Reading and Understanding DHS Tables

Statistical tables can look intimidating at first glance. This flyer suggests ways to read and understand tables from the 2013 Liberia Demographic and Health Survey report.

Example 1: Current Use of Contraception
A Question Asked of a Subgroup of Survey Respondents

Step 1: Read the title and subtitle. They tell you the topic and the specific population group being described. In this case, the table is about current use of contraception by currently married women age 15-49. This is a subgroup of survey respondents.

Step 2: Scan the column headings—the top horizontal row. They describe how the information is categorized. In this case, each column represents a contraceptive method: any method, any modern method, and any traditional method. The last column lists the number of women interviewed.

Step 3: Scan the row headings—the first vertical column. These show the different ways the data are divided into categories based on population characteristics. In this case, the table presents contraceptive use among married women by number of living children, urban-rural residence, region of residence, educational level, and wealth. Most of the tables in DHS reports will be divided into these same categories.

Step 4: Look at the very last row at the bottom of the table. These percentages represent the totals of all married women age 15-49 who are currently using a method of contraception. In this case, 20.2% of currently married women age 15-49 are currently using any method of contraception, 19.1% are using any modern method, and 1.1% are using any traditional method.

Step 5: To find out what percentage of married women with secondary education and higher are currently using a modern contraceptive method, draw two imaginary lines, as shown on the table. This shows that 27.1% of married women age 15-49 with secondary education and higher are currently using a modern method of contraception.

Table 7.3.1 Current use of contraception by background characteristics

Percent distribution of currently married women age 15-49 by contraceptive method currently used, according to background characteristics, Liberia 2013

Background characteristic	Any method	Any modern method	Any traditional method	Number of women
Number of living children				
0	6.4	5.5	0.9	300
1-2	21.0	19.8	1.2	1,973
3-4	21.3	20.2	1.1	1,688
5+	20.9	19.7	1.2	1,424
Residence				
Urban	23.2	21.6	1.6	2,898
Greater Monrovia	27.5	25.1	2.4	1,614
Other urban	17.7	17.1	0.7	1,283
Rural	16.8	16.3	0.5	2,488
Region				
North Western	20.6	20.0	0.6	580
South Central	24.2	22.4	1.8	2,481
South Eastern A	20.5	20.5	0.0	348
South Eastern B	22.4	22.3	0.1	358
North Central	13.6	12.8	0.8	1,619
Education				
No education	15.3	14.7	0.6	2,417
Primary	19.7	18.1	1.6	1,446
Secondary and higher	28.6	27.1	1.6	1,523
Wealth quintile				
Lowest	13.5	13.2	0.3	1,133
Second	17.1	16.5	0.6	1,094
Middle	21.6	21.1	0.6	1,082
Fourth	26.2	24.5	1.7	1,108
Highest	23.3	20.7	2.6	968
Total	20.2	19.1	1.1	5,386

Note: If more than one method is used, only the most effective method is considered in this tabulation. Users of IUD, Cyclebeads/Standard Days, and the lactational amenorrhea method (LAM) are included in other modern methods.

Practice: Use this table to answer the following questions (answers are upside down, below):

a) What percentage of married women with 5+ children are using a modern method of contraception?

b) In which region are married women least likely to use a modern method of contraception?

c) Compare married women in urban areas to married women in rural areas—which group is more likely to use a traditional method of contraception?

Example 2: Prevalence and Treatment of ARI among Children
A Question Asked of a Subgroup of Survey Respondents

Step 1: Read the title and subtitle. In this case, the table is about two separate groups of children: (a) all children under age 5 and, (b) children under age 5 who had symptoms of an acute respiratory infection (ARI) in the 2 weeks before the survey.

Step 2: Identify the two panels. First identify the columns that refer to all children under 5 (a), and then isolate the columns that refer only to those children who had ARI symptoms in the 2 weeks before the survey (b).

Step 3: Look at the first panel. What percentage of children under 5 had symptoms of an ARI in the 2 weeks before the survey? It's 6.5%. Now look at the second panel. How many children are there with symptoms of ARI? Only 396, or about 6.5% of the 6,047 children under age 5. The second panel is a subset of the first panel.

