wealth quintile (46%) have birth intervals of less than the recommended 24 months. This suggests that women in the highest wealth quintiles have fewer children but tend to have them in quick succession.

Teenage pregnancy and motherhood

Pregnancies among women aged 15-19 years are not common in Tonga, with less than 4% teenage women having reported a live birth, and 1.5% pregnant at the time of the survey. More than half of the teenage women who have had a live birth were 19 years old. The age specific fertility rates indicate that there has been a modest decline in teenage pregnancies over the past twenty years.

Policy note

As contraceptive use is quite low, and most women (three out of four) not currently using contraception do not intend to start using contraception in the future, a *review of reproductive health policy and programmes* might be timely, particularly with a focus on reproductive and sexual health education.

Reproductive and sexual health initiatives could benefit women by addressing their concerns about the perceived effects of contraceptive use on their health (2%) or other *side effects* (16%), as well as by promoting advantages such as protection from STIs (sexually transmitted infections). The latter issue seems particularly relevant with sterilisation being the most commonly used method of contraception by women aged 15-49. Sterilisation provides no protection against STIs. In addition current contraceptive use of the male condom, which does offer protection against STIs, is very low at just 1%.

The survey results suggest that there is a need for more family planning messages to be targeted at young people, with close to half of all females aged 15-19 years reporting that they had neither seen nor heard any family planning messages on radio, television or in the newspaper.

The use of health field workers could be stepped up to provide reproductive and sexual health education. With four out of five women reporting never having discussed family planning with a field worker or staff at a health facility in the 12 months prior to the survey, there seems to be an opportunity to address an unmet need for reproductive and sexual health information.

*For more detailed information on fertility and family planning see chapters 4, 5, 6 and 7 in the 2012 Tonga DHS report.





Employment can act as a source of empowerment for both men and women. This is particularly important for women's empowerment as employment gives women some control over their income.

Men aged 15–49 were twice (92%) as likely as women (46%) in the same age group to report being employed at some time in the year prior to the 2012 Tonga Demographic and Health Survey (DHS).

Women are more likely than men to be paid in cash (73%) with a higher proportion of men (31%) than women (14%) undertaking unpaid work (Fig. 1). A note of caution here: men in unpaid work, such as subsistence farming and fishing, are included in the labour force as undertaking unpaid work, whereas women undertaking unpaid housework are not, which is reflected in their low overall employment figures of 42%.

Figure 1: Type of earnings of currently married respondents aged 15-49 employed in the past 12 months



Regarding decision-making on how incomes are spent, Table 1 highlights that most married women and men refer to joint decision-making. One in five women report they are the principal decision-maker on how their income is spent, with most (59%) referring to joint decision-making with their husbands, and only 17% referring to the latter as the main decision-maker. A similar decision-making pattern emerges when it comes to male income, with one in five men reporting they are the principal decision-maker on how their income is spent, with most (63%) referring to joint decision-making with their wives, and only 15% referring to the latter as the main decision-maker. Wives have a slightly different view, with a slightly higher proportion (21%) stating they are in charge as compared to joint decision-making.

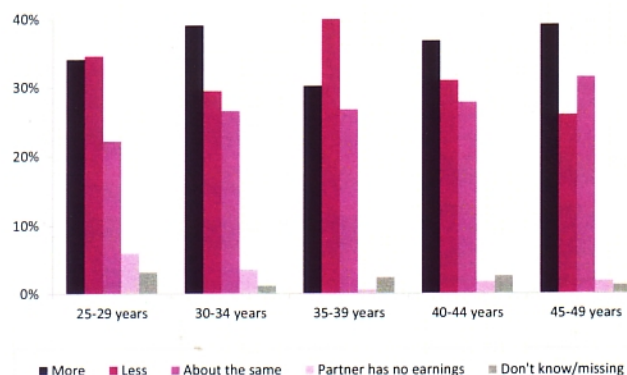
Table 1: Decision-making about women and men's income (%)

WOMEN's INCOME		MEN's INCOME		MEN's INCOME	
women reporting		women reporting		men reporting	
Wife	22	Wife	21	Wife	15
Joint	59	Joint	56	Joint	63
Husband	17	Husband	22	Husband	22
Missing	2	Missing	1	Missing	

Minor variations appear when considering other features, such as age and location, with slightly higher proportions of younger women (20–34) reporting they make their own decisions about how their income is spent, which also applies to women in both urban and rural Tongatapu.

