



PROFESSIONAL DEVELOPMENT

Tips on Tables and Graphs

By

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The results of any research or scientific paper are presented in the form of text, tables and/or graphs. Tables are used when authors want to show the maximum data to the readers while graphs are used to show trends and relations between sets of data.

Tables

The main bulk of the results of any scientific paper or thesis is presented in tabular format. This enables the authors to convey to the readers vast and exact information in the clearest form. Each table should deal with a specific issue; start with tables that describe the characteristics of your patients and/or material. Tables may be read vertically (preferable) as a page in the script or horizontally by turning the book on its side. Spacing is all-important and squashed tables are often both ugly and incomprehensible. Tables are preferably integrated into the script so the reader can refer directly to the data while reading the script. Each table should be numbered consecutively in the order of their first citation in the text.

Table format (see Table I)

The main head of the table is to be ranged left (not centred). The table number and table title are to appear on the same line, separated by an em space (An alternative is to pattern on separate lines). Rules (lines) are wanted above and below the column heads. Below each column head (still between the two lines) the units of measurements appear, in parentheses. A third line separates the body of the table from the notes. The stub (the side headings) gives the other dimension of the table. The column heads and stub together explain the meaning of the numbers. Each table should be numbered consecutively and should have a clear title indicating its content. Avoid the use of vertical lines as they distract the reader from the content of the table. Furthermore, limit the horizontal lines to the upper and lower margins of the table and to separate the table headings from the table data.

Number	Table I			Main Head
Title	Effect of surgery for haemorrhoids on resting anal pressure			
	Preoperative	Postoperative 6 weeks	Postoperative 3 months	Column heads
	Type of surgery	(mm Hg)	(mm Hg)	Units
Stub	Pile suture	143.1 ± 27.2	119.1 ± 29.5	Table body
	Ligation excision	151.8 ± 26.6	107.60 ± 34.9	
	Data presented as mean ±SD * p < 0.01			Explanatory notes

Table content

Include values with percentage 10 (50%) with a maximum of two decimal points. Present change from left to right (columns) not from top to bottom (rows). Match table data format with text data format [e.g. mean (SD), median (min-max)]. For footnotes use the following symbols in the following sequence: *, †, ‡, §, ||, ¶, **, ††, ‡‡

Graphs

Graphs are used mainly to illustrate relationships between data. Graphs can easily provide visual profiles of data and trends of data change over time periods which may not be clear in tabular format (compare table I with figure 1). Graphs should only be used if they will help the reader to understand the relationships or trends in the data better and not to add importance to the paper itself.

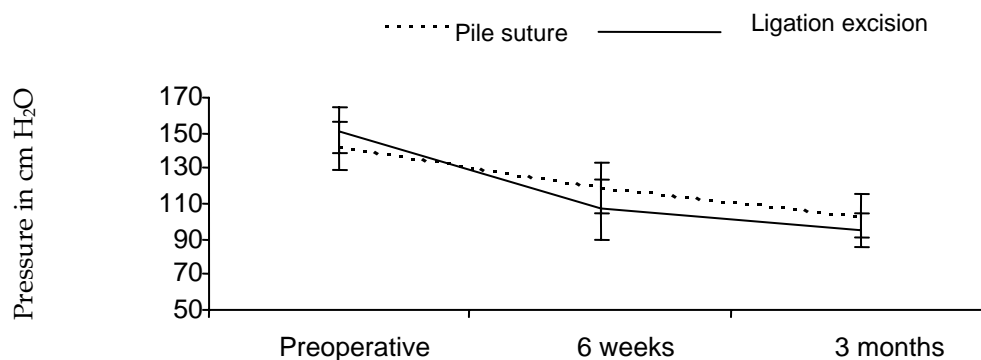


Figure 1 Resting pressure changes

Graphs should be simple with minimum of line patterns and colours. Black and white graphs are sufficient and are always welcomed by journal editors. Furthermore, three dimension graphs are not as illustrative and clear as two dimension graphs and should be avoided at all cost. Gridlines in the graph area should also be avoided.

