

**Diagnosing Alzheimer's Disease using SPSS statistical analysis****Patil Aaditi Sharad**

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aaditipatil@sstcollege.edu.in**Abstract**

Alzheimer's is a variety of dementia. Find out in ways. Mostly, Alzheimer's is a doctor's examination detected by them. They are your symptoms evaluate the symptoms they will do many tests. About symptoms and behavior learn more about their friends and talk to family members. Alzheimer's Getting a diagnosis is important. Correct Diagnosis, proper treatment, care, for family education and future Important to get plans. Alzheimer's dementia, Your primary care physician, Trained in brain states Doctor neurologist or therapy the elderly Trained Doctor Senior doctor your symptoms, Medical History, Medicine Review the history Do, like someone close to you Will interview. Friend or family member. SPSS for Social Sciences Statistical Package, IBM SPSS Also known as statistics, it is for statistical data analysis A software package is used. The name of SPSS is Social Science although the application reflects, its Application Other data Expanded markets. Alzheimer's is a disease, in which the constant of neurons Distortion and their synergisms impaired brain functions; it is personality changes, memory loss.

Keywords- Diagnosing Alzheimer's disease, Diabetes mellitus, Angina pectoris

1. Introduction

A neurological disorder, it is mental Alzheimer's disease is a novel Degenerates and shrinks brain cells It also causes death. Alzheimer's So much for dementia Common cause, which is thinking, in behavioral and social skills Continuous decline, it's a person Ability to work independently Affects. 65 in the US and More than 5.8 years of age Millions of people have Alzheimer's living with disease. Among them 80% are 75 years and older more than with dementia About 50 million worldwide in the population, 60% to 70% Alzheimer's disease is estimated. Onset of disease recent events in symptoms or Includes forgetting conversations. As the disease progresses, Alzheimer's disease Sufferer acute memory loss Impairment and daily tasks will lose the ability to do. Medications improve symptoms Can upgrade temporarily or let's slow down. Some of these treatments Sometimes with Alzheimer's disease Activity for victims Increase and freedom for a while it also helps in maintenance. Alzheimer's disease Victims and those Caregivers are also diverse Programs and services can help. Cures disease or disease in the brain any treatment that alters the process no. In advanced stages of the disease, Dehydration, malnutrition or of brain activity such as infection Complications from severe loss resulting in death. Your doctor is physical Experiment and do many tests will conduct Alzheimer's diagnosis other for support or indications To rule out possible causes, Like the positron Get a brain scan.

2. Diagnosing Alzheimer's disease

Alzheimer's disorder is a brain disease, it is reminiscence slowly destroying thinking skills, Eventually, simple tasks will be performed Reduces efficiency by disease In most affected individuals, Early Alzheimer's is a In the person's mid-30s and 60s occurs and is very rare. To date, cerebrospinal b-amyloid, total tau in fluid (CSF). ELISA of phospho-tau-181 Measurement means more specification and Sensitized potential AD More advanced to detect and is the accepted method. AD is acute enervation of the brain the disorder is memory loss and characterized by cognitive decline [1]. Alzheimer's disease (AD) pathologically Tested. Half of a brain Frozen for biochemical studies the other half was fixed in formalin many as part of a research project A year from sources Continuously over time Brains were obtained. Alzheimer's disease (AD) Diagnosis of brain tissue by histological examination the only way to be sure is a biopsy or autopsy. Its Aggression and patient care Due to less chance of conversion Brain biopsy is idiopathic of the course of chronic dementia A part is rarely [2]. Alzheimer's ailment (AD) residing in the community the first used inside the gift look at Test, short transportable intellectual Status Questionnaire (SPMSQ). It is basically on the spot and Assesses behind schedule memory. The maximum essential symptom of Alzheimer's ailment In retaining new information is a dramatic drawback. Alzheimer's Along with the medical diagnosis of the disease In identifying patients EBMT is more effective than SPMSQ It was hypothesized to be a screening device [3]. For measuring MTA The cutting-edge method of desire is 3D magnetic resonance Imaging (MRI) based measurement Measurement is, but this method is complicated The method is not clinically implemented[4]. Revised for Alzheimer's disorder (AD) According to the standards, patients with AD dementia is a symptom. For measuring MTA Clinical and cognitive criteria In Neuropathology, when met Definitive diagnosis as the gold standard established. Medical assessments and AD within the early ranges of the disorder Improving prognosis [5]. Alzheimer's disease (AD) and assocd Early detection of disorders and their general and formal To describe the characteristics. Recently for AD Revised Diagnostic Research To evaluate the criteria, of existing Selection fashions To investigate compatibility, Diagnostics of selection fashions We centered on capabilities. Alzheimer's disease (AD) Global incidence in 2010 turned into 35.6 million Estimated, it is in 2050 a hundred and fifteen Four million [6]. Alzheimer's Disease International, their 2010 In the World Alzheimer's Report, this disease 35 million people affected

