VISHWAKARMA UNIVERSITY
Maximising Human Potential
University Grants Commission (UGC) Approved State Private University

Department of Computer Engineering

Course: Applied Statistical Analysis

Mini-Project-1 Report

Sample Survey - Data Collection and Analysis

Study Title: Doctors Survey

By

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Purpose of study :

1)Does patients prefer private or government hospital that is we can find that by number of patients come in a private or government hospital in a week

2) Average time does doctor work daily

Google Form

Survey For Doctors

This is to inform all of you that our department of computer engineering, got a project for statistical analysis.
kindly fill this form for our survey.

digvijaygadhave30@gmail.com
(not shared) Switch accounts

*Required

Gender *

- Male
- Female

Age in years (numerical only eg:20) *

Your answer

Degree *

- MBBS
- MD or MS
- Doctorate or equal
- BAMS
- BHMS
- BDS
- Other:

Specialization (e.g.: eye specialist) *

Your answer

Where do you work? *

- Government hospital
- Private hospital
- own clinic or hospital

What is the avg time you work? (In hours e.g., 5) *

Your answer

How many days do you work in a week? *

- 1
- 2
- 3
- 4
- 5
- 6
- 7

No of patients received per day. (Numerical only eg:20) *

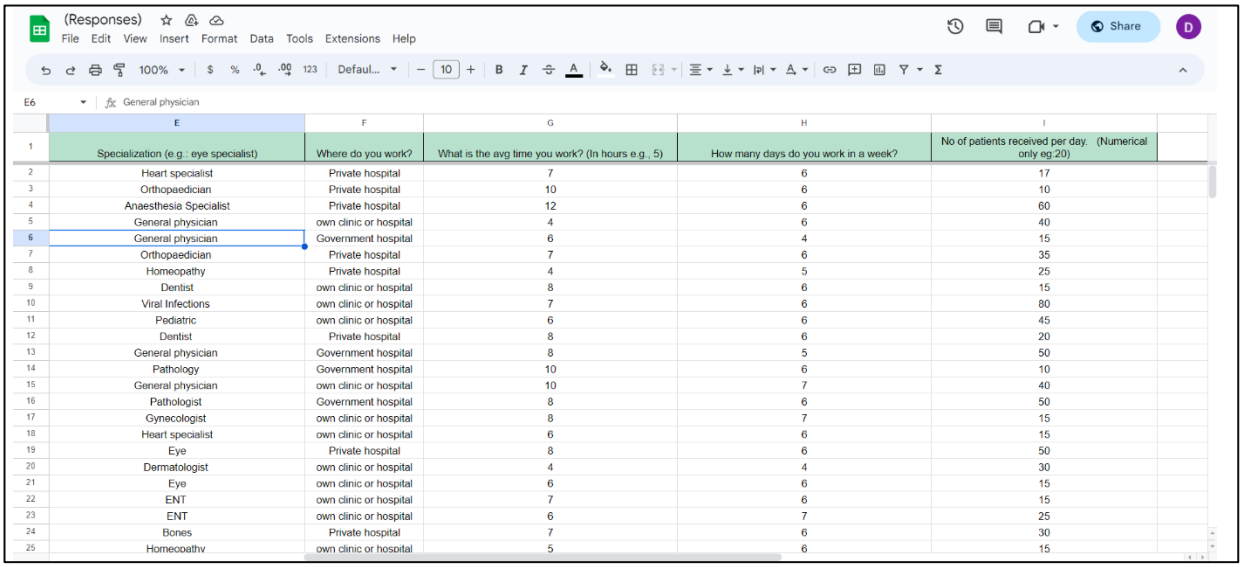
Your answer

Submit Clear form

Google form link:

https://forms.gle/sxaoDrhR8UzmLTnw7

A snapshot of few observations :