Women earn more than their husband or partner in most age groups and the proportion of women who earn less than their husband or partner is significantly lower only in the 35–39 age group (Fig. 2).

Figure 2: Women's earnings compared with their husbands or partners



Participation in household decision-making

Women were asked about their participation (i.e., having the final say either jointly or solely) in decisions on both major and minor household purchases, their own health care and visits to their family or relatives.

Table 2: Participation in household decision-making

Questions asked of men and women about key decision-making issues	WOMEN reporting			MEN reporting		
	mainly wife	Joint wife/husband	mainly husband	mainly wife	Joint wife/husband	mainly husband
Own (women's) health care	30	54	15	not asked		
Major Household purchases	22	57	19	9	74	15
Purchases of daily household needs	26	55	17	19	65	13
Visits to wife's family or relatives	18	62	19	8	75	14
How many children to have	not asked			2	93	4

In Tonga, men and women tend to make household decisions together, with most decisions across standard DHS household scenarios taken jointly. Having said this, some interesting contrasts emerge across the board, with a far greater proportion of men than women making reference to joint decisions, whereas greater proportions of women than men tend to credit themselves with main decision-making practice.

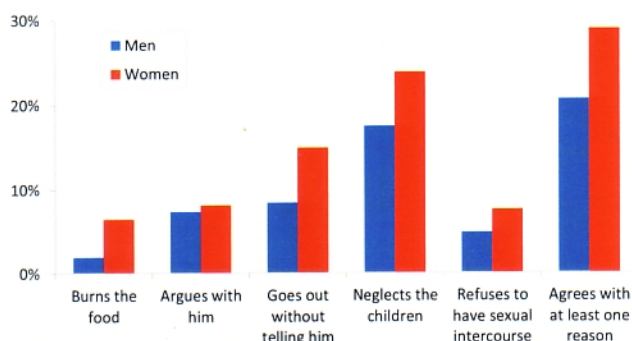




Attitudes towards violence against women (VAW)

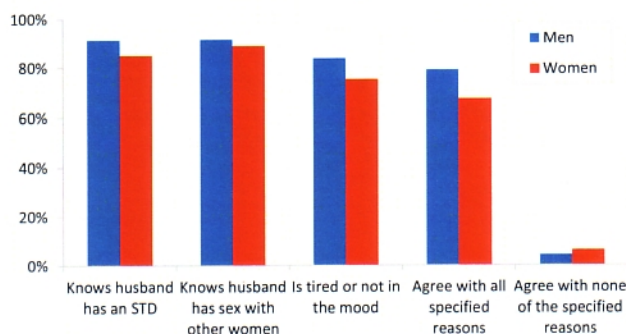
Although most Tongan women do not accept VAW, there is still a sizeable minority (three in ten) who think that wife beating is justified in certain circumstances. One in four women report thinking that neglecting the children is an acceptable reason for wife beating. Notably, more women (29%) than men (18%) report thinking that violence against women is justified for at least one of the reasons specified in the survey (Fig. 3).

Figure 3: Justification of violence against women
Men and women aged 15–49



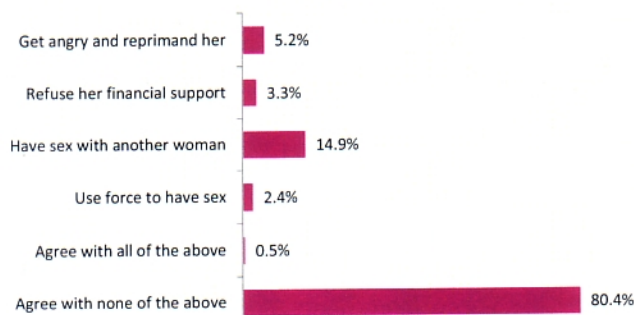
Women who currently are or have been married, and/or have children, are most likely to accept that a woman can refuse sex with her husband (Fig. 4).