estimated to be \$604 billion annually will cost. In America at that time The annual cost is estimated at \$263 billion. Unpaid care of patients This is per year, including expenses and estimated to be \$221 billion[7]. Many with animal research Studies Alzheimer's disease (AD) Air pollution in neuropathology correlates, but AD's Air pollution at risk The actual impact is unknown[8]. This can be very debilitating in modern societies Alzheimer's disease (AD) is a chronic And it is a neurodegenerative disease, It affects all mental faculties that are dull. Diseases and dementias are one in 1,000,000 More people have various related diseases and the Alzheimer's Disease International Institute According to estimates, by 2050 they could be 132 million.[9]. IQCK, ADAMTS1, ACE and ADAM10 in Alzheimer's Disease risk signals ACE and ADAM10 Alzheimer's disease candidate genes 18-22 were previously reported, But in some subsequent studies They are not replicated 23-25. of Alzheimer's disease or dementia Family History Proxy26 Aug Using recent GWAS, this Identified both risk levels. Proxy studies are related to disease Can identify parts[10]. Alzheimer's disease (AD), Early detection of Structural magnetic resonance imaging Progression of the disease using Slow down is essential for early treatment. So, to Accurate computer-aided diagnosis are required [11]. Alzheimer's Association Disorders Disease Criteria Alzheimer's Disease and Related Potential. Anticholinergic or opioid Used drugs with properties Participants were excluded, but quant If stable, estrogens, Cholinesterase inhibitors and vitamin E The use of is allowed [12]. Alzheimer's sickness (AD) is greater of a dementia Common reason and Alzheimer's Most patients with the disease Vascular abnormalities and Suffer from neuritis. Capable of detection Novel blood biomarkers There is an urgent need to develop [13]. Clinical research of Alzheimer's sickness (AD) are diagnostic are restricted by means of imprecision. We obviously used. Identify subjects with See medical inclusion and exclusion criteria[14]. Early diagnosis in the first place Discussions about 'Alzheimer's disease' How is it defined should be investigated because it is an equivalent, represents a poorly defined phenomenon. Second, to avoid speculative ethics About new diagnostic technologies Of promises and expectations Credibility is critical Valuation is important[15]. Idiopathic Parkinson's disease (PD) Additional diagnostic clinical picture Neurologist that justifies Unless otherwise assumed, extrapyramidal Alzheimer's disease with symptoms was compatible with probable AD. Patients with dementia and PD, Dementia compatible with AD preceded by motor symptoms or doctor as classified Think Alzheimer's were classified as probable disease [16]. Alzheimer's disease diagnosis rates Can be improved, personally, professionally and Early diagnosis for the community To prevent impacts and progress or risk reduction to delay Importance. Initial pathology Able to adapt to changes Disease-modifying agents Although not currently available, Exposure to common risk factors of population by adaptation The rate of development of dementia Can be prevented or delayed [17]. Cost of Alzheimer's disease (AD) EEG as a minimal screening tool Has great potential. however, specificity of the EEG is still Not enough. In a previous study, In the early degrees of Alzheimer's disorder Advanced specification of EEG We presented preliminary results that were suggestive[18]. Alzheimer's disease (AD) opinion 20 Am emerged in the later part of the century, First of all non-cognitively impaired defined as persons, They were AD at autopsy They revealed brain lesions. Alzheimer's Pathological markers of disease With development, these markers In cognitively normal individuals While, the ideology evolved and Premature Alzheimer's disease is now considered[19]. Alzheimer's disease in Down syndrome Not entirely new. Das and Misra (1995), Down Alzheimer's syndrome dementia Important steps to detect Planning, articulation and administration All aspects of operation suggested that inclusive[20]. Reliability of hippocampal markers Scan these four pipelines for inspection are used in Revision Database. Alzheimer's disease neuroimaging studies between clinical groups to diagnose Alzheimer's disease Initiative (ADNI) dataset analysis Competing methods are used[21]. With the progression of the disease, emotion Physical indifference, conversation Loss of ability to continue, disorientation and such as mood swings Symptoms occur, and this Complications ultimately lead to patient death lead to In the following, CADs Alzheimer's diagnosis using Some of the methods will be reviewed[22]. Clinical standard of Alzheimer's disease Urinary AD7c-NTP with diagnosis For comparative diagnostic accuracy studies MEDLINE and other electronic databases From the beginning to the present day We searched. We conduct citation searches, of included studies We screened reference lists[23]. Experimental treatments for disease symptoms Alzheimer's disease ATN biomarker Classification, clinical signs Alzheimer's disease before it appears It is widely used[24]. Alzheimer's Disease Study (DIADS)-2 Alzheimer's Disease Sertraline in the treatment of depression Continue to explore the role, over 12 weeks Collected data and 24 Released in weeks. These are both sertraline over placebo did not prove superior. Before The proposed 90-100 mg a The daily dose range is safe And they agreed that it was appropriate[25].

