

Presentation & Outcome of Tuberculosis in HIV Seropositive As Compared With HIV Seronegative (under Revised National Tuberculosis Control Programme)

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I. Background

Tuberculosis still remains a major public health problem in most of the developing countries and even in India.

The worldwide epidemic of HIV has added a new dimension to the problem.

The HIV epidemic has increased burden of tuberculosis among young adults. Tuberculosis shares a deadly synergism with HIV.

The breakdown of body immune system is hallmark of HIV infection. This makes HIV infection susceptible to Tuberculosis and other opportunistic infections.

II. Aims & Objectives

To compare outcome of tuberculosis treatment in HIV seropositive and HIV seronegatives. To detect the incidence of HIV infection in tuberculosis patient treated under RNTCP.
To compare clinical presentation and radiological features of TB in HIV positive and HIV negative patients.

III. Material & Methods

The study was conducted in Department of Medicine, SVRRGGH, Tirupati.
All Tuberculosis patients aged greater than 12 years who were admitted in medical wards between 01-06-2018 to 31-05-2019 were included in the study.

MATERIAL & METHODS (Cont.)

All the study patients were evaluated with detailed history and physical examination, chest xray, sputum microscopy for AFB.

Written informed consent was obtained from all the participants.

The local institutional ethical committee approved the study.

Exclusion criteria

fasting blood sugar >125 mg/dl on two separate occasions. seru

mcreatinine >2 mg/dl.

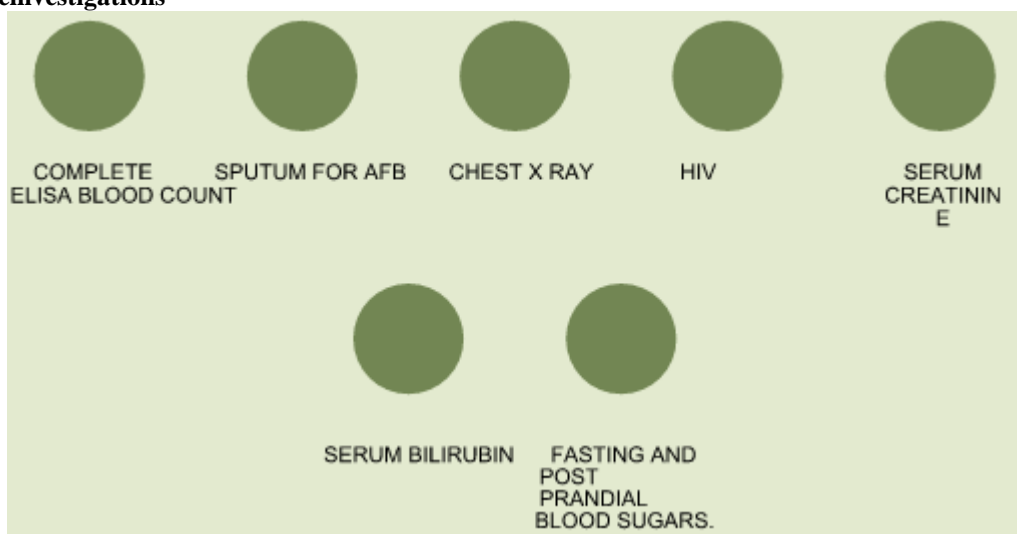
serumbilirubin >1 mg/gl

Patients who were on long term systemic steroid treatment or on cytotoxic drugs. Patients who are likely to be immunosuppressed due to causes other than HIV infection.

Statistical analysis

The study results are analysed using EPI INFO software (version 7.1.4.0) for calculation of percentages.

Baseline investigations



IV. Result

127 patients were admitted in medical wards SVRRGG hospital.

24 patients were excluded from the study due to presence of diabetes mellitus, renal failure, hepatic insufficiency, or drug induced immunosuppression.

The remaining 103 patients were included in the study.

