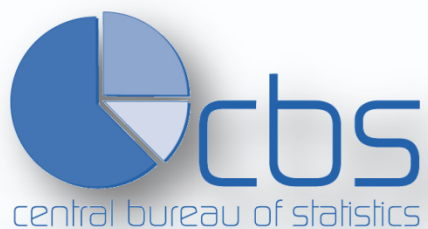


Salas, Ginette (2011): Life table Analysis. Mortality experience of the Aruban population, 2010. Aruba: Central Bureau of Statistics. Pp. 14-15. Downloaded from: www.cbs.aw (16.04.2015).



Life table Analysis

Mortality experience of the
Aruban population, 2010

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Figure 1 illustrates the calculated life expectancies over the last approximately forty years. It can be concluded that women live longer than men in Aruba. Since 1980, women are living longer than men in *all* parts of the world. And, in low-income countries, women now live 20 years longer on average than they did in 1960³. At every age group, women tend to have a lower mortality rate. The reasons for this are not entirely certain. People argue that it can be caused by some traditional socio-environmental factors; men have generally consumed more alcohol, tobacco and other drugs compared to females in most societies. This means they are more likely to suffer from associated diseases such as lung cancer. Men are also more likely to die from accidents, whether unintentional (such as car accidents) or intentional (suicide, violence, war). It is also known that men are more likely to die from most of the leading causes of death than women.

Since the year 1981 to 2000 life expectancy has only been decreasing. An increase can also be seen for the year 1972 to 1981, but in this year the increase in life expectancy for men was unequal to women.

Tables 3 and 4 present life tables for men and women on Aruba. Deaths are taken over the period of one year. There are some zero probabilities in the life tables; this is due to the fact that the numbers of death in these age groups are zero. In reality these probabilities are not zero, but just small.

Table 3: Life table Aruba 2010-2011 Males

Age (x)	n	a(x,n)	Deaths	Census population	M(x,n)	q(x,n)	p(x,n)	l(x)	D(x,n)	L(x,n)	S(x,n)	T(x)	e(x)
0	1	0,09	4	560	0,00715	0,00710	0,99290	100000	710	99354	0,99290	7387957	73,88
1	4	0,4	0	2767	0,00000	0,00000	1,00000	99290	0	397160	0,99987	7288603	73,41
5	5	0,5	0	3597	0,00000	0,00000	1,00000	99290	0	496450	0,99934	6891443	69,41
10	5	0,5	1	3800	0,00026	0,00132	0,99868	99290	131	496123	0,99868	6394994	64,41
15	5	0,5	1	3780	0,00026	0,00132	0,99868	99159	131	495469	0,99569	5898871	59,49
20	5	0,5	4	2727	0,00147	0,00731	0,99269	99028	724	493332	0,99148	5403402	54,56
25	5	0,5	5	2555	0,00196	0,00974	0,99026	98305	957	489131	0,99084	4910069	49,95
30	5	0,5	5	2904	0,00172	0,00857	0,99143	97348	834	484652	0,98936	4420939	45,41
35	5	0,5	9	3513	0,00256	0,01273	0,98727	96513	1228	479494	0,98715	3936287	40,79
40	5	0,5	10	3828	0,00261	0,01298	0,98702	95285	1236	473332	0,98499	3456793	36,28
45	5	0,5	15	4355	0,00344	0,01707	0,98293	94048	1606	466226	0,97506	2983461	31,72
50	5	0,5	26	3880	0,00670	0,03295	0,96705	92442	3046	454597	0,96145	2517234	27,23
55	5	0,5	29	3198	0,00907	0,04434	0,95566	89396	3964	437072	0,94223	2062637	23,07
60	5	0,5	35	2349	0,01490	0,07182	0,92818	85432	6136	411823	0,89999	1625566	19,03
65	5	0,5	48	1721	0,02790	0,13038	0,86962	79297	10339	370636	0,84687	1213742	15,31
70	5	0,5	49	1244	0,03939	0,17930	0,82070	68958	12364	313879	0,76874	843106	12,23
75	5	0,5	56	811	0,06909	0,29458	0,70542	56594	16671	241291	0,67552	529227	9,35
80	5	0,5	37	412	0,08986	0,36687	0,63313	39923	14647	162997	0,55034	287936	7,21
85	5	0,5	28	171	0,16355	0,58042	0,41958	25276	14671	89703	0,34571	124939	4,94
90	5	0,5	16	56	0,28396	0,83034	0,16966	10605	8806	31012	0,13622	35236	3,32
95			6	14	0,42594	0,00000	1,00000	1799	1799	4224		4224	2,35

Source: AZV, DVG, Population Registry, Population and Housing Census 2010

³ Economic World Bank Organization (2011). *World Development Report 2012: Gender Equality and Development*. Washington DC: The World Bank, p. 22.

