

LEARNING OBJECTIVE 3: TO BE ABLE TO PRESENT DATA EFFECTIVELY AND EFFICIENTLY IN VISUAL FORM

An important part of relaying messages gleaned from data is being able to effectively create visual representations of your data and your analyses. If we think about our presentation of data similarly to the way our data were analyzed; that is, descriptions of one point of data or variable at a time, and comparisons of data, we can examine a few simple tools and foundations for effective presentations. This section is by no means an effort to exhaust the functional abilities of graphical computer programs such as Microsoft Excel, but to provide a few basic tenets. Here we present uses of tables, bar/column graphs, pie charts, line graphs, and dual axes graphs.

When creating tables and graphs, it is always helpful to think of them as stand-alone documents. That is, if the table or graph you have created were to get copied or removed from the larger text or presentation it comes from, would it contain enough information for a user to make accurate inferences, know what the data represent, and know where the data are from. Consider, for example, Table 2-11.

This table presents information for a subset of patients at Port City Hospital who were overweight or obese upon admission by age group for 1 year. There are a number of ways to present this information graphically. These data are descriptive, in that we are measuring one thing, the percent of patients who were overweight or obese upon admission, and then segmenting the data by the age of the patient. Ages have been broken into categories for easier presentation, which is often done with continuous data. If we had attempted to count how many patients fell into each age, theoretically ages 1 through 100 plus, we would have over 100 bars on our chart. Therefore, categories help to distill down the data. For data arranged into categories, bar or column charts should be used. They can then depict either the

Table 2-11 Percent of Patients Overweight or Obese by BMI Score

<i>Port City Hospital, 2008</i>			
Age group	Percent	(95% CI)	Sample Size (<i>n</i>)
18–24	36.7	(30.2, 43.3)	93
25–34	48.6	(44.3, 53.0)	289
35–44	56.6	(53.2, 60.1)	519
45–54	65.3	(61.7, 69.0)	488
55–64	68.1	(63.8, 72.3)	353
65 and older	59.7	(55.6, 63.8)	389

BMI ≥ 25 is considered overweight, as BMI ≥ 30 is considered obese.

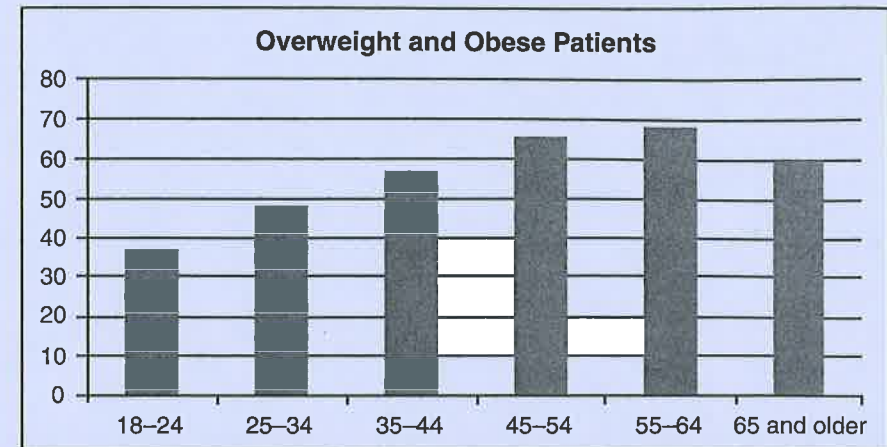


Figure 2-4 Overweight and Obese Patients

number of percent of the data points that fall into each category. Figure 2-4 shows one graphical representation.

Note here that we have bars for each age category and a title that states “Overweight and Obese Patients.” Although semi-informative, there are limits to what we know about these data. If this chart were given to you by itself, what other questions might you have about its contents?

Figure 2-5 shows a slightly different view. Here error bars have been added to represent the 95% confidence intervals from column three of Table 2-11.

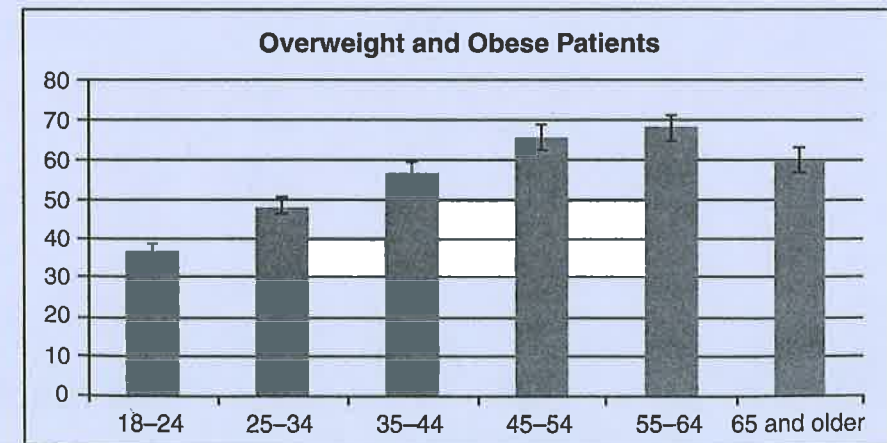


Figure 2-5 Overweight and Obese Patients Part 2