Figure 4: Attitude toward refusing sexual intercourse with husband, men and women aged 15–49



Responding to a final DHS scenario of what men might consider appropriate responses to wives refusing to have sex with their husbands, the vast majority of men did not agree with the four scenarios (Fig. 5). However, 15% thought having sex with another woman was an acceptable response.

Figure 5: Men's attitude towards a husband's rights when his wife refuses sex



Policy note

Men and women tend to make household decisions together, with most decisions across standard DHS household scenarios taken jointly.

The vast majority of Tongan women and men abhor violence against women. However, there remains room for sustained civic education as the proportions of women (29%) and men (18%) who agree with the statement that husbands are justified in hitting or beating their wives under certain circumstances are still high.

*For more detailed information on women's empowerment see chapter 13 in the 2012 Tonga DHS report.





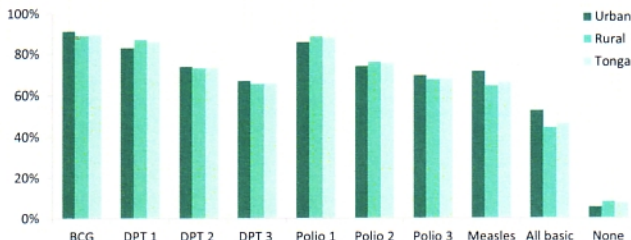
Many childhood deaths can be prevented by immunising children against certain diseases and ensuring they receive prompt and appropriate treatment when they become ill.

Universal immunisation of children against the eight vaccine-preventable diseases (tuberculosis, diphtheria, whooping cough [pertussis], tetanus, hepatitis B, haemophilus influenza, polio and measles) is crucial in reducing infant and child mortality.

Vaccinations

According to the 2012 Tonga Demographic and Health Survey (DHS), close to half (46%) of children aged 12–23 months were fully vaccinated at the time of the survey (Fig. 1). Female babies are more likely (50%) than male babies (44%) to have received all basic vaccinations. Children living in urban areas are more likely to be fully immunised (53%) than children in rural areas (44%), perhaps reflecting easier access to services in town. And a mother's education appears to have an impact on immunisation rates, with 57% of children whose mothers have higher than secondary education being fully immunised, compared with 43% of children whose mothers have only secondary-level education.

Figure 1: Coverage by type of vaccination, Children aged 18–29 months

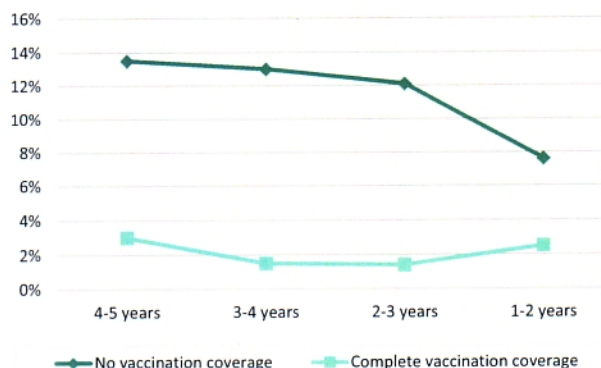


DHS results indicate that vaccination rates have improved over the past four years. This is reflected in the proportion of children who had received no vaccinations by 12 months of age. The proportion has declined from 14% among children aged 4–5 years at the time of the survey to about 8% among children 1–2 years of age at the time of the survey (Fig. 2).

According to World Health Organization guidelines, children are considered fully immunised when they have received BCG vaccination (against TB), three doses of DPT (diphtheria, tetanus and pertussis) and polio vaccine, and one measles vaccination by the age of 12 months. Despite the pleasing trends in BCG, DPT and polio immunisation rates, only two out of three children aged 12–23 months had been vaccinated against measles (66%). And unlike solid BCG, DPT and polio immunisation coverage in the first years of a child's life, measles vaccination before 12 months of age stood at a low

3.5%, most likely reflecting a different age-specific vaccination practice in Tonga.