Age & Sex Distribution of Patients

AGE GROUP (Years)	MALE	FEMALE	TOTAL
<20	6 (8.8)	7 (20.0)	13 (12.6)
20 -39	27 (39.7)	20 (57.2)	47 (45.7)
40-59	29 (42.7)	4 (11.4)	33 (32.0)
>=60	6 (8.8)	4 (11.4)	10 (9.7)
TOTAL	68 (100.0)	35 (100.0)	103

$\chi^2 = 11.02$
Df = 3
P= 0.0115

figures in paranthesis represent percentages

Age & Sex Distribution of Patients



Age & Sex Distribution by HIV Status

a)	Age Group	HIV + ve (n=17)	HIV -ve (n=86)
	< 20	0(0.0)	13(15.1)
	20 - 39	10(58.8)	37(43.1)
	40 - 59	7(41.2)	26(30.2)
	>=60	0(0.0)	10(11.6)
b)	Mean Age (Mean +/- SD)	36.87+/-15.96	35.94+/-9.01
c)	Sex Distributi	HIV -ve	TOTAL
	Male	55 (63.9)	68
	Female	31 (36.1)	35

$\chi^2 = 0.05$
df = 1
P=0.82NS

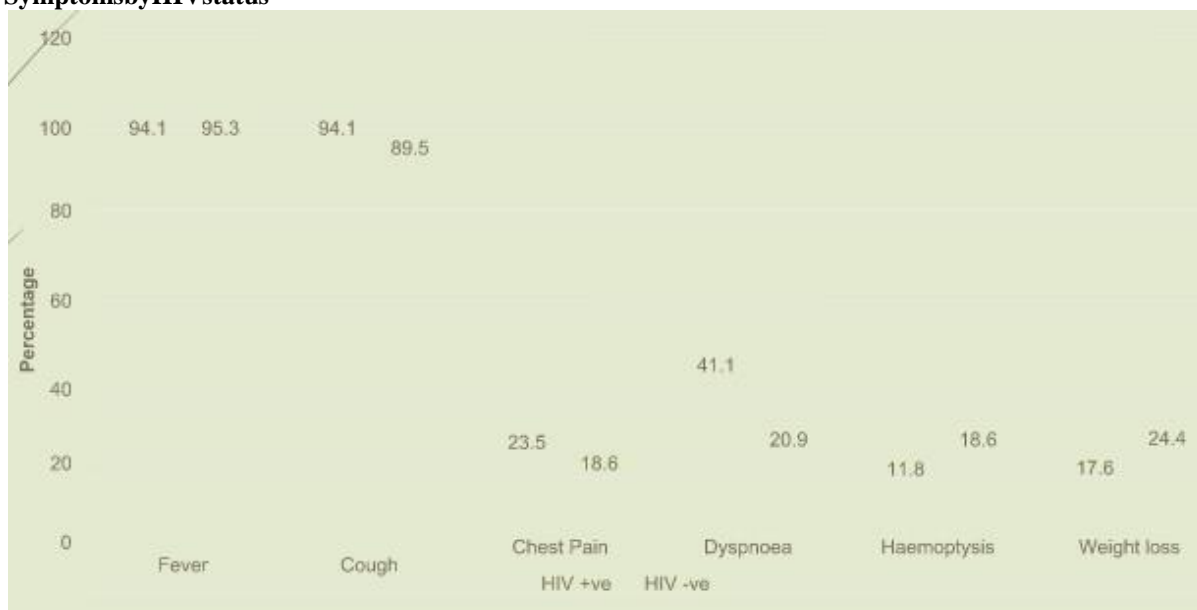
t= 0.23
P= 0.81NS

$\chi^2 = 0.51$
P=0.474NS

Symptoms by HIV status

Symptom	HIV +ve (n = 17)	HIV -ve (n = 86)	
Fever	16(94.1)	82(95.3)	$X_2 = 0.16; P = 0.068NS$
Cough	16(94.1)	77(89.5)	$X_2 = 0.02; P = 0.89NS$
Chest pain	4(23.5)	16(18.6)	$X_2 = 2.97; P = 0.08NS$
Dyspnoea	7(41.1)	18(20.9)	$X_2 = 2.16; P = 0.14NS$
Haemoptysis	2(11.8)	16(18.6)	$X_2 = 0.16; P = 0.068NS$
Weight loss	3(17.6)	21(24.4)	$X_2 = 0.11; P = 0.74NS$