Diabetes mellitus: Diabetes is the body's blood How sugar glucose is used of diseases that affect Represents the group. Muscles and For cells that make up tissues Glucose is a major source of energy. It is also the main fuel for the brain. Major the cause of diabetes varies depending on the type. But what type of diabetes do you have? Even if there is disease, it is in the blood Lead to excess sugar.

Hypertension: High blood pressure is silent called the killer. Most with high blood pressure People are aware of this problem No warning because it won't Signs and symptoms may be absent. For this reason, blood pressure It is important to measure regularly. Blood pressure is vital to the body Arteries of the body are blood vessels bleeding against the walls are the power exerted by Blood High blood pressure. Blood pressure as two numbers is written. The first systolic number is the heart when contracting or throbbing Indicates the pressure in the blood vessels. The second diastolic number is for heart rate in vessels while in between indicates the pressure in

Myocardial infarction: A heart assault is normally called a heart attack is blood to your heart muscle A very dangerous condition caused by lack of flow. Absence of blood flow is due to various factors can happen, but usually your One of the heart or to it associated with blockage of multiple Arteries. Without blood flow, infected the coronary heart muscle starts to die. Blood flow If not quickly recovered, coronary heart assault Permanent heart damage and causing demise.

Angina pectoris: Angina is blood to the heart Caused by reduced flow A type of chest pain. Angina is A symptom of coronary

artery ailment. Also known as Angina Pectoris. Angina ache is regularly urgent, Pressure, heaviness, tightness or strain within the chest Described as ache. As if a heavy weight has been mendacity on the chest can feel Angina as a brand-new ache Maybe, it's by a healthcare provider to be examined or Disappears with treatment Constant pain that goes away.