Figure 2: Vaccination coverage in the first years of life



Birth weight

With so many births in Tonga taking place in a health facility, most babies are weighed at birth (94%). Only 4% of children born in the 5 years prior to the survey had a birth weight of less than 2.5 kg. Factors contributing to children being more likely to have a low birth weight included their mother being younger than 20 or older than 34 years of age; being the first, fourth or fifth child born to their mother; and having a mother who smokes cigarettes or tobacco.

Acute respiratory infections (ARI)

Acute respiratory infection (ARI) is a leading cause of child morbidity and mortality worldwide. Early diagnosis and treatment can prevent many of the deaths caused by ARI. The good news for Tonga is that ARI incidence is very low, with only 4% of children under age 5 having shown symptoms in the 2 weeks preceding the survey. Children living in the lowest wealth quintile households are more likely to suffer from ARI symptoms (6%) than children living in households in the highest wealth quintiles (less than 3%). The type of cooking fuel used at home impacts on a child's likelihood of suffering ARI symptoms. When wood/coconut parts and agricultural crops are used as cooking fuels in households, the proportion of children with ARI symptoms is higher.

Fever

Around one in ten children under age 5 was reported to have experienced a fever in the 2 weeks prior to the survey. Children living in urban areas were more likely (16%) to have had fever in the 2 weeks preceding the survey than children in rural areas (9%). The number of children taken to a health facility or provider to receive treatment for a fever is highest in Tongatapu-Urban (75%) and lowest in other rural areas outside Tongatapu (57%). About 19% of children reported to have had a fever received antibiotic drugs.





Diarrhoea

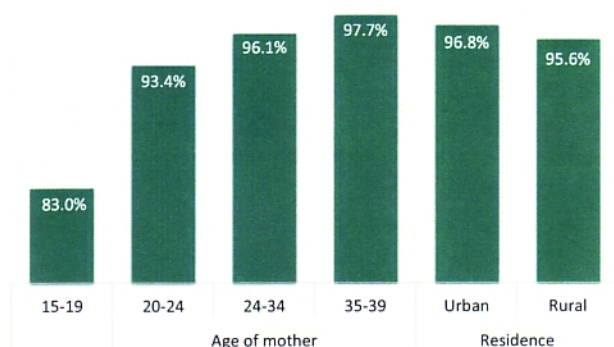
During the 2 weeks prior to the survey, around 4% of children in Tonga under 5 years were reported to have had diarrhoea. This rate is markedly lower than the incidence recorded in the 2007 DHS for Solomon Islands, Marshall Islands and Tuvalu, and in the 2010 DHS survey in Kiribati (around 10%). Incidences of diarrhoea with blood were virtually non-existent, affecting only 0.1% of 1,670 children.

The highest incidence of diarrhoea was among children between 6 and 11 months (8.2%) and between 12 and 23 months (6.7%) of age, with young boys slightly more affected than girls. Because a very small number of children were reported to have had diarrhoea in the 2 weeks prior to the 2012 Tonga DHS, the data concerning treatment of those cases have not been included in the report.

Oral rehydration salts (ORS)

There is comprehensive knowledge of ORS packets in Tonga and 96% of women who gave birth in the 5 years preceding the survey know about them (Fig. 3). A woman is more likely to know about ORS as she gets older, with 83% of women aged 15–19 years knowing about them, compared with 98% of women aged 35–49 years.

Figure 3: Percentage of women who know about ORS packets or pre-packaged liquids

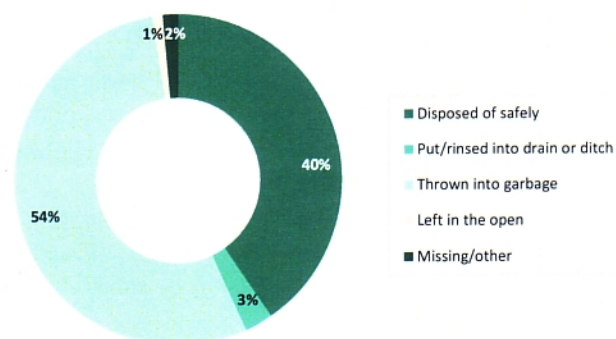


Disposal of excreta

Proper disposal of human faeces is extremely important in preventing diseases from spreading. Forty percent of children's stools are disposed of hygienically in Tonga (Fig. 4). Most frequently, stools are thrown directly into the garbage, rinsed in a ditch or drain or left out in the open. As a child gets older, it is far more likely that their stools will be disposed of safely (27% for children aged less than 6 months, compared with 72% for