Step 4: Only 6.5% of the children in the survey had ARI symptoms in the 2 weeks before the survey. Once these children are further divided into the background characteristic categories, there may be too few cases for the percentages to be reliable.

For example, look to see what percentage of children under 6 months with ARI symptoms received antibiotic drugs: 75.9%. This percentage is in parentheses because there are fewer than 50 children (unweighted) in this category. Readers should use this number with caution—it may not be accurate. (For more information on weighted and unweighted numbers, see Example 4.)

Look also to see what percentage of children with ARI symptoms in Bomi County received antibiotic drugs. There is no number in this cell—only an asterisk. This is because fewer than 25 children (unweighted) in Bomi County were reported to have ARI symptoms in the 2 weeks before the survey. Results for this group are not reported. The subgroup is too small, and therefore the data are not reliable.

Note: When parentheses or asterisks are used in a table, the explanation will be noted under the table. If there are no parentheses or asterisks on a table, you can proceed with confidence that enough cases were included in all categories that the data are reliable.

Table 10.5 Prevalence and treatment of symptoms of ARI

Among children under 5, the percentage who had symptoms of acute respiratory infection (ARI) in the two weeks preceding the survey and among children with symptoms of ARI, the percentage for whom advice or treatment was sought from a health facility or provider and the percentage who received antibiotics as treatment, according to background characteristics, Liberia 2013

Background characteristic	Among children under 5: Percentage with symptoms of ARI[1]	Number of children	Among children under 5 with symptoms of ARI: Percentage for whom advice or treatment was sought from a health facility or provider[2]	Percentage who received antibiotics	Number of children
Age in months					
<6	5.6	603	(76.0)	(75.9)	34
6-11	10.4	730	54.2	61.7	76
12-23	8.2	1,272	50.9	60.5	104
24-35	5.6	1,085	46.5	45.2	61
36-47	5.4	1,198	53.0	46.9	65
48-59	4.8	1,159	32.2	52.4	56
Residence					
Urban	5.4	3,013	49.4	62.3	164
Greater Monrovia	6.0	1,503	(38.2)	(71.1)	91
Other Urban	4.8	1,510	63.2	51.4	73
Rural	7.6	3,034	51.7	52.1	232
Region					
North Western	7.6	663	53.0	69.8	50
South Central	6.6	2,485	47.8	64.6	165
South Eastern A	9.8	463	55.5	44.7	45
South Eastern B	8.9	466	52.6	35.9	42
North Central	4.7	1,970	51.4	49.0	93
County					
Bomi	5.7	160	*	*	9
Bong	6.7	739	(58.2)	(57.8)	50
Gbarpolu	6.0	149	(30.0)	(42.2)	9
Grand Bassa	5.6	345	*	*	19
Grand Cape Mount	9.1	355	(56.0)	(71.9)	32
Grand Gedeh	7.4	146	(69.4)	(43.9)	11
Grand Kru	11.5	203	(41.6)	(30.4)	23
Lofa	4.2	323	*	*	14
Margibi	8.7	448	(49.6)	(57.5)	39
Maryland	5.2	175	*	*	9
Montserrado	6.3	1,692	(46.5)	(73.4)	107
Nimba	3.3	908	(38.7)	(34.5)	30
River Cess	12.2	139	58.0	50.3	17
River Gee	10.4	88	(73.2)	(52.3)	9
Sinoe	9.8	178	(44.5)	(39.9)	17
Total	6.5	6,047	50.7	56.3	396

Note: Figures in parentheses are based on 25-49 unweighted cases. An asterisk indicates that a figure is based on fewer than 25 unweighted cases and has been suppressed. Total includes 1 case for which information on type of cooking fuel used in household is missing.
nc = no cases
[1] Symptoms of ARI (cough accompanied by short, rapid breathing which was chest-related and/or by difficult breathing which was chest-related) is considered a proxy for pneumonia
[2] Excludes pharmacy, shop, traditional practitioner, and black bagger/drug peddler

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Practice: Use this table to answer the following questions (answers are upside down, below):
a) In what age group are symptoms of ARI the most common?
b) What percentage of children with ARI symptoms in Urban Greater Monrovia (residence) households took antibiotics? Can you use this number with confidence?
c) Among children with ARI symptoms in Maryland County, what percentage sought advice or treatment from a health facility or provider? Why is there no number in the table?

a) 6-11 months, 10.4% of children 6-11 months had ARI symptoms in the 2 weeks before the survey. b) 71.1% but because this is based on only 25-49 cases, you should use this number with caution. c) This cell has an asterisk because there are fewer than 25 cases in this category. There are not enough children with ARI symptoms sought advice or treatment from a health facility or provider to be able to provide an accurate number.