The meanings of these functions are the following:

- n = length of interval
- $a(x,n)$ = fraction of last year lived
- $M(x,n)$ = the age-specific mortality rate (number of deaths divided by the mid-year population in age group x to $x+n$)
- $q(x)$ = the age specific probability of dying between ages x and $x+n$
- $p(x)$ = the age specific probability of surviving between ages x and $x+n$
- $l(x)$ = the function of survival, being the number of survivors in the life table at exact age x , out of an initial population of 100000 at age 0
- $D(x,n)$ = the function of death, being the number of deaths in the life table between ages x and $x+n$
- $L(x,n)$ = the total number of person-years lived by the total population between ages x and $x+n$
- $S(x,n)$ = the probability of surviving between two year of completed years
- $T(x)$ = the total number of person-years lived by the cohort after exact age x
- $e(x)$ = the expectation of life, being the average number of years yet expected to be lived by a person at age x

Table 4: Life table Aruba 2010-2011 Females

Age (x)	n	a(x,n)	Deaths	Census population	M(x,n)	q(x,n)	p(x,n)	l(x)	D(x,n)	L(x,n)	S(x,n)	T(x)	e(x)
0	1	0,09	9	558	0,01614	0,01591	0,98409	100000	1591	98552	0,98259	7975199	79,75
1	4	0,4	1	2624	0,00038	0,00152	0,99848	98409	150	393276	0,99892	7876647	80,04
5	5	0,5	0	3441	0,00000	0,00000	1,00000	98259	0	491296	1,00000	7483371	76,16
10	5	0,5	0	3698	0,00000	0,00000	1,00000	98259	0	491296	0,99929	6992075	71,16
15	5	0,5	1	3525	0,00028	0,00142	0,99858	98259	139	490948	0,99831	6500779	66,16
20	5	0,5	1	2554	0,00039	0,00196	0,99804	98120	192	490120	0,99817	6009831	61,25
25	5	0,5	1	2926	0,00034	0,00171	0,99829	97928	167	489222	0,99772	5519712	56,36
30	5	0,5	2	3505	0,00057	0,00285	0,99715	97761	278	488108	0,99481	5030490	51,46
35	5	0,5	6	3962	0,00151	0,00754	0,99246	97482	735	485573	0,99230	4542382	46,60
40	5	0,5	7	4435	0,00158	0,00786	0,99214	96747	761	481834	0,99200	4056809	41,93
45	5	0,5	8	4891	0,00164	0,00815	0,99185	95987	782	477978	0,98990	3574975	37,24
50	5	0,5	11	4530	0,00243	0,01207	0,98793	95205	1149	473151	0,97807	3096997	32,53
55	5	0,5	24	3699	0,00649	0,03192	0,96808	94056	3002	462773	0,96220	2623846	27,90
60	5	0,5	25	2787	0,00897	0,04386	0,95614	91053	3994	445282	0,94484	2161073	23,73
65	5	0,5	28	2020	0,01386	0,06698	0,93302	87059	5831	420719	0,91657	1715791	19,71
70	5	0,5	36	1691	0,02129	0,10107	0,89893	81228	8210	385617	0,86853	1295072	15,94
75	5	0,5	42	1166	0,03603	0,16528	0,83472	73019	12069	334921	0,79378	909454	12,46
80	5	0,5	40	684	0,05852	0,25526	0,74474	60950	15558	265855	0,67355	574533	9,43
85	5	0,5	35	327	0,10699	0,42205	0,57795	45392	19158	179066	0,50989	308678	6,80
90	5	0,5	28	160	0,17465	0,60785	0,39215	26234	15946	91305	0,41956	129612	4,94
95			16	60	0,26855	0,00000	1,00000	10288	10288	38308		38308	3,72

Source: AZV, DVG, Population Registry, Population and Housing Census 2010