Stroke: A stroke, sometimes cerebral called attack, It supplies blood To a part of the brain When stopping delivery or A blood vessel in the brain bursts occurs throughout Any In some instances, elements of the brain get broken or die. A stroke can cause lasting brain damage, Long-term disability or maybe demise can result.

Asthma: Asthma is your airways Shrinks and swells to produce extra mucus A position. It makes breathing difficult and cough, when you breathe A whistling sound wheezing and May cause suffocation. For some Asthma is a minor nuisance.

3. Chronic obstructive pulmonary disease (COPD)

An organization of lung diseases air flow Blocks and makes respiration tough. Emphysema and persistent bronchitis Inflammation can cause COPD Most common conditions. by COPD Damage to the lungs cannot will be reversed. Symptoms include shortness of breath, wheezing, or persistent coughing. A rescue inhaler and inhaled or oral steroids to control symptoms and more It also helps to reduce damage.

TABLE 1. Reliability Statistics

Reliability Statistics		
Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.667	.674	6

Table 1 shows the Cronbach's Alpha Reliability result. The overall Cronbach's Alpha value for the model is 0.667 which indicates 60% reliability. From the literature review, the above 60% Cronbach's Alpha value model can be considered for analysis.

TABLE 2. Descriptive Statistics

Descriptive Statistics												
	N	Range	Minimum	Maximum	Mean		Std. Deviation	Variance	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
Diabetes mellitus	23	4	1	5	3.04	.305	1.461	2.134	-.178	.481	-1.406	.935
Hypertension	23	4	1	5	3.00	.209	1.000	1.000	-.299	.481	.008	.935
Myocardial infarction	23	4	1	5	2.96	.247	1.186	1.407	-.267	.481	-.407	.935
Angina pectoris	23	4	1	5	2.78	.274	1.313	1.723	.307	.481	-.956	.935
Stroke	23	4	1	5	2.78	.251	1.204	1.451	.286	.481	-.827	.935
Asthma	23	4	1	5	3.35	.232	1.112	1.237	-.122	.481	-.546	.935
Chronic obstructive pulmonary disease (COPD)	23	3	2	5	3.26	.229	1.096	1.202	.110	.481	-1.385	.935
Valid N (listwise)	23											

Table 2 shows the descriptive statistics values for analysis N, range, minimum, maximum, mean, standard deviation, Skewness, Kurtosis. Diabetes mellitus, Hypertension, Myocardial infarction, Angina pectoris, Stroke, Asthma, Chronic obstructive pulmonary disease (COPD) this also using.

TABLE 3. Frequencies Statistics

Statistics								
		Diabetes mellitus	Hypertension	Myocardial infarction	Angina pectoris	Stroke	Asthma	Chronic obstructive pulmonary disease (COPD)
N	Valid	23	23	23	23	23	23	23
	Missing	0	0	0	0	0	0	0
Std. Error of Mean		.305	.209	.247	.274	.251	.232	.229
Median		3.00	3.00	3.00	3.00	3.00	3.00	3.00
Mode		4	3	3	2	2	3	2 ^a
Std. Deviation		1.461	1.000	1.186	1.313	1.204	1.112	1.096
Variance		2.134	1.000	1.407	1.723	1.451	1.237	1.202
Skewness		-.178	-.299	-.267	.307	.286	-.122	.110
Std. Error of Skewness		.481	.481	.481	.481	.481	.481	.481
Kurtosis		-1.406	.008	-.407	-.956	-.827	-.546	-1.385
Std. Error of Kurtosis		.935	.935	.935	.935	.935	.935	.935
Range		4	4	4	4	4	4	3
Minimum		1	1	1	1	1	1	2
Maximum		5	5	5	5	5	5	5

Percentiles	25	2.00	2.00	2.00	2.00	2.00	3.00	2.00
	50	3.00	3.00	3.00	3.00	3.00	3.00	3.00
	75	4.00	4.00	4.00	4.00	4.00	4.00	4.00
a. Multiple modes exist. The smallest value is shown								