Example 3: Knowledge of AIDS
Interpreting, Comparing, and Understanding Patterns

Step 1: Read the title and subtitle. In this case, the table is about women and men who have heard of AIDS.

Step 2: Identify the indicators in the top most row. In this table there are just two indicators: percentage of women and men who have heard of AIDS.

Step 3: Look at the row headings to identify the background characteristics. In this table, awareness of AIDS is disaggregated by age, marital status, urban/rural residence, region, education, and wealth quintile.

Step 4: Look at the bottom of the first column to determine the total percentage of women and men who have heard of AIDS: 97.3% of women and 96.2% of men have heard of AIDS.

Step 5:

Although awareness of AIDS is high among women and men in Liberia, a closer look at the table shows how awareness of AIDS varies throughout the population. Consider the following questions:

- What are the lowest and the highest percentages (range) of AIDS awareness among women within the regions? Only 91.3% of women in South Eastern B have heard of AIDS compared to 99.3% in South Central.

- Look for patterns: Does AIDS awareness vary by background characteristics? For example, is there a clear pattern of AIDS awareness by age? By level of education? By marital status?

- Answers: The youngest women and men (age 15-19) have the least awareness of AIDS. AIDS awareness increases with education for both women and men. Women and men who have never had sex are least likely to have heard of AIDS, while women who are not married but sexually active and men who are married are most aware of AIDS.

- What does this mean? To improve AIDS awareness, programs should focus on women and men with low levels of education. In addition, those who have not had sex are least likely to have heard of AIDS. Targeting this group before they initiate sexual activity could reduce their chances of HIV transmission.

Table 13.1 Knowledge of AIDS

Percentage of women and men age 15-49 who have heard of AIDS, by background characteristics, Liberia 2013

Background characteristic	Women		Men	
	Has heard of AIDS	Number of women	Has heard of AIDS	Number of men
Age				
15-24	97.1	3,722	92.8	1,587
15-19	96.8	2,080	89.3	890
20-24	97.4	1,642	97.4	696
25-29	97.9	1,611	97.0	673
30-39	97.5	2,378	98.8	1,044
40-49	96.9	1,528	98.6	814
Marital status				
Never married	97.6	2,867	92.7	1,749
Ever had sex	98.3	2,230	97.3	1,171
Never had sex	95.3	637	83.4	578
Married/Living together	97.0	5,386	98.7	2,218
Divorced/Separated/ Widowed	97.9	987	98.5	151
Residence				
Urban	99.1	5,633	97.5	2,413
Greater Monrovia	99.7	3,361	99.0	1,433
Other Urban	98.1	2,272	95.4	980
Rural	94.6	3,606	94.3	1,705
Region				
North Western	98.2	837	98.7	367
South Central	99.3	4,854	98.8	2,149
South Eastern A	94.0	483	94.2	254
South Eastern B	91.3	577	91.7	288
North Central	95.2	2,488	91.5	1,060
Education				
No education	94.9	3,066	92.1	533
Primary	97.0	2,875	92.3	1,202
Secondary and higher	99.9	3,298	99.0	2,383
Wealth quintile				
Lowest	92.5	1,581	93.0	749
Second	94.8	1,624	93.6	753
Middle	98.2	1,779	95.1	728
Fourth	99.7	2,047	99.1	864
Highest	99.7	2,207	98.7	1,024
Total	97.3	9,239	96.2	4,118

Example 4: Understanding Sampling Weights in DHS Tables

A sample is a group of people who have been selected for a survey. In DHS surveys, the sample is designed to represent the national population of adults age 15-49. In addition to national data, most countries want to collect and report data on smaller geographical or administrative areas. However, doing so requires a minimum sample size per area (e.g., about 800 women per area). For the 2013 LDHS, the survey sample is representative nationally, by urban-rural residence, regionally, and, for many indicators, by county.

