

A Comparative Study of Impact of Expected Medical Facility Centers as Per Unit Tribal Population Size on Mortality Number (Death Rate) of Pregnant Women of Tribal Community in Gondia District of Maharashtra State

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ABSTRACT

Health is a state of complete physical, mental and social well being and not merely an absence of disease of infirmity.

Health quality can be decided on availability of health services and facilities as well as health indicators like pregnant women death rate, infant death rate, children death rate etc. Pregnant women death rate means number of death women at the time of pregnancy period. According to World Health Organization (WHO) this death rate defines as death of women at the time of Pregnancy or at the time of abortion or after forty days of pregnancy.

In India, behind death of pregnant women there are social reasons like illiteracy in women, poor knowledge about diet, financial problem in daily life etc. In India average age of girl's marriage is sixteen years. Due to early marriage in small age, girl's physical and mental growth in such small age is not fully developed resulted into death at the time of pregnancy.

“A Tribe is a collection of Families or groups of Families bearing a common name, members of which occupy the same territory, speak the same language and observe certain taboos regarding marriage, profession or occupation and have developed a well assessed system of reciprocity and mutuality of obligations.”

The aim of this research paper is to study impact of expected Medical Facility Centers as per unit Tribal population size on mortality number (death rate) of pregnant women of Tribal community.

Keywords: - Health quality, pregnant women death rate, Tribal community, mortality number, Medical Facility Centers, influencers, neutral relationship.

Introduction:-

Health is a state of complete physical, mental and social well being and not merely an absence of disease of infirmity.

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In India, behind death of pregnant women there are social reasons like illiteracy in women, poor knowledge about diet, financial problem in daily life etc. In India average age of girl's marriage is sixteen years. Due to early marriage in small age, girl's physical and mental growth in such small age is not fully developed resulted into death at the time of pregnancy.

Tribal community can be seen all over the world. In different country they known by various name like Red Indian in America, Aborigine in Australia, Jeepsy in Europe county and In Asian and African countries they know as "Aadivasi". India is second largest in tribal population after Africa continent.

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The quality of health in tribal population is considered on various indicators like death rate (mortality number) of pregnant women, death rate (mortality number) of infant, death rate (mortality number) of children, rate of illness etc as well as at the time of study of quality of health, availability of medical facility services also considered, because this medical facility services directly influence the death rate (mortality number) of pregnant women, death rate (mortality number) of infant, death rate (mortality number) of children, rate of illness etc. so, facts like quantity of availability of medical facility services provided by government, structure of medical facility services, facilities of medicinal training programmes and service provider man force etc. are considered too.

"He who has health, has hope and he who has hope, has everything" This statement is mainly derived from Arabic language. This statement said that man lives on hope and health body is main pillar of hope.

According to Population census of 2011, there was tribal population of 2,14,253 in Gondia district of Maharashtra state. This population size was 16.20 percent of total population of Gondia district of Maharashtras state i.e 13,22,507.

The aim of this research paper is to study impact of expected Medical Facility Centers as per unit Tribal population size on mortality number (death rate) of pregnant women of Tribal community.

Objectives of the study:-

1. To study expected Medical facility centers as per unit tribal population size in Gondia district of Maharashtra state.
2. To study mortality number (death rate) of pregnant women of tribal community in Gondia district of Maharashtra state.

3. To study impact of expected Medical Facility Centers as per unit tribal population size on mortality number (death rate) of pregnant women in Gondia district of Maharashtra state.

Limitation of the study:-

1. This study is limited to death rate of pregnant women of Gondia district only, not for other districts of Maharashtra.
2. This study is limited to tribal community of Gondia district of Maharashtra state only.
3. This study is limited to data received for Gondia district of Maharashtra state only.
4. This study is limited to geographical area of Gondia district of Maharashtra state only.

Hypothesis of the Study:-

Null Hypothesis 1 (Ho1): - There is no low expected Tribal Population to Medical Facility Centers in Gondia District in Maharashtra State.