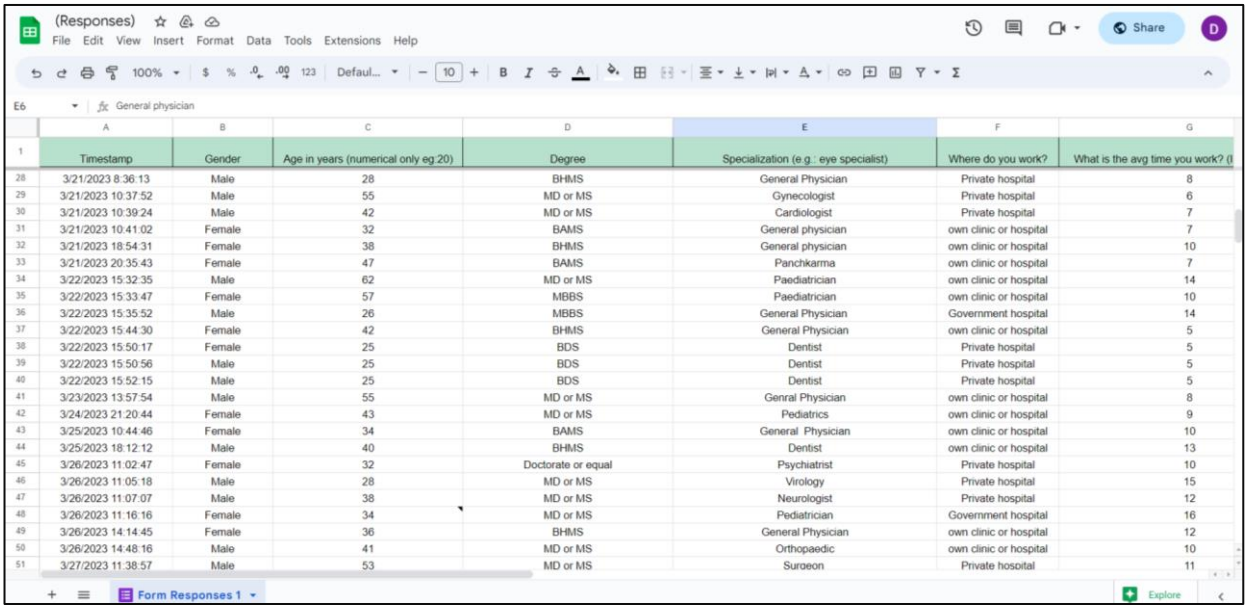


(Responses)

File Edit View Insert Format Data Tools Extensions Help

E6 | General physician

	E	F	G	H	I
1	Specialization (e.g.: eye specialist)	Where do you work?	What is the avg time you work? (In hours e.g.: 5)	How many days do you work in a week?	No of patients received per day. (Numerical only eg:20)
2	Heart specialist	Private hospital	7	6	17
3	Orthopaedician	Private hospital	10	6	10
4	Anaesthesia Specialist	Private hospital	12	6	60
5	General physician	own clinic or hospital	4	6	40
6	General physician	Government hospital	6	4	15
7	Orthopaedician	Private hospital	7	6	35
8	Homeopathy	Private hospital	4	5	25
9	Dentist	own clinic or hospital	8	6	15
10	Viral Infections	own clinic or hospital	7	6	80
11	Pediatric	own clinic or hospital	6	6	45
12	Dentist	Private hospital	8	6	20
13	General physician	Government hospital	8	5	50
14	Pathology	Government hospital	10	6	10
15	General physician	own clinic or hospital	10	7	40
16	Pathologist	Government hospital	8	6	50
17	Gynecologist	own clinic or hospital	8	7	15
18	Heart specialist	own clinic or hospital	6	6	15
19	Eye	Private hospital	8	6	50
20	Dermatologist	own clinic or hospital	4	4	30
21	Eye	own clinic or hospital	6	6	15
22	ENT	own clinic or hospital	7	6	15
23	ENT	own clinic or hospital	6	7	25
24	Bones	Private hospital	7	6	30
25	Homeopathy	own clinic or hospital	5	6	15



(Responses)

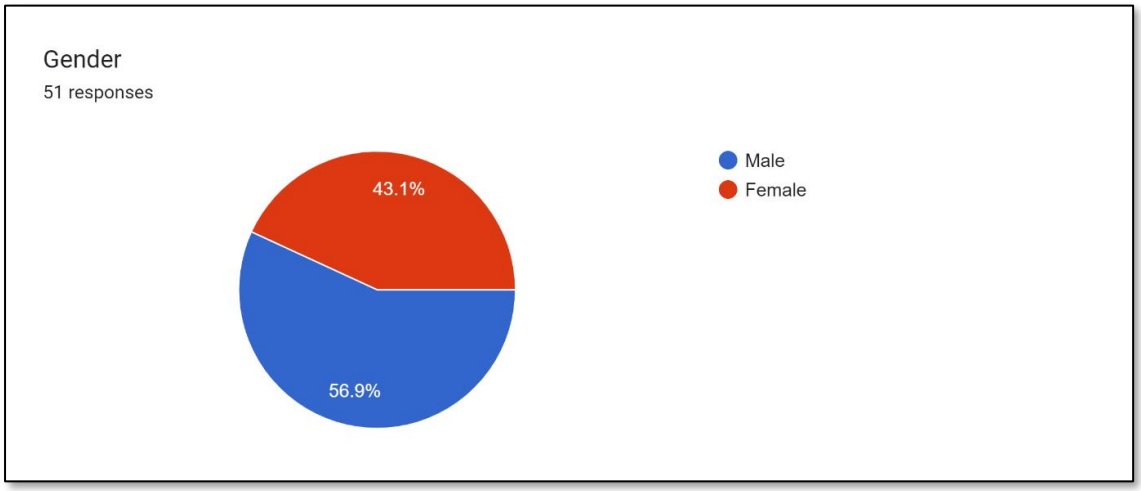
File Edit View Insert Format Data Tools Extensions Help