Symptoms by HIV status



General Examination Findings

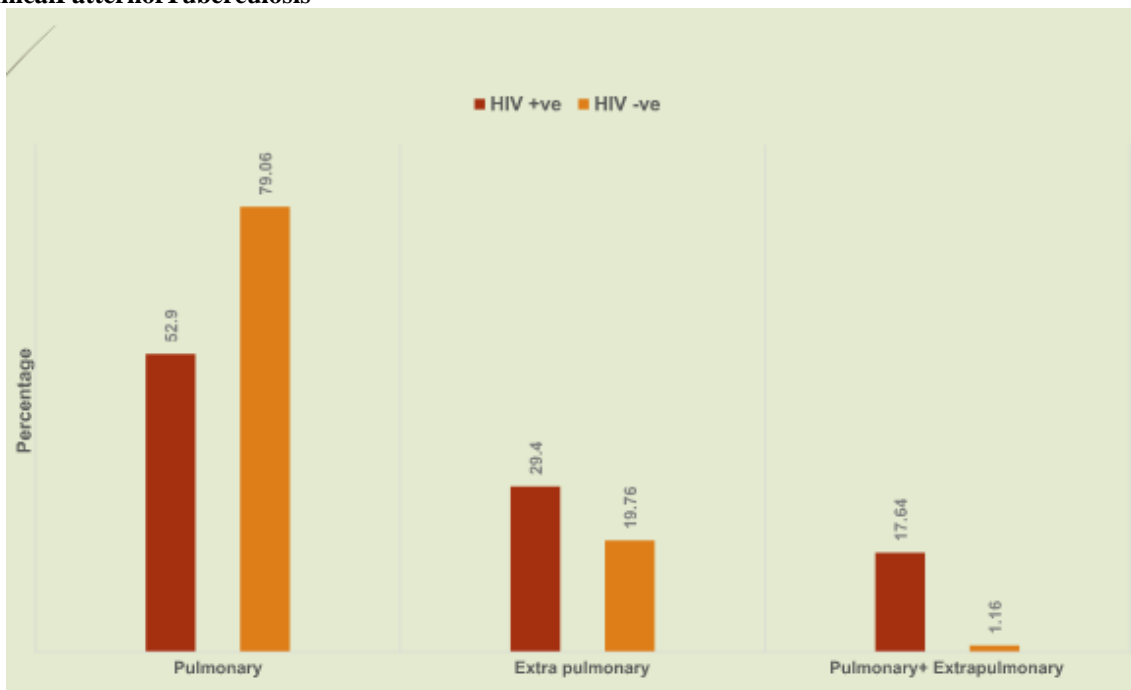
Finding	HIV +ve (n=17)	HIV -ve (n =86)	
Anaemia	2(11.8)	10(11.6)	$X_2 = 0.16; P = 0.69NS$
Oral candidiasis	13(76.5)	1(1.5)	$X_2 = 62.28; P < 0.01S$
lymphadenopathy	3(17.6)	8(12.3)	$X_2 = 0.35; P = 0.55NS$
miscellaneous	2(11.8)	2(2.32)	

Clinical Pattern of Tuberculosis

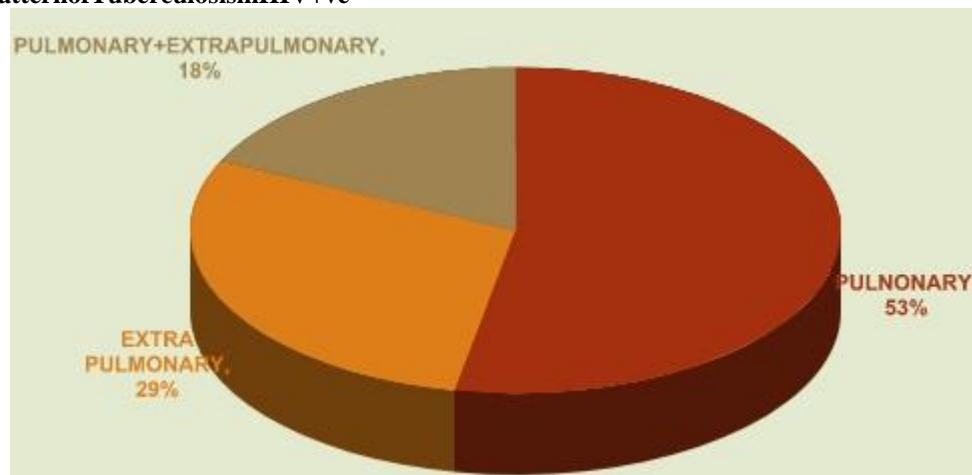
Clinical pattern	HIV + ve (n=17)	HIV - ve (n= 86)
PULMONARY	9(52.9%)	68 (79.06%)
EXTRA PULMONARY	5(29.4%)	17(19.76%)
PULMONARY + EXTRA PULMONARY	3(17.64%)	1 (1.16%)

