Writing Exercise 1

Description

Table 1 presents some results from a study that was investigating health-related quality of life (HRQL) in women with osteoporosis. HRQL was measured by the patients completing a questionnaire on several occasions. The questionnaire includes questions that are grouped into dimensions relating to different aspects of HRQL. The following dimensions are presented in the table:

PF = Physical Functioning

RP = Role Physical

BP = Bodily Pain

GH = General Health Perceptions

VT = Vitality.

For each dimension, a score is obtained from the patients' responses and the mean score can be compared across different groups, criteria or over time. The table displays the mean change in score during the study period for each score. The scores are compared by subgroups of patients depending on the number of osteoporotic fractures they experienced during the study period (0, 1, 2, >=3) to see if the number of fractures experienced (i.e. the severity of the disease) has an impact on the patients' HRQL. With this particular questionnaire, an increase in the score (i.e. a positive change) indicates an increase in HRQL and a decrease in score (i.e. a negative change) indicates a deterioration in HRQL.

The table displays the name of the dimension, the number of fractures, the number of patients in that group (Freq), the mean change in score and the standard deviation (STD). The final column presents the results of a Fisher test that was used to see whether the change in scores differed significantly between the subgroups, using the 0.05 level of significance.

Task

Describe the mean change over time for the dimension scores, highlighting any trends between subgroups of patients. Include a description about the change in HRQL during the study period (i.e. increases or decreases?)

Explain which dimensions showed a significant difference between the different numbers of fractures experienced.

(See example before starting this task)

Table 1: Mean change in HRQL scores according to the number of osteoporotic fractures experienced during the study period

Score	No of fractures	Freq.	Mean	STD	p-value
PF	0	845	-1.27	23.49	
	1	274	-4.07	22.49	0.1164
	2	80	-6.83	18.48	
	>=3	78	-12.31	24.08	
RP	0	839	-2.28	47.58	
	1	273	-4.79	49.22	0.1647
	2	80	-7.71	40.43	
	>=3	76	-11.95	50.23	
BP	0	850	0.46	24.28	
	1	274	-0.55	21.68	0.5769
	2	79	-3.41	20.78	
	>=3	79	-3.87	23.70	
GH	0	823	-1.80	17.82	
	1	268	-3.13	17.44	0.0039
	2	77	-6.96	19.01	
	>=3	79	-5.86	17.79	
VT	0	840	-2.01	18.16	
	1	276	-0.79	19.57	0.0014
	2	80	-1.17	17.71	
	>=3	78	-1.13	18.74	

Example

This example is based on the Physical Component Summary dimension, results for which are not included in Table 1, but are shown below:

Score	No of fractures	Freq.	Mean	STD	p-value
PCS	0	796	0.03	9.59	
	1	253	-0.61	8.70	0.1213
	2	76	-2.23	8.06	
	>=3	74	-4.00	8.94	

The PCS (Physical Component Summary) score for patients with no fracture was relatively stable over the study period, whilst the mean change for those patients with a fracture during the study period showed a decrease in scores over time, indicating a deterioration in HRQL. The decrease in score was greater for patients who had experienced more fractures (-4.00 [$\pm$ 8.94] for patients with 3 or more fractures). The difference in the change between the subgroups of patients was not significant (p=0.1213).