Table 3 shows the Frequency of a particular value (f) is the number of times the value occurs in the data. The distribution of a variable is the pattern of frequencies, the set of all possible values and the frequencies associated with these values. Frequency distributions are frequency tables or depicted as illustrations. Diabetes mellitus, Hypertension, Myocardial infarction, Angina pectoris, Stroke, Asthma, Chronic obstructive pulmonary disease (COPD) this also using Variance curve values are given

4. Histogram Plot

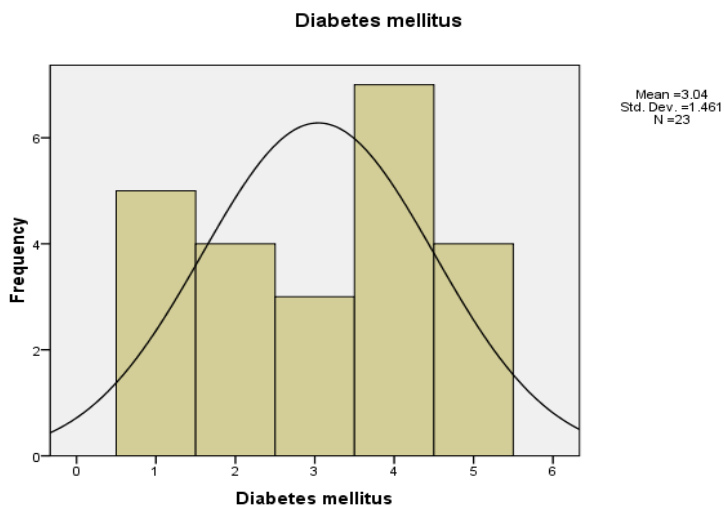


FIGURE 1. Diabetes mellitus

Figure 1 shows the histogram plot for Diabetes mellitus from the figure it is clearly seen that the data are slightly Right skewed due to more respondent chosen 4 for Diabetes mellitus except the 3 value all other values are under the normal curve shows model is significantly following normal distribution

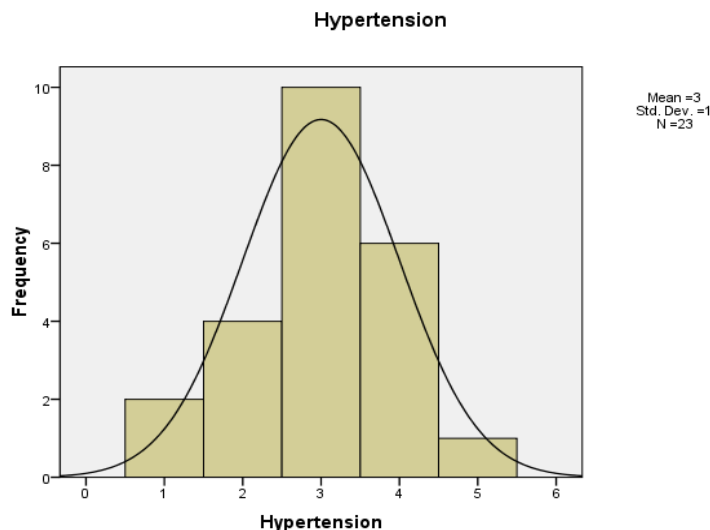


FIGURE 2. Hypertension

Figure 2 shows the histogram plot for Hypertension from the figure it is clearly seen that the data are slightly Right skewed due to more respondent chosen 3 for Hypertension except the 3 value all other values are under the normal curve shows model is significantly following normal distribution