$\chi^2 = 0.45$;df=1;P<0.05S

Clinical Pattern of Tuberculosis



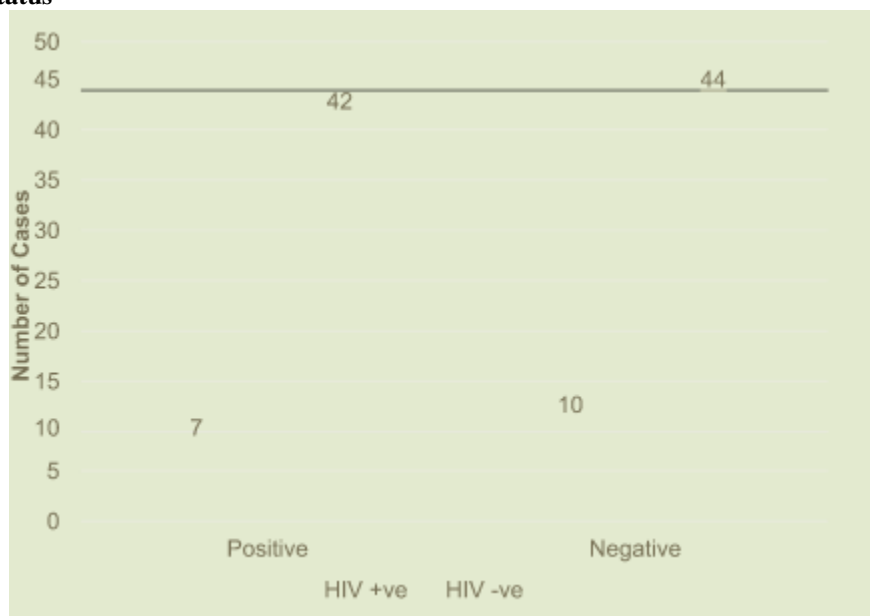
Clinical Pattern of Tuberculosis in HIV +ve



Sputum AFB status

Sputum AFB	HIV +ve (n = 17)	HIV - ve (n = 86)
Positive	7 (41.18)	42 (48.83)
Negative	10 (58.82)	44 (51.16)
$\chi^2 = 0.09;$ $P = 0.754NS$		