E6 | General physician

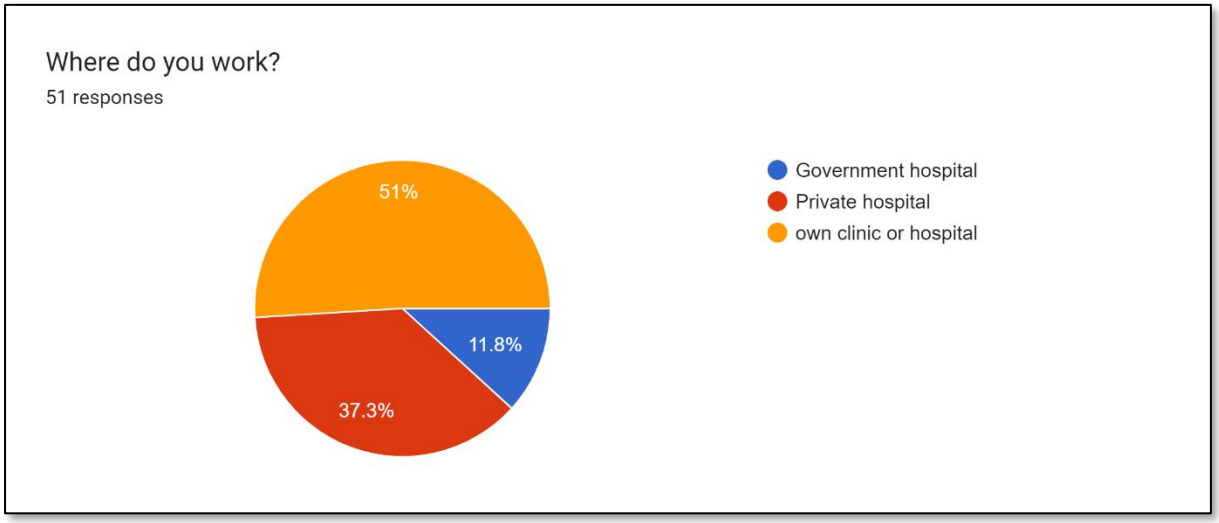
	A	B	C	D	E	F	G
1	Timestamp	Gender	Age in years (numerical only eg:20)	Degree	Specialization (e.g.: eye specialist)	Where do you work?	What is the avg time you work? (I
28	3/21/2023 8:36:13	Male	28	BHMS	General Physician	Private hospital	8
29	3/21/2023 10:37:52	Male	55	MD or MS	Gynecologist	Private hospital	6
30	3/21/2023 10:39:24	Male	42	MD or MS	Cardiologist	Private hospital	7
31	3/21/2023 10:41:02	Female	32	BAMS	General physician	own clinic or hospital	7
32	3/21/2023 18:54:31	Female	38	BHMS	General physician	own clinic or hospital	10
33	3/21/2023 20:35:43	Female	47	BAMS	Panchkarma	own clinic or hospital	7
34	3/22/2023 15:32:35	Male	62	MD or MS	Paediatrician	own clinic or hospital	14
35	3/22/2023 15:33:47	Female	57	MBBS	Paediatrician	own clinic or hospital	10
36	3/22/2023 15:35:52	Male	26	MBBS	General Physician	Government hospital	14
37	3/22/2023 15:44:30	Female	42	BHMS	General Physician	own clinic or hospital	5
38	3/22/2023 15:50:17	Female	25	BDS	Dentist	Private hospital	5
39	3/22/2023 15:50:56	Male	25	BDS	Dentist	Private hospital	5
40	3/22/2023 15:52:15	Male	25	BDS	Dentist	Private hospital	5
41	3/23/2023 13:57:54	Male	55	MD or MS	Genral Physician	own clinic or hospital	8
42	3/24/2023 21:20:44	Female	43	MD or MS	Pediatrics	own clinic or hospital	9
43	3/25/2023 10:44:46	Female	34	BAMS	General Physician	own clinic or hospital	10
44	3/25/2023 18:12:12	Male	40	BHMS	Dentist	own clinic or hospital	13
45	3/26/2023 11:02:47	Female	32	Doctorate or equal	Psychiatrist	Private hospital	10
46	3/26/2023 11:05:18	Male	28	MD or MS	Virology	Private hospital	15
47	3/26/2023 11:07:07	Male	38	MD or MS	Neurologist	Private hospital	12
48	3/26/2023 11:16:16	Female	34	MD or MS	Pediatrician	Government hospital	16
49	3/26/2023 14:14:45	Female	36	BHMS	General Physician	own clinic or hospital	12
50	3/26/2023 14:48:16	Male	41	MD or MS	Orthopaedic	own clinic or hospital	10
51	3/27/2023 11:38:57	Male	53	MD or MS	Surgeon	Private hospital	11