Null Hypothesis 2 (Ho2): - There is no significant difference between mortality number of pregnant women between India, Maharashtra and Gondia district.

Data Collection:-

For this research, Primary data has been collected through observation method and secondary data has been taken into consideration from Maharashtra state Annual Tribal Schemes Report, Tribal Development Department, Maharashtra state, Population Census 2011 Reports, Reports of Health Department Zilha Parishand Gondia Year 2015 etc.

Table No.1:- Tribal Population Size as per unit Medical Facilities for Expected Tribal Population in Gondia District in Maharashtra State

Medical Facilities Centre	Expected Tribal Population size for per Unit Facility Centre (E)
Rural Hospital	80000
Primary Health Centre	20000
Primary Health Sub Centre	3000

(Source:-Maharashtra state Annual Tribal Schemes Report, Tribal Development Department, Maharashtra state)

Table No.2:- Mortality Number of Pregnant Women

Year	Mortality number of Pregnant women In India per 100000 women	Mortality number of Pregnant women in Maharashtra per 100000 women	Mortality number of Pregnant women of tribal population per 10000 women in Gondia
2004-06	254	130	8
2007-09	212	104	6
2010-12	178	87	6
2012-13	167	68	6

(Source:-Maharashtra state Annual Tribal Schemes Report, Tribal Development Department, Maharashtra state)

Reasons behind Death of Pregnant women in Tribal Community:-

- Abortion
- Bleeding at the time of pregnancy or after pregnancy
- Bacterial infection at the time of pregnancy
- Impurity in blood due to viral infection at the time of pregnancy
- Use of improper and unscientific method for abortion
- Presence of Sickle cell disease in pregnant women
- Presence of diseases related to heart, kidneys, diabetes etc. in pregnant women
- Getting pregnant in inadequate age
- Small distance between two pregnancy
- Multiple pregnancies in women's life time
- Malnutrition and poverty
- illiteracy and misunderstanding about pregnancy
- Lack of scientific method for pregnancy
- Pregnancy done from unskilled women helper
- Unhygienic condition at public place
- Improper system for communication
- Social rules and regulations

Above reasons are main influencers for death of pregnant women in women of tribal community in Gondia district of Maharashtra state. This is also main reasons behind death of pregnant women in Maharashtra state and India too.

Hypothesis Testing:-

Null Hypothesis (**H₀**): - There is no low expected Tribal Population to Medical Facility Centers in Gondia District in Maharashtra State.

Alternative Hypothesis (**H_a**): - There is low expected Tribal Population to Medical Facility Centers in Gondia District in Maharashtra State.

Application of Chi- Square Test:-

Medical Facilities Centre	Observed Tribal Population size for per Unit Facility Centre (<i>O</i>)	Expected Tribal Population size for per Unit Facility Centre (<i>E</i>)
Rural Hospital	35709	80000
Primary Health Centre	11276	20000
Primary Health Sub Centre	2021	3000

Medical Facilities Centre	Observed Tribal Population size for per Unit Facility Centre (<i>O</i>)	Expected Tribal Population size for per Unit Facility Centre (<i>E</i>)	(<i>O</i> - <i>E</i>)	(<i>O</i> - <i>E</i>) ²	(<i>O</i> - <i>E</i>) ² / <i>E</i>
Rural Hospital	35709	80000	-44291	1961692681	24521.15
Primary Health Centre	11276	20000	-8724	76108176	3805.40
Primary Health Sub Centre	2021	3000	-979	958441	319.48
				Total (χ^2)	28646.03

Calculated(x^2)= 28646.03

Degree of Freedom = 2

Level of significance = 5% i.e 0.05

Tabular(x^2)= 5.99

Calculated(x^2) > Tabular(x^2)

Calculated (x^2) value is greater than tabular (x^2) value hence Null hypothesis rejected and alternative hypothesis get accepted i.e. there is low expected Tribal Population to Medical Facility Centers in Gondia District in Maharashtra State.