There are many types of graphs each suitable for showing a particular relation. The following are examples of the most commonly used graphs, their names and suitable use.

Pie Charts

Suitable to compare the parts of a whole

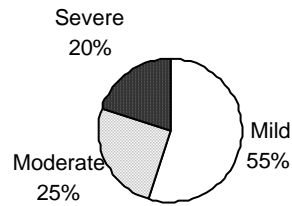


Figure # Pie chart showing the various grades of a disease

Vertical Bar Charts

Used to compare sets of data that change over time

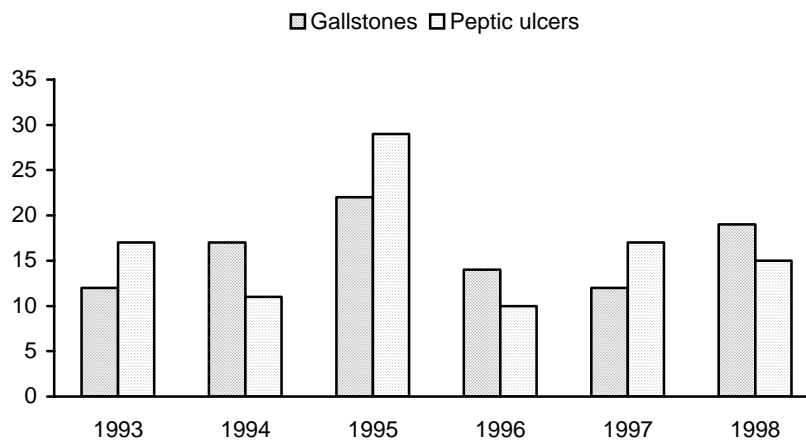


Figure # A vertical bar showing the number of patients with gall stones and peptic ulcers who were laparoscopically managed over a period of six years.

Horizontal Bar Charts

Used to compare sets of data that don't involve time.

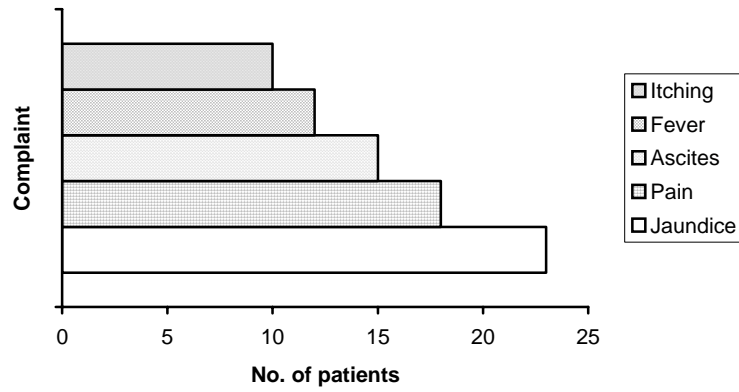


Figure # : A horizontal bar chart showing the various complaints of patients suffering from obstructive jaundice.

Line Charts

Are used to show trends in data over time.