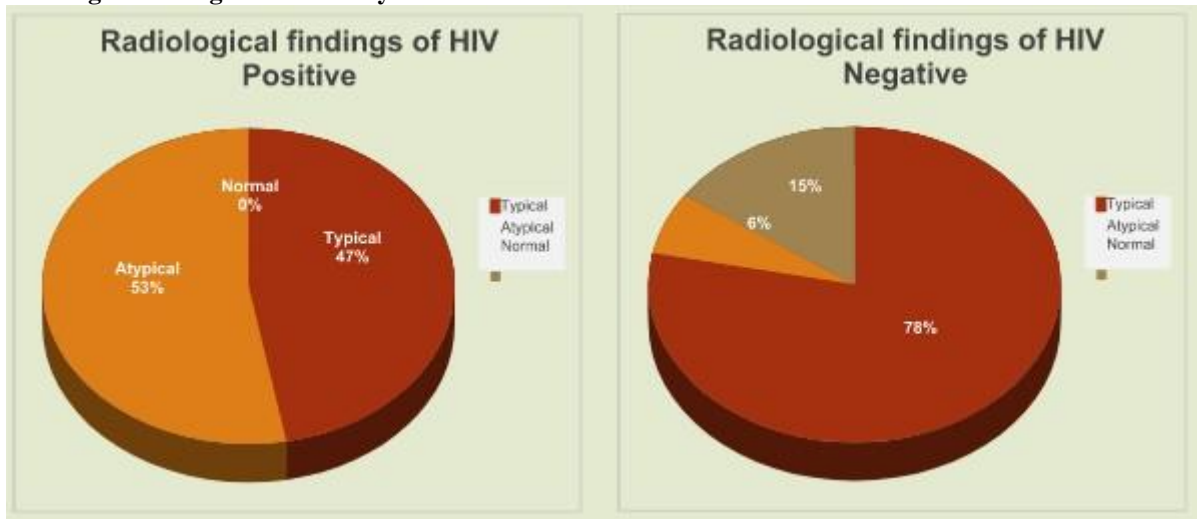
Sputum AFB status



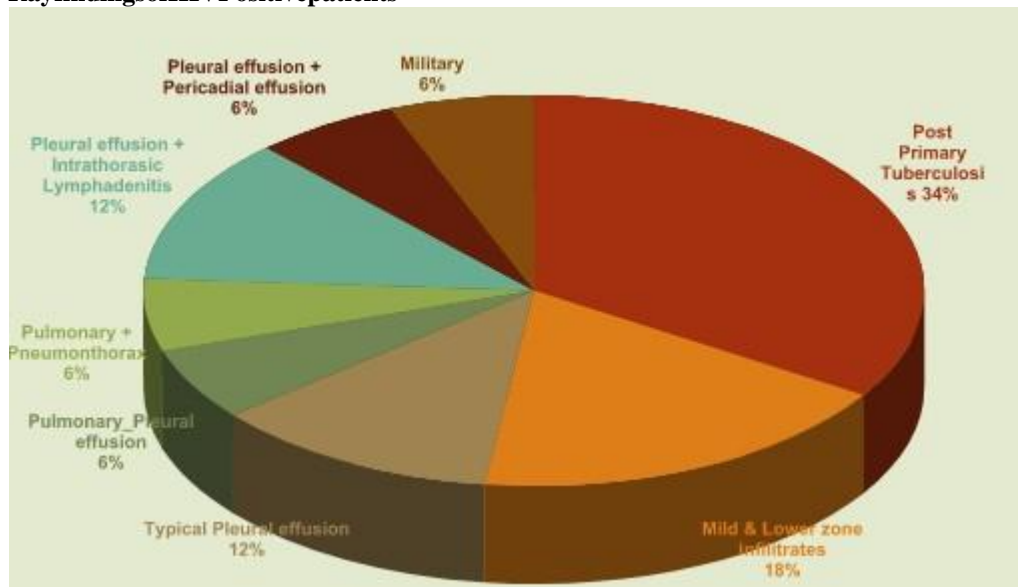
Radiological finding

Chest X-Ray	HIV +ve (n=17)	HIV -ve (n=86)	$\chi^2 = 6.36$ $df = 1$ $P=0.011, S$
Typical	8 (47.05)	61 (70.93)	
Atypical	9 (52.94)	5 (5.81)	
Normal	0 (0.0)	12 (13.95)	