children aged 48–59 months). Children living in the poorest households are more likely (44%) to have their stools disposed of safely than those living in the wealthiest households (34%) – perhaps a reflection of greater use of disposable nappies amongst the latter.

Figure 4: Disposal of children's stools



Policy note

As in many other Pacific countries where Demographic and Health Surveys have been carried out, the vaccination rate for measles is lower than for the other basic vaccinations. Further information should be sought about why so few babies are being vaccinated against measles in the first 12 months of their life.

The incidence of diarrhoea in Tonga is markedly lower than in most other Pacific Island countries where DHS have been carried out, with only 4% of children being affected in the reference period prior to the survey. Knowledge of rehydration is also quite high (96%), but more attention could be given to informing teenage mothers, with only 8 out of 10 reporting knowing how to use oral rehydration salts properly.

There could also be some public health guidance given on hygienic use of disposable nappies; that is, stools should be removed and disposed of hygienically before the nappies are put in the garbage.

*For more detailed information on child health see chapter 10 in the Tonga 2012 DHS report.





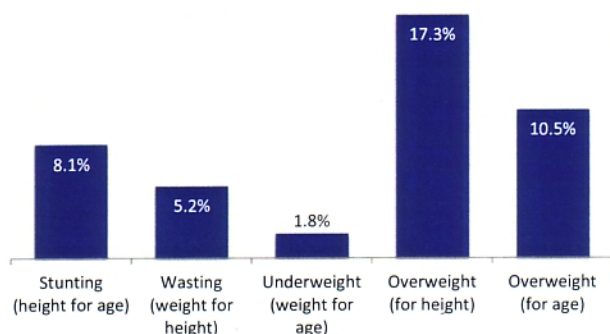
Adequate nutrition is essential to good health. Poor nutrition can impact on productivity and places an extra burden on health systems as a result of non-communicable diseases. Concerns about the type of food that is generally being consumed in a country relate, not only to people not eating enough, but also to the amount of sugary and high-fat foods consumed. Overconsumption of these foods can result in a diet that is high in energy but lacking in essential nutrients.

Nutritional status of children

Poor nutrition among children is associated with maternal malnutrition, low birth-weight, inadequate breastfeeding and weaning diets, and morbidity related to high levels of infectious diseases. Improving children's diets can reduce the severity of childhood illnesses and the risk of death.

The 2012 Tonga Demographic and Health Survey (DHS) shows that of all children younger than 5 years of age, just under 2% are underweight relative to weight for age, 5% relative to weight for height, and 8% relative to height for age (Fig. 1). This illustrates that the prevalence of underweight, stunted or wasted children is low relative to World Health Organization (WHO) guidelines, and under the 10% threshold, indicating that underweight children are not a public health concern in Tonga. At the other end of the weight spectrum, however, the survey shows a high prevalence of overweight children, with almost one in five children under 5 years of age being overweight or obese for their height. This is an issue that public health authorities should be concerned about.

Figure 1: Nutritional status of children under age five years



Micronutrient intake by children

Vitamin and mineral deficiencies are consequences of malnutrition. Overall, 89% of children were reported to have consumed foods that are rich in vitamin A, and nearly eight in ten children had consumed food rich in iron in the 24 hours preceding the survey.

Eleven per cent of children had received iron supplements in the 7 days preceding the survey, with children in urban areas being twice as likely to receive iron supplementation as children living in rural Tonga.

Nearly 8% of children had been given de-worming medication in the 6 months prior to the survey. Most commonly, this medication is administered to children aged between 9 and 17 months.