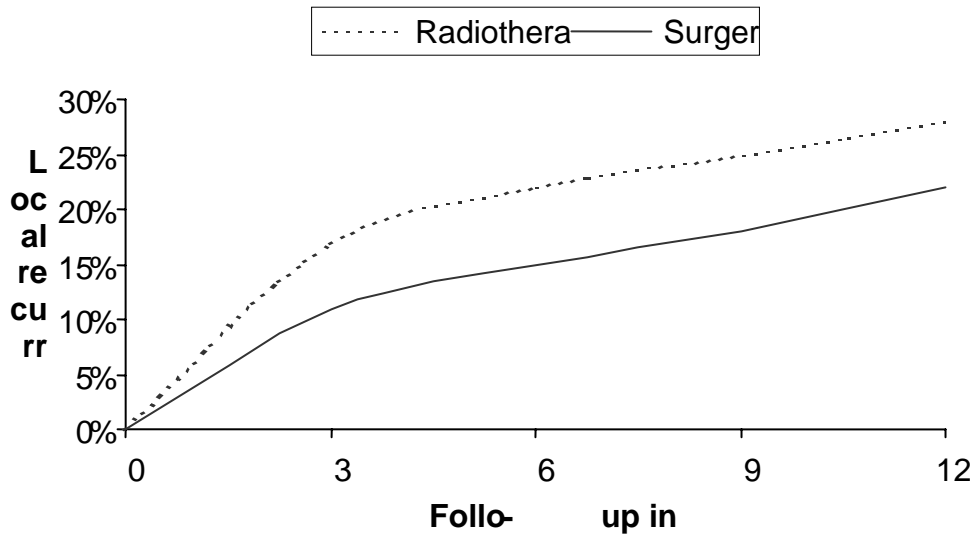


Figure # A line chart showing the incidence of local recurrence after surgical and radiation therapy of a particular tumour

Column-Error Charts

Are used to display sets of data as columns with their corresponding standard deviation or error.

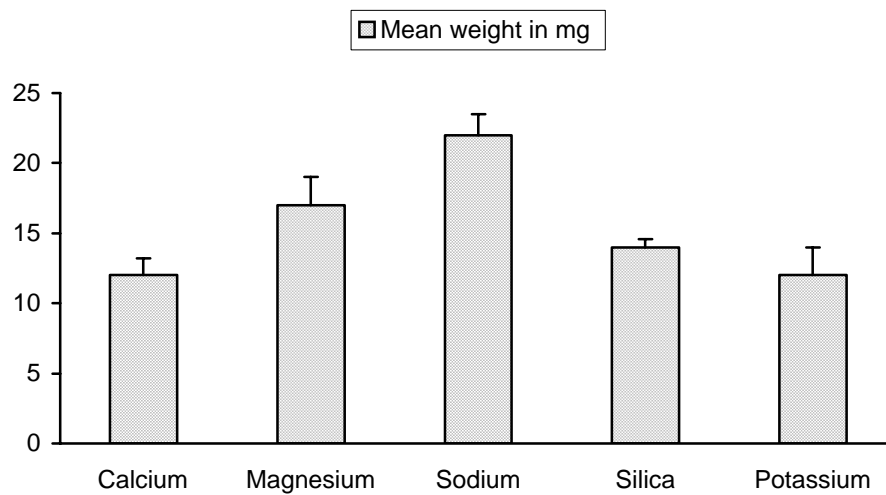


Figure # A column-error chart showing the mean weight and its standard deviation of the content of several samples of water.

Boxplot Charts

Are used to display the median, interquartile range, minimum, and maximum values of sets of data.

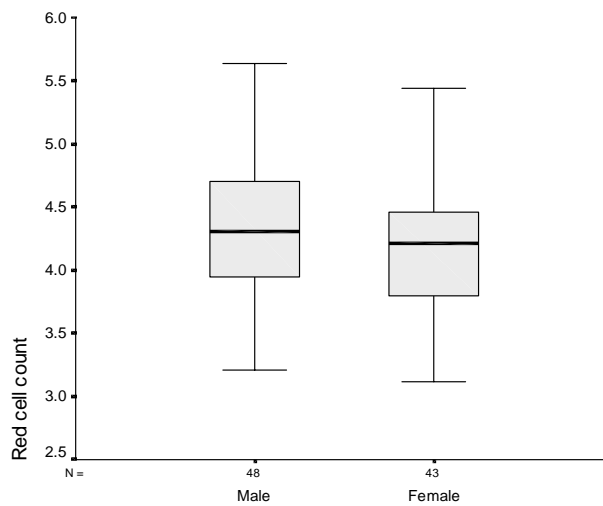


Figure # A boxplot chart showing the median, interquartile range, minimum, and maximum values of red cell counts in male and female patients.