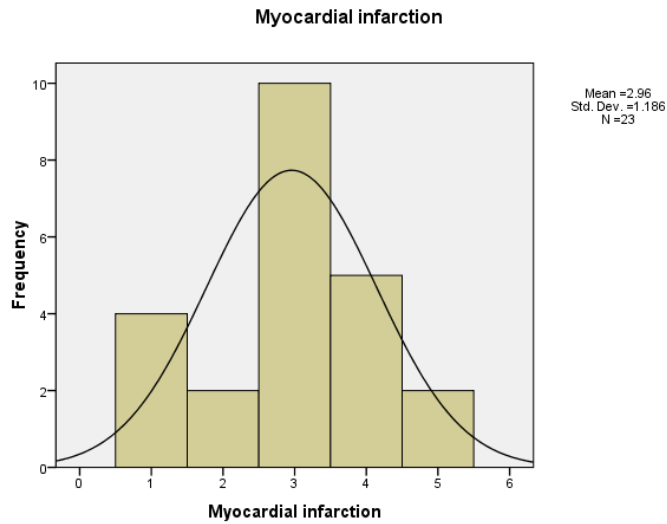


FIGURE 3. Depression Levels

Figure 3 shows the histogram plot for Myocardial infarction from the figure it is clearly seen that the data are slightly Left skewed due to more respondent chosen 3 for Myocardial infarction except the 3 value all other values are under the normal curve shows model is significantly following normal distribution

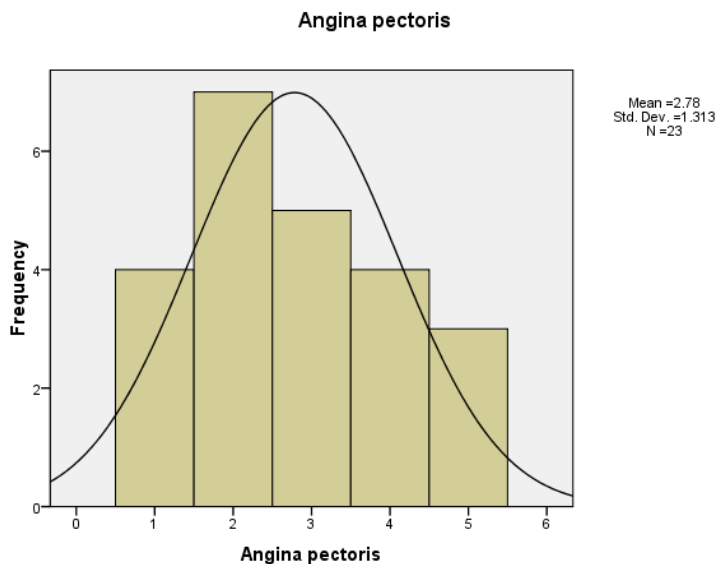


FIGURE 4. Angina pectoris

Figure 4 shows the histogram plot for Angina pectoris from the figure it is clearly seen that the data are slightly Left skewed due to more respondent chosen 2 for Angina pectoris except the 3 value all other values are under the normal curve shows model is significantly following normal distribution

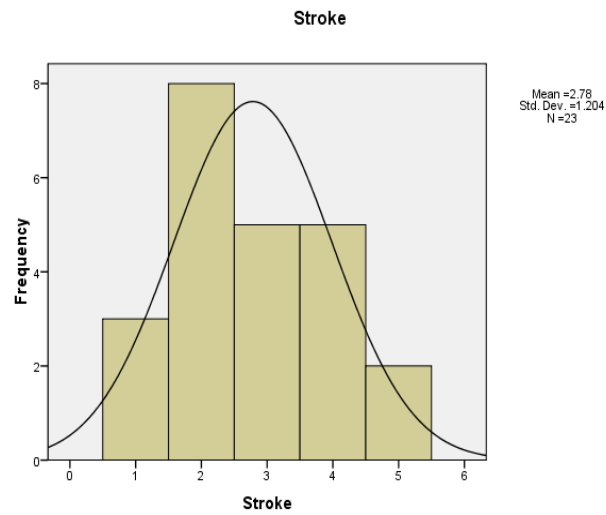


FIGURE 5. Stroke

Figure 5 shows the histogram plot for Stroke from the figure it is clearly seen that the data are slightly Left skewed due to more respondent chosen 2 for Stroke except the 3 value all other values are under the normal curve shows model is significantly following normal distribution