Result

It can be said that adequate number of medical facility centers are available to tribal population in Gondia district in Maharashtra state.

Null Hypothesis (**Ho2**): - There is no significant difference between mortality number of pregnant women between India, Maharashtra and Gondia district.

Alternative Hypothesis (**Ha2**): - There is significant difference between mortality number of pregnant women between India, Maharashtra and Gondia district.

Application of Chi- Square Test:-

Year	Mortality number of Pregnant women In India (Observed Value)	Expected Value for India	Mortality number of Pregnant women in Maharashtra (Observed Value)	Expected Value for Maharashtra	Mortality number of Pregnant women of tribal population per in Gondia (Observed Value)	Expected Value for Gondia District	Total
2004-06	254	259.3	130	124.37	8	8.31	392
2007-09	212	213	104	102.16	6	6.82	322
2010-12	178	179.26	87	85.98	6	5.74	271
2012-13	167	159.42	68	76.46	6	5.11	241
Total	811		389		26		1226

Observed Value for Medical Facility Centre (<i>O</i>)	Expected Value for Medical Facility Centre (<i>E</i>)	(<i>O</i> - <i>E</i>)	(<i>O</i> - <i>E</i>) ²	(<i>O</i> - <i>E</i>) ² / <i>E</i>
254	259.3	-5.3	28.09	0.108
212	213	-1	1	0.004
178	179.26	-1.26	1.58	0.008
167	159.42	7.58	57.45	0.360
130	124.37	5.63	31.69	0.254
104	102.16	1.84	3.38	0.033
87	85.98	1.02	1.04	0.012
68	76.46	-8.46	71.57	0.936
8	8.31	-0.31	0.09	0.011
6	6.82	-0.82	0.67	0.098
6	5.74	0.26	0.06	0.011
6	5.11	0.89	0.79	0.155
			Total (χ^2)	1.99

Calculated(χ^2)= 1.99

Degree of Freedom = 6

Level of significance = 5% i.e 0.05

Tabular(χ^2)= 12.56

Calculated(χ^2) > Tabular(χ^2)

Calculated (χ^2) value is lesser than tabular (χ^2) value hence Null hypothesis get accepted i.e. there is no significant difference between mortality number of pregnant women between India, Maharashtra and Gondia district.

Result:-

It can be said that there is similarity in mortality number of pregnant women between India, Maharashtra and Gondia district.

Conclusion:-

After result analysis of hypothesis testing by applying Chi- Square Test, data derived from primary data through observation method and secondary data source like Maharashtra state Annual Tribal Schemes Report, Tribal Development Department, Maharashtra state and Reports of Health Department Zilha Parishand Gondia Year 2015, it can be concluded that there is a no significant impact of expected Medical Facility Centers as per unit Tribal population size on mortality number (death rate) of pregnant women of Tribal community in Gondia District of Maharashtra State .

The reason behind such neutral relationship between expected Medical Facility Centers as per unit Tribal population size on mortality number (death rate) of pregnant women of Tribal community can be said that same reasons like improper system for communication, social rules and regulations, lack of scientific method for pregnancy, illiteracy and misunderstanding about pregnancy, malnutrition and poverty, getting pregnant in inadequate age, presence of diseases related to heart, kidneys, diabetes etc. in pregnant women behind death of pregnant women in Maharashtra state and India too.

It can be said that still in tribal community traditional, old methods for pregnancy has been used as well as illiteracy level and misunderstanding about pregnancy widen gap of communication between tribal community and medical facility centers so role of medical facility centers become negligible for tribal community in Gondia district of Maharashtra state resulted into no significant relationship finds between death rate of pregnant women and adequate availability of medical facility centers as per unit tribal population size. Adequate availability of medical facility centers as per unit tribal population size has not decreased the mortality number or death rate of pregnant women of tribal community in Gondia district of Maharashtra state as compare of Maharashtra state and India itself. There is no significant difference between mortality number of pregnant women between India, Maharashtra and Gondia district.

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