Scatter Charts

Are used to show the correlation between two series of data (one series must be the X-axis data)

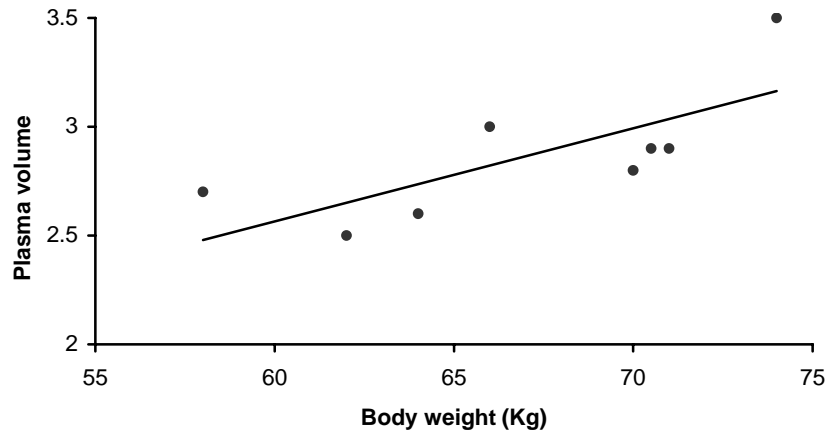


Figure # Scatter diagram of plasma volume and body weight showing the linear regression line.

Survival Charts

Are use to display probability of patients survival

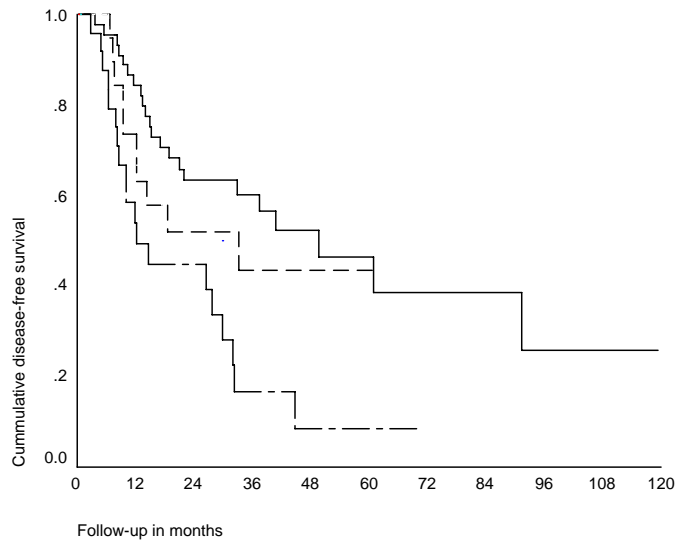


Figure # Cumulative actuarial survival rate for patients with three different types of cancer

Flow Charts

Are used to illustrate the successive stages or structure of a process.

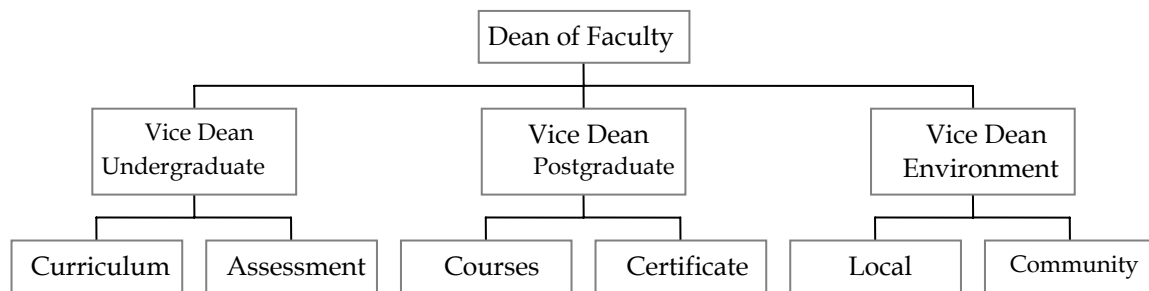


Figure # A flow (organization) chart showing the administrative construction of a particular faculty