To generate both national and county-level statistics in the simplest manner, the number of persons surveyed in each county should contribute to the size of the total (national) sample in proportion to county size. However, if some counties have very small populations, then a sample allocated in proportion to each county's population may not include sufficient persons from each county for analysis. To solve this problem, counties with small populations are oversampled. For example, let's say that you have enough money to interview 9,239 women and want to produce results that are representative of Liberia as a whole, its 5 regions, and its 15 counties (as in Table 3.1). However, the total population of Liberia is not evenly distributed among the counties: some counties, such as Montserrado, are heavily populated while others, such as River Gee, are not. Thus, River Gee must be oversampled.

A sampling statistician determines how many women should be interviewed in each region and county in order to get reliable statistics. The blue column (1) in the table at the right shows the actual number of women interviewed in each region and county. Within the counties, the number of women interviewed ranges from 423 in River Gee to 1,534 in Montserrado. The number of interviews is sufficient to get reliable results in each region and, for most indicators, in each county.

With this distribution of interviews, some counties are overrepresented and some counties are underrepresented. For example, the population in River Gee is less than 2% of the population in Liberia, while Montserrado is about 32% of the population in Liberia. But as the blue column shows, the number of women interviewed in River Gee accounts for 4.6% of the total population of women interviewed (423/9,239) and the number of women interviewed in Montserrado accounts for 16.6% of the total population of women interviewed (1,534/9,239). This unweighted distribution of Liberian women does not accurately represent the population.

Table 3.1 Background characteristics of respondents			
Percent distribution of women and men age 15-49 by selected background characteristics, Liberia 2013			
	Women		
Background characteristic	Weighted percent	Weighted number	Unweighted number
Region			
North Western	9.1	837	1,553
South Central	52.5	4,854	2,759
South Eastern A	5.2	483	1,367
South Eastern B	6.2	577	1,432
North Central	26.9	2,488	2,128
County			
Bomi	2.6	244	456
Bong	9.7	894	630
Gbarpolu	2.0	182	482
Grand Bassa	4.7	434	505
Grand Cape Mount	4.5	412	615
Grand Gedeh	1.8	167	448
Grand Kru	2.3	217	450
Lofa	4.8	447	629
Margibi	8.1	744	720
Maryland	2.8	257	559
Montserrado	39.8	3,675	1,534
Nimba	12.4	1,147	869
River Cess	1.5	135	459
River Gee	1.1	103	423
Sinoe	2.0	182	460
Total	100.0	9,239	9,239

In order to get statistics that are representative of Liberia, the distribution of the women in the sample needs to be weighted such that it resembles the true distribution in the country. Women from a small county, like River Gee, should only contribute a small amount to the national total. Women from a large county, like Montserrado, should contribute much more. Therefore, DHS statisticians mathematically calculate a "weight" which is used to adjust the number of women from each county so that each county's contribution to the total is proportional to the actual population of the county. The numbers in the purple column (2) represent the "weighted" values. The weighted values can be smaller or larger than the unweighted values at regional or county level. The total national sample size of 9,239 women has not changed after weighting, but the distribution of the women in the regions and counties has been changed to represent their contribution to the total population size.

How do statisticians weight each category? They take into account the probability that a woman was selected in the sample. If you were to compare the red column (3) to the actual population distribution of Liberia, you would see that women in each region and county are contributing to the total sample with the same weight that they contribute to the population of the country. The weighted number of women in the survey now accurately represents the proportion of women who live in Montserrado and the proportion of women who live in River Gee.

With sampling and weighting, it is possible to interview enough women to provide reliable statistics at national, regional, and county levels. In general, only the weighted numbers are shown in each of the DHS tables, so don't be surprised if these numbers seem low: they may actually represent a larger number of women interviewed. And remember, the table will use parentheses and asterisks to warn you if there are too few unweighted cases in any category.