Foods consumed by mothers

The type of food a mother eats has a significant impact not only on her health but also on the health of her children. A healthy, varied and low-fat diet is especially important to women who are pregnant and breastfeeding.

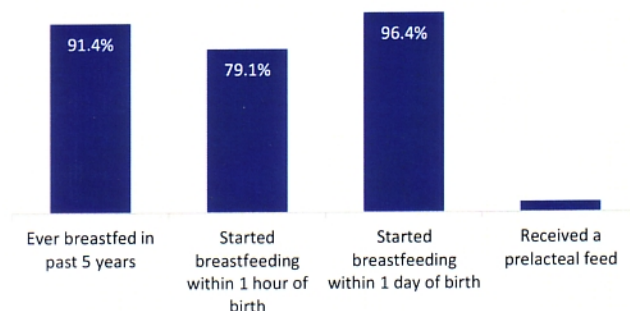
Most women with children under 3 years of age reported eating high protein foods (89%), vitamin A-rich foods (86%), root crops (83%) and grains (82%). Around 70% of women in the highest wealth quintile, living in urban Tonga reported eating high-fat foods. This contrasts with less than 50% of women in rural areas and the lowest wealth quintile.

With such a high rate of consumption of foods high in vitamin A, it is not surprising that the rate of night blindness is low, at less than 4% of the mothers surveyed. In terms of iron supplementation during pregnancy, one in three women said they did not take iron supplements during their last pregnancy.

Infant and young children feeding practices (IYCF)

Almost all (91%) children born in Tonga in the 5 years preceding the survey were breastfed at some time, with 96% receiving their first breast feed within 1 day after birth (Fig. 2).

Figure 2: Breastfeeding practices



WHO and the United Nations Children's Fund (UNICEF) recommend that solid food should only be introduced after 6 months of age. In Tonga, the number of children who are exclusively breastfed decreases sharply with age. The rate falls from 65% breastfed within the first month of life to 22% by the age of 6 months. This means that many babies are being fed foods such as water, other milk and complementary foods well before they reach 6 months of age, a practice that is not recommended by WHO and UNICEF.

The mean duration of breastfeeding for Tongan children born in the 3 years preceding the survey is 14.5 months. The mean duration of exclusive breastfeeding is 4.5 months, and 5 months for predominantly breastfeeding.





Regarding frequency of feeds, survey results show that babies are being breastfed at frequencies that are in line with WHO and UNICEF recommendations. The mean number of feeds during the night and day is 9.8.

Young Tongan children tend to have a diet that is high in grains and root vegetables, with grains being the most common food consumed by breastfeeding children (51%) and non-breastfeeding children (83%). The survey results show that non-breastfed children are more likely to eat sugary foods (52%) and foods made with oil, fat and butter (46%) than breastfed children (28% and 25% respectively).

The Global Strategy on Infant and Child Feeding recommends that breastfed children aged 6–23 months receive foods from at least three specified food groups per day. This recommendation rises to four specified food groups for children who are not breastfed. The results of the 2012 Tonga DHS show that less than one third of children less than 2 years of age met all the ICYF feeding practices. Most often, the reason for these recommendations not being met is that children are not being fed as frequently as required.

Policy note

Only 2% of Tongan children under 5 years are reported as being underweight for age. But one in ten children are recorded as being overweight or obese for their age, and two in ten as overweight or obese for their height. This is clearly an important issue that public health authorities should be concerned about.

Health improvements could be achieved by promoting longer and exclusive breast-feeding. Currently only one in five infants is exclusively breastfed at the age of 6 months. Apart from contributing to better long-term child health outcomes, longer periods of exclusive breastfeeding (more women feeding until 6 months) also saves on household income (reduced expenditure on expensive formula), and has shown tangible secondary impacts on future eating habits, with non-breastfed children more likely to eat sugary foods (52%) and foods made with oil, fat and butter (46%), than breastfed children (28% and 25% respectively).

**For more detailed information on nutrition see chapter 11 in the 2012 Tonga DHS report.*