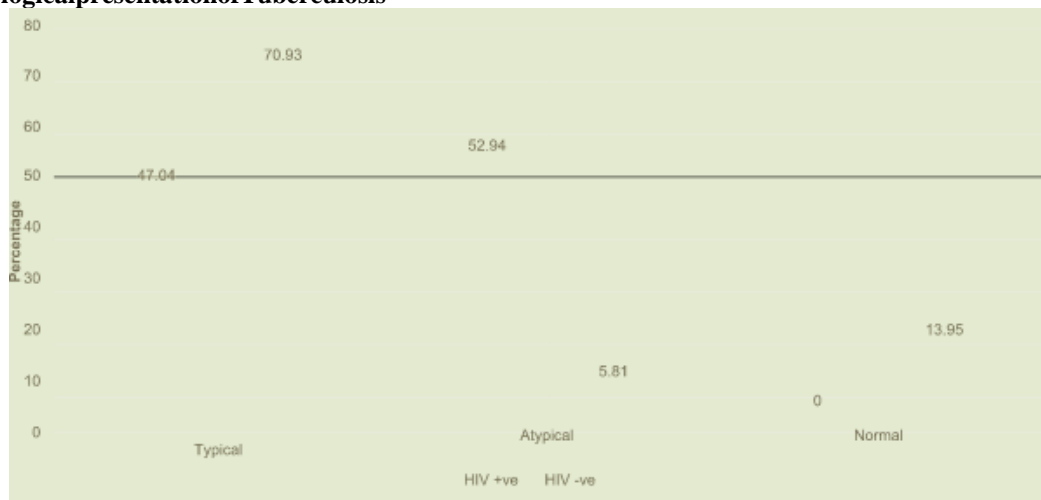
Radiological finding of Chest X-Ray



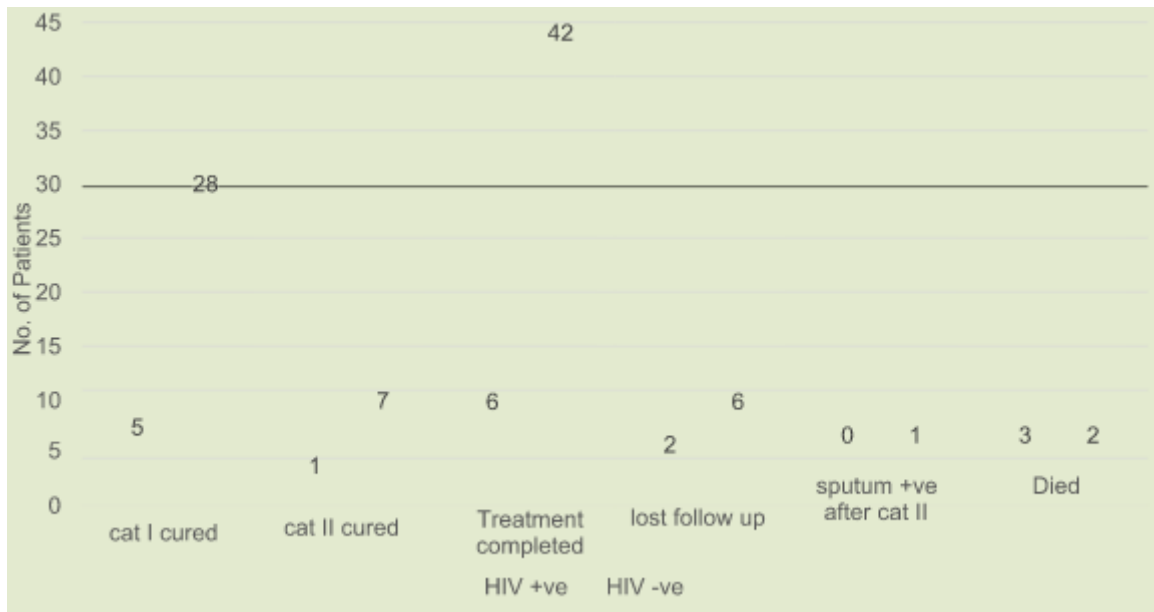
Chest X-Ray findings of HIV Positive patients



Radiological presentation of Tuberculosis



TREATMENT OUTCOME



Mortality

Sex	HIV +ve (n=17)	HIV -ve (n=86)
Male	1 (5.38)	1 (1.16)
Female	2 (11.56)	1 (1.16)
Total	3 (17.65)	2 (2.32)

figures in paranthesis represent percentages

χ^2 (uncorrected) = 5.64
P=0.018, S

Mortality



V. Conclusions

Human immunodeficiency virus Sero prevalence among tuberculosis patients in SVRGGH Tirupati is 16.5%.

HIV and tuberculosis affect predominantly males (68%) in their economically productive age group. (mean age 36.87+/-15.96), P = 0.011.

Pulmonary tuberculosis is the most common clinical pattern in HIV negative as well as in HIV positive patients.

Conclusions(Cont.)

Mortality rate is significantly high in HIV positive patients when compared with HIV negative tuberculosis patients (P= 0.018%).

Recurrence of tuberculosis is high in HIV positive patients than in HIV negative tuberculosis patients within 6 months of completion of treatment. (14.28% vs 0.0%).

References

- <https://www.ncbi.nlm.nih.gov/pubmed/24125443>
- <http://www.cjhr.org/article.asp?issn=2348-3334;year=2014;volume=1;issue=3;spage=154;epage=163;aulast=Patil>
- <https://www.cdc.gov/tb/topic/treatment/tbhiv.htm>
- <https://www.who.int/hiv/topics/tb/en/>

Dr. Gattu Esther Rani. "Presentation & Outcome of Tuberculosis in HIV Seropositive As Compared With HIV Seronegative (under Revised National Tuberculosis Control Programme)." IOSR Journal of Dental and Medical Sciences (IOSR-JDMS), vol. 18, no. 10, 2019, pp 05-13.