Form Responses 1

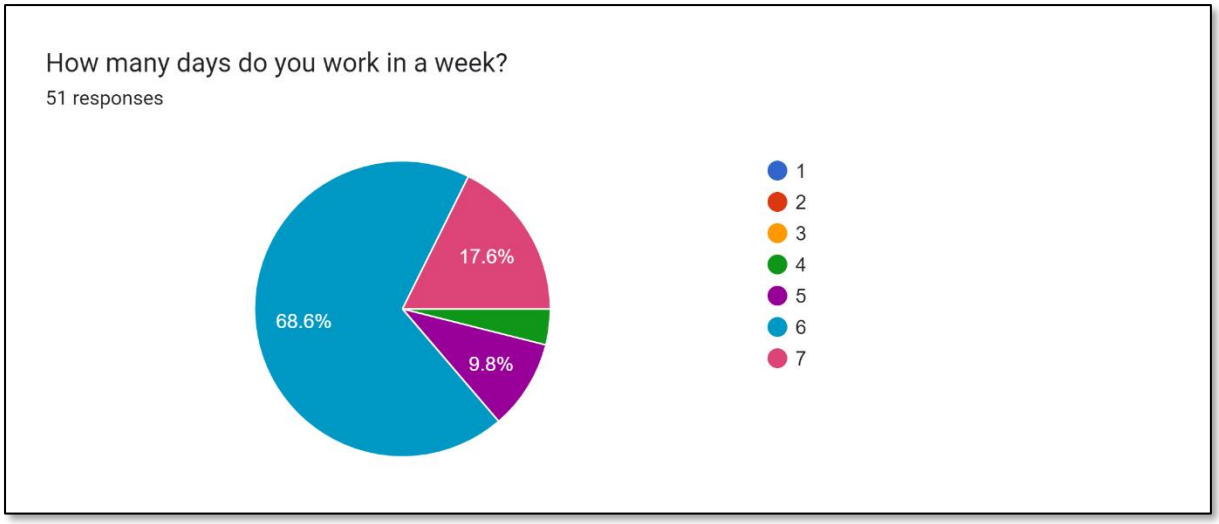
Gender pie chart:



Working pie chart:



Days worked In week:



Summary of Age:

Min.	1st Qu.	Median	Mean	3rd Qu.	Max.	sd
23.00	30.00	36.00	37.49	41.50	72.00	10.29052

Summary average time of work:

Min.	1st Qu.	Median	Mean	3rd Qu.	Max.	sd
4.000	6.000	8.000	8.294	10.000	16.000	2.914063

Summary days of work in a week:

Min.	1st Qu.	Median	Mean	3rd Qu.	Max.	sd
4	6	6	6	6	7	0.663325

Summary No of patients received per day:

Min.	1st Qu.	Median	Mean	3rd Qu.	Max.	sd
5.00	15.00	25.00	28.27	37.50	80.00	16.75718

SUMMARY

1)After comparing summary of time of work ,days of work we can see that every summary value is similar but there is minor difference in standard deviations

2) Whereas after comparing days of work and number of patients we can see that o nly similar this is of min rest all vary highly and this is confirmed by histogram

NO of Patient frequency table:

	patient	Freq
1	5	1
2	10	3
3	12	1
4	15	10
5	17	1
6	20	8
7	23	1
8	25	7
9	30	3
10	35	3
11	40	5
12	45	1
13	50	3
14	60	1
15	70	2
16	80	1

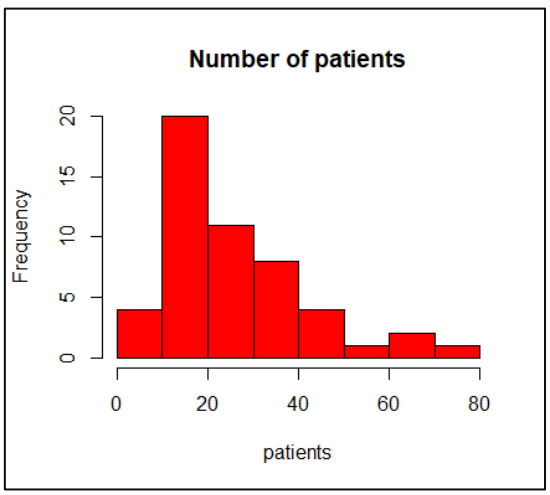
NO of Patient relative frequency table:

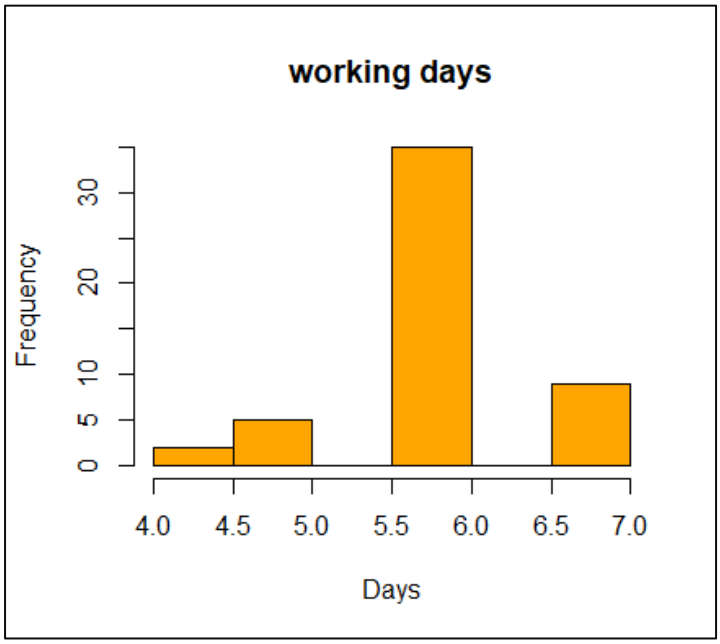
	patient	Freq
1	5	0.01960784
2	10	0.05882353
3	12	0.01960784
4	15	0.19607843
5	17	0.01960784
6	20	0.15686275
7	23	0.01960784
8	25	0.13725490
9	30	0.05882353
10	35	0.05882353
11	40	0.09803922
12	45	0.01960784
13	50	0.05882353
14	60	0.01960784
15	70	0.03921569
16	80	0.01960784

NO of Patient Cumulative frequency table:

	X_data
5	1
10	4
12	5
15	15
17	16
20	24
23	25
25	32
30	35
35	38
40	43
45	44
50	47
60	48
70	50
80	51

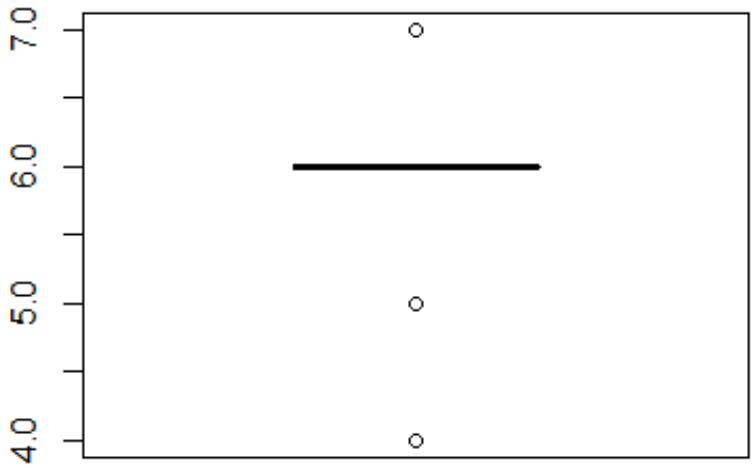
Graphs:



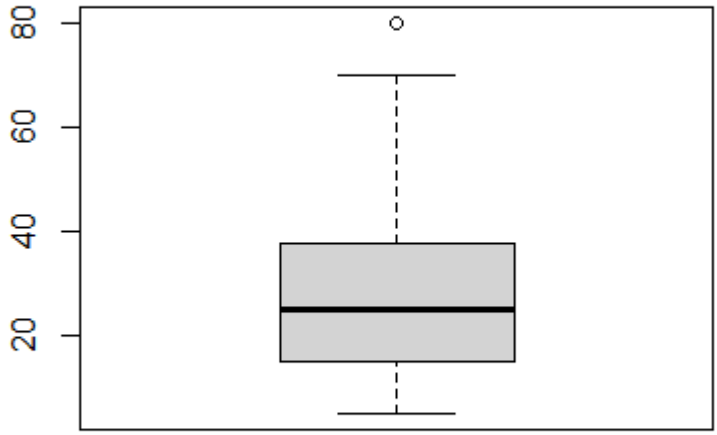


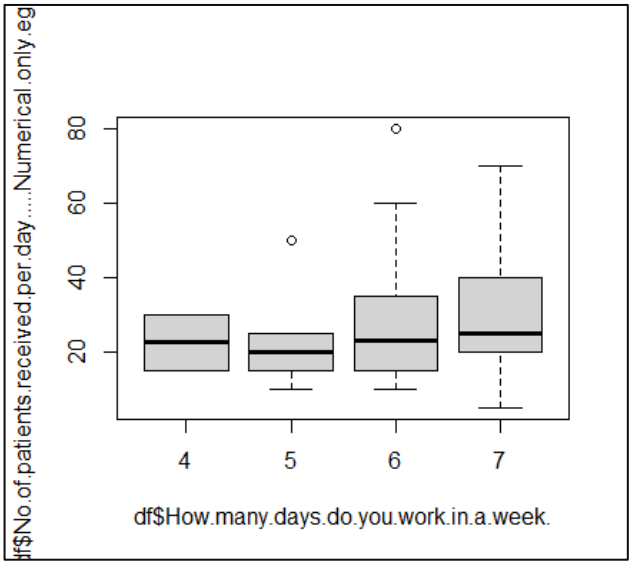
Boxplots:

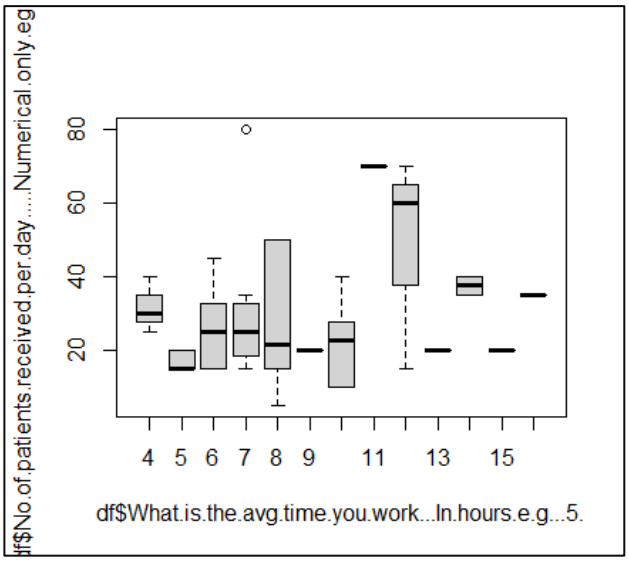
How many days of work:



No of patients:

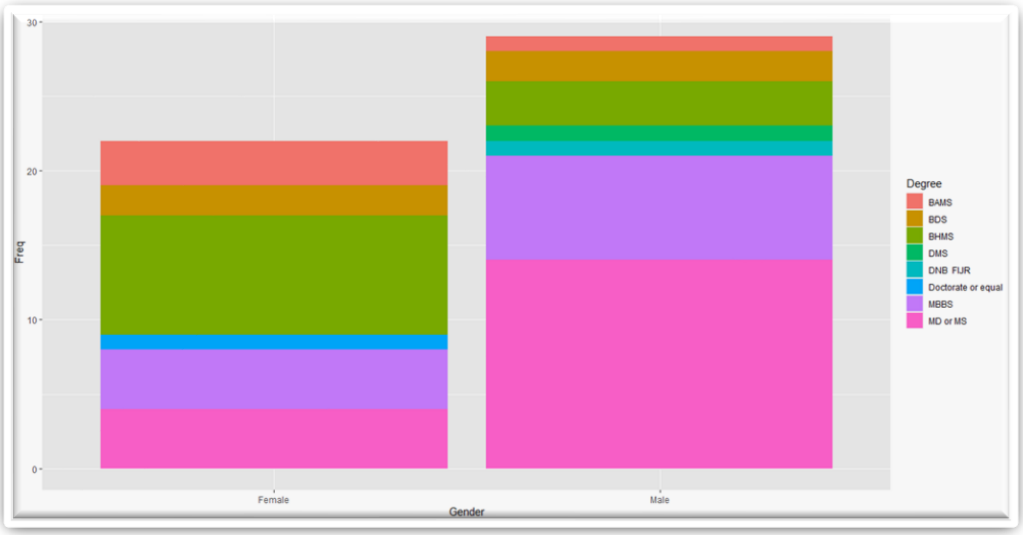




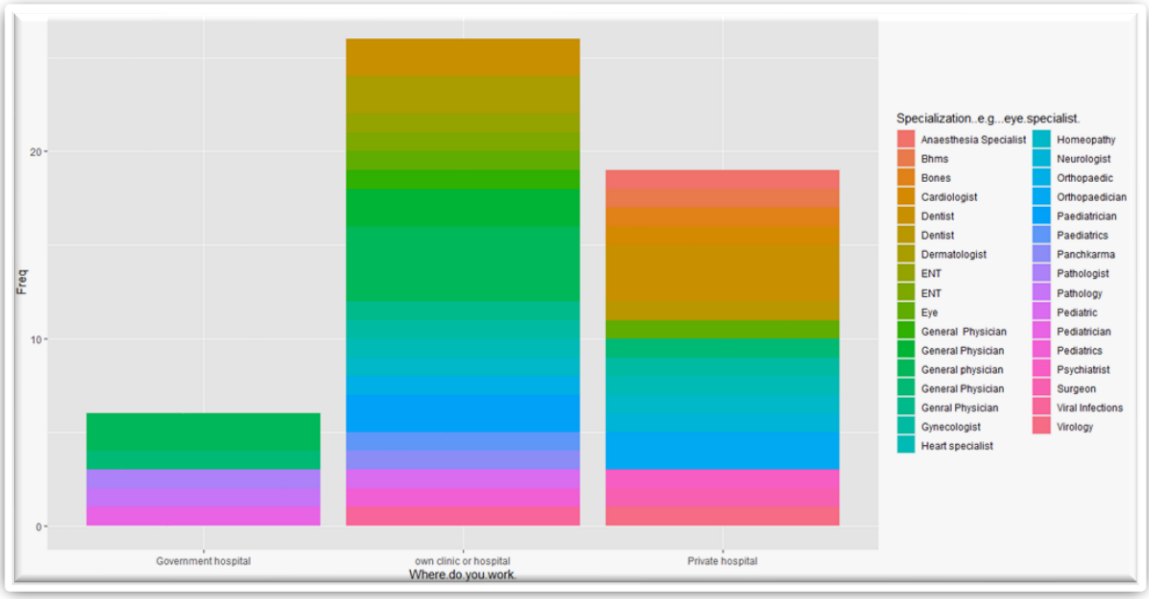


Data analysis of qualitative variables :