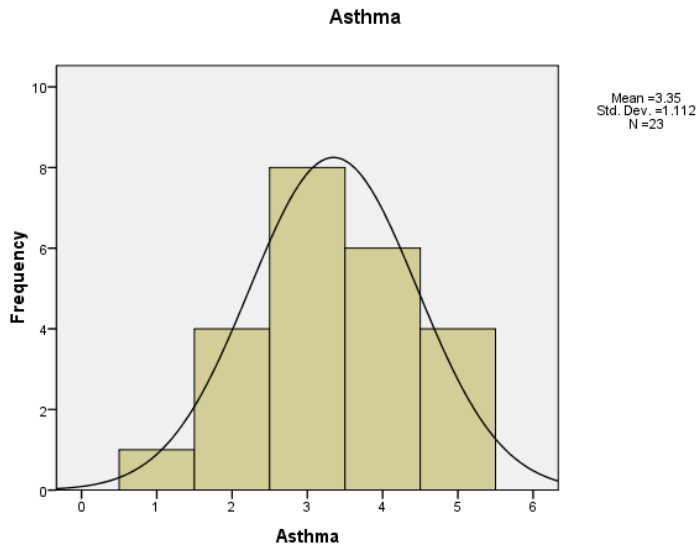


FIGURE 6. Asthma

Figure 6 shows the histogram plot for Asthma from the figure it is clearly seen that the data are slightly Left skewed due to more respondent chosen 3 for Asthma except the 3 value all other values are under the normal curve shows model is significantly following normal distribution

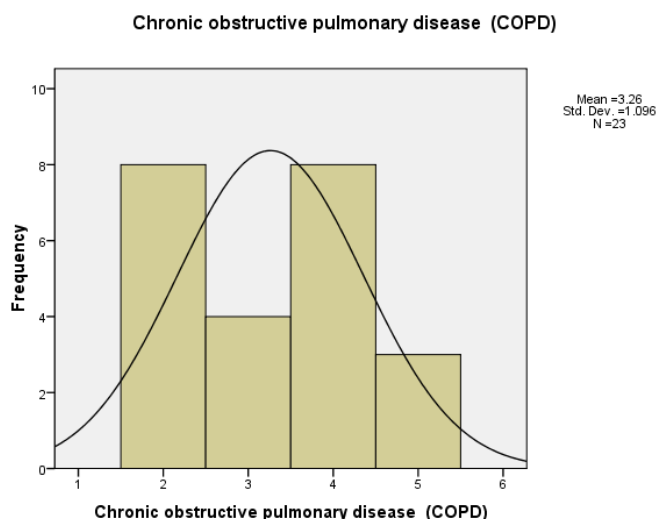


FIGURE 7. Chronic obstructive pulmonary disease (COPD).

Figure 7 shows the histogram plot for Chronic obstructive pulmonary disease (COPD) from the figure it is clearly seen that the data are slightly Left skewed due to more respondent chosen 3 for Chronic obstructive pulmonary disease (COPD) except the 3 value all other values are under the normal curve shows model is significantly following normal distribution

TABLE 4. Correlations

Correlations							
	Diabetes mellitus	Hypertension	Myocardial infarction	Angina pectoris	Stroke	Asthma	Chronic obstructive pulmonary disease (COPD)
Diabetes mellitus	1	0.311	0.395	0.124	0.109	0.074	0.276
Hypertension	0.311	1	.422*	0.277	0.189	0.082	0.166
Myocardial infarction	0.395	.422*	1	.665**	0.343	0.15	0.044
Angina pectoris	0.124	0.277	.665**	1	0.227	0.085	0.104
Stroke	0.109	0.189	0.343	0.227	1	0.398	0.217
Asthma	0.074	0.082	0.15	0.085	0.398	1	0.183
Chronic obstructive pulmonary disease (COPD)	0.276	0.166	0.044	0.104	0.217	0.183	1
*. Correlation is significant at the 0.05 level (2-tailed).							
**. Correlation is significant at the 0.01 level (2-tailed).							

