CMD 305 - COURSE

(RESEARCH METHODOLOGY & BIOSTATISTICS)

TUTORIAL TOPIC : Scales of Measurements & Type of variables

Q1) **Name type of measurement scale for the following:**

   a) Education status(Literate / Illiterate):--Nominal scale
   b) Outcome of a newborn baby(Boy/Girl) –Nominal scale
   c) Body mass Index (weight(kg)/.Height^2(meters)) –Ratio scale
   d) Blood sugar level--Quantitative variable—Ratio scale
   e) Cholesterol level--Quantitative variable—Ratio scale
   f) Immunization status of the child (Yes/No): --Nominal scale
   g) Grades of Exam Result (A+,A,B+,B, etc.,) –Ordinal scale

Q2) **A sample data of a study is given below. Name the type of variable:**

Pt ID	Age (Years)	Sex	Marital Status	Education	BMI	CD4 cell count	Viral load	Candi - load	ESR at 1 hour
1	34	1	1	1	20.1	351	728000	47500	35
2	30	2	1	1	17.8	33	11300	159000	25
3	48	2	2	1	25.1	179	53900	188000	30
4	40	1	1	2	17.6	235	498000	21000	34
5	36	1	1	1	18.1	70	7360	320	19
6	25	1	2	2	17.3	86	400	10	10
7	29	2	1	1	16.9	228	750000	167000	39
8	25	1	1	2	17.3	67	83400	15	22
9	38	2	2	1	22.5	27	14300	6500	23
10	40	1	2	2	17.5	41	290000	5200	30

Sex (1= Male, 2=Female); Marital status (1=single, 2=married); Education(1=illiterate, 2=literate)

Solution :

Age (Years)	Sex	Marital Status	Education	BMI	CD4 cell count	Viral load	Candi - load	ESR at 1 hour
QNV	QLV	QLT	QLT	QNV	QNV	QNV	QNV	QNV

QLV =Qualitative variable   QNV= Quantitative variable

Q3) Classify the following variables as quantitative(discrete or continuous) and qualitative (ordinal or nominal).

a) White blood cells per deciliter of whole blood -- Quantitative variable(continuous)

b) Leukemia rates in geographic regions (cases per 100,000 people) --Quantitative variable(discrete)

c) Presence of type II diabetes mellitus (yes or no) --Qualitative variable(nominal)

d) Body weight (kilograms) -- Quantitative variable(continuous)

e) Low-density lipoprotein level (mg/dl) -- Quantitative variable(continuous)

f) Grade in course coded : A, B, C, D or F--Qualitative variable(ordinal)

g) Course credit (pass or fail) --Qualitative variable(nominal)

h) Satisfaction: 1=very satisfied, 2= satisfied, 3= neutral, 4= unsatisfied, 5= other
    --Qualitative variable (ordinal)

i) Treatment group : 1= active treatment, 2 = placebo --Qualitative variable(nominal)

j) The number of road accidents in KSA during Ramadan month. -- Quantitative variable(discrete)

k) The number of boys in a family. -- Quantitative variable(discrete)

l) The length of time that a cancer patient and survives after diagnosis. -- Quantitative variable(either discrete or continuous)

m) The number of previous miscarriages an expectant mother had. -- Quantitative variable(discrete)