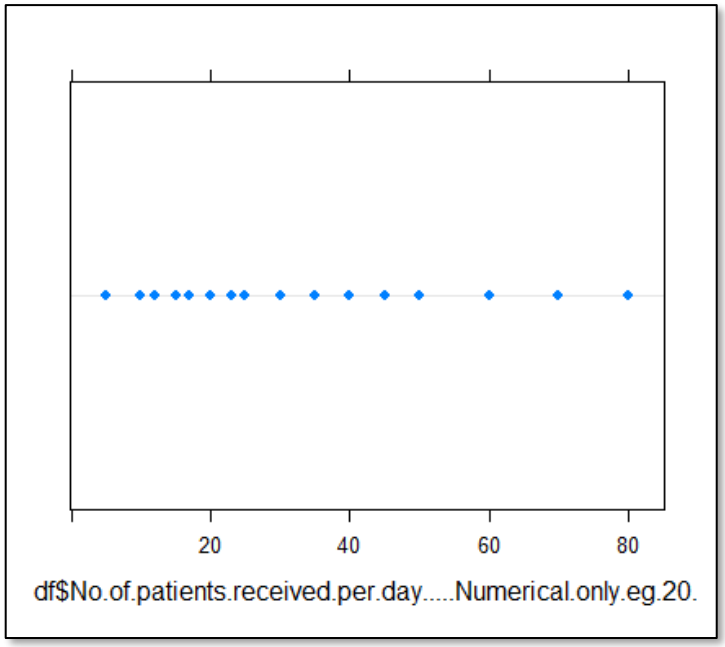
1. Gender vs Degree

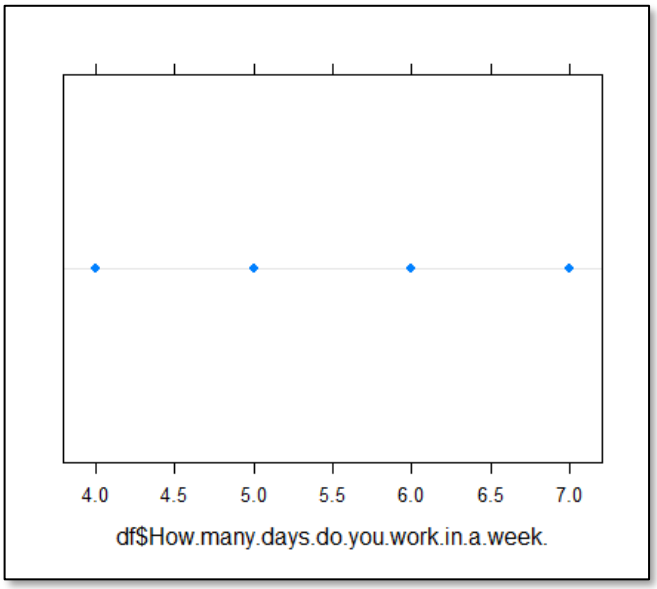


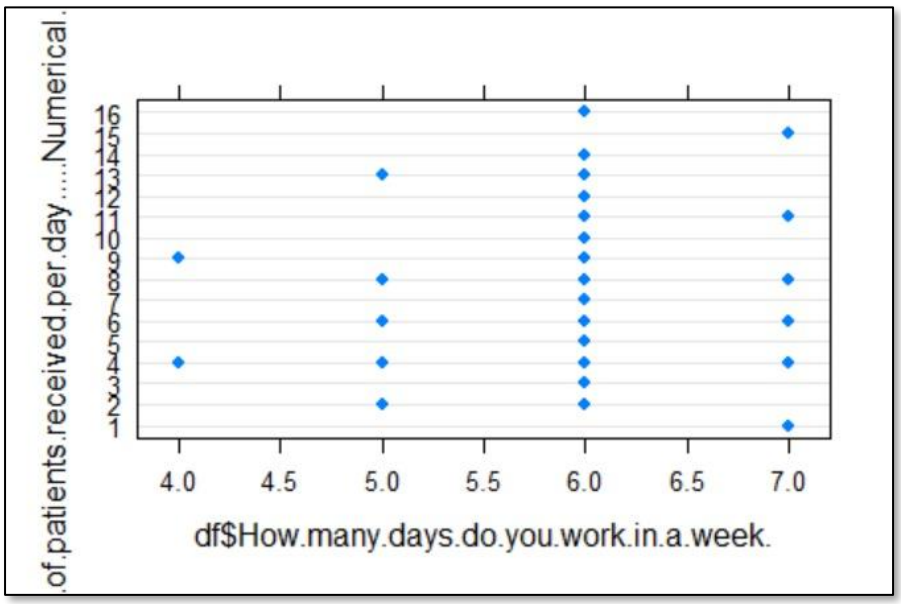
2. Work place vs fill Specialization



STACK DOT PLOT:







For working days skewness is left and for number of patients skewness is right and most common working days is between 5.5 to 6

While 4 and 7 are considered as potential outliers

QUESTIONS:

A) Describe the variables on which you have collected information.

there are 2 types of variables which we have taken which are qualitative and quantitative variable in qualitative variables we have Dr specialization and degree where as in quantative variables we have avg time of work done by doctor , number of patients come in a week

B) Describe a reasonable target population for the sample you used

Target population of this sample are doctors and interns who live in Pune City who has different type of degrees and works in own clinic, private,public or government hospital

C) Is your sample a random sample from this target population?

No our sample is not random sampling in fact it can be summarised into snowball sampling where we did gave Google form to doctors and doctors passed that form to there colleagues

D) Do you feel that your sample is representative of this population?

No our sample is not representative of population since specialization and degree of doctor are endless and collecting all those data might take time and hard work

E) Is this an example of sampling with or without replacement?

Our sample is sampling without replacement

F) For each quantitative variable, state whether it is continuous or discrete.

For each quantitative variable our data is in discrete form

G) Describe the meaning of an element, a variable, and a measurement for this data set.

Element in our sample are those who are answering our questions here they are doctors

The variables are values which describe or gives information regarding elements , here

variables are Number of patients, Averages time for work,days of work , specialisation and degree.

Measurement are the values entered by doctor for a given questions.

H) Describe any problems you faced in collecting these data.

Problem faced by us while collecting our data is :

1)Reachness of our form to max to max users were limited so that we couldn't able to collect more data for accuracy

2)Our questionnaire reached to the users but there was delay in response by them hence few responses we were unable to record

I) Were any of the data values unusable?

No every data we collected was useful

CONCLUSION:

1) Most female doctors have BHMS Degree And male doctors have MD or MS degree
2) Majority of doctors prefer to work in there own clinic as compared to working in government and private hospital.
3) Though government hospital gives free treatment to patients but many times government hospital doesn't provide hygiene as compared to private hospital and in our survey we can see that rate of private and clinic hospital and patient incoming there are more as compared to government.
4) number of working days of doctors are mostly 6.