Table 4 shows the correlation between motivation parameters for Diabetes mellitus for Myocardial infarction is having highest correlation with and Asthma having the lowest correlation. Next the correlation between motivation parameters for Hypertension for My understanding of Myocardial infarction is having highest correlation with and Asthma having lowest correlation. Next the correlation between motivation parameters for Myocardial infarction for My understanding of Angina pectoris is having highest correlation with and Asthma having lowest correlation. Next the correlation between motivation parameters for Angina pectoris for My understanding of Myocardial infarction is having highest correlation with and Asthma having lowest correlation. Next the correlation between motivation parameters for Stroke for My understanding of Asthma is having highest correlation with and Diabetes mellitus having lowest correlation. Next the correlation between motivation parameters for Asthma for My understanding of Stroke is having highest correlation with and Myocardial infarction having lowest correlation. Next the correlation between motivation parameters for Chronic obstructive pulmonary disease (COPD) for My understanding of Diabetes mellitus is having highest correlation with and Myocardial infarction having lowest correlation.

TABLE 5. Regression

Dependent Variable	R	R Square	Adjusted R Square	Std. Error of the Estimate	Sum of Squares	df	Mean Square	F	Sig.
Diabetes mellitus	.264 ^a	.070	.025	12.435	243.227	1	243.227	1.573	.224 ^a
Hypertension	.462 ^a	.213	.176	11.435	744.727	1	744.727	5.696	.026 ^a
Myocardial infarction	.594 ^a	.352	.322	10.375	1229.979	1	1229.979	11.426	.003 ^a
Angina pectoris	.488 ^a	.238	.202	11.251	832.439	1	832.439	6.576	.018 ^a
Stroke	.236 ^a	.056	.011	12.530	193.844	1	193.844	1.235	.279 ^a
Asthma	.006 ^a	.000	-.048	12.892	.141	1	.141	.001	.377 ^a
Chronic obstructive pulmonary disease (COPD)	.165 ^a	.027	-.019	12.715	95.397	1	95.397	.590	.451 ^a

Table 5 shows the result of R, R squared, adjusted R squared, sum of squares, df, F, significance. Diabetes mellitus, Hypertension, Myocardial infarction, Angina pectoris, Stroke, Asthma, Chronic obstructive pulmonary disease (COPD). The overall R squared value for the model is above 0.3, so this is reliable data. From the literature review, R value above 0.5 can be considered to analyze the model. The sum of squares value for the model is greater than 0.3, so this is reliability data. From the literature review, the value of squares above 1 can be considered to analyze the model. The overall F value for the model is above 11.4, so this is reliability data. From the literature review, a value above 10 can be considered to analyze the model. The overall identity value for the model is Sig. 0.4, so this is reliability data. From the literature review, a value less than 0.5 can be considered to analyze the model.

5. Conclusion

Alzheimer's disease (AD) per person A single determinable whether or not There is currently no diagnostic test. The diagnostic process is usually a Takes over the day and prime such as a doctor or neurologist includes other professionals. Alzheimer's So much for dementia Common cause, which is thinking, in behavioral and social skills Continuous decline, it's a person Ability to work independently Affects. IBM SPSS Also known as statistics, It is for statistical data analysis A software package is used. The name of SPSS is Social Science although the application reflects, its Application Other data Expanded markets. Alzheimer's is a disease, In which the constant of neurons Distortion and their synergisms Impaired brain functions it is personality changes, memory loss. Cronbach's Alpha Reliability result. The overall Cronbach's Alpha value for the model is 0.667 which indicates 60% reliability. From the literature review, the above 60% Cronbach's Alpha value model can be considered for analysis.

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