

“Prevalence and Clinical Profile of Chicken pox among student nurses among Tertiary Care Hospital, Western Maharashtra”

¹Kirole Arati, ²Manisha Gholap, ³Dr Mahadeo Shinde, ⁴Anagha Katti

Abstract:

Background: *Varicella (chicken pox) is a highly contagious disease which is caused by Varicella Zoster Virus (VZV), ubiquitous human α herpes virus. Chickenpox can cause serious complications and even death in persons without any risk factors. Outbreak of chickenpox is collected from 50 student nurses Medical Record Files for the study from the hospital during this experience.*

Objectives:

1. *To assess clinical profile of student nurses affected with chickenpox at Tertiary Care Hospital, Western Maharashtra.*
2. *To determine the prevalence of chicken pox among student nurses at Tertiary Care Hospital, Western Maharashtra.*
3. *To find the association between selected clinical profile and selected socio-demographic variables of student nurses Tertiary Care Hospital, Western Maharashtra.*

Materials and Methods: *The present study was a Retrospective record based study where 50 student nurses suffering from chickenpox record is observed with special reference to unusual complications and outcomes.*

Results: *Among 50 subjects were between age group 18 years 29 (58%) , while 50 (100%) were females whereas residential area Kerala 48 (96%) and maximum subjects in Christian religion 48 (96%) and in academic year 1st year students suffering 30 (60%)and unmarried 50 (100%). In summer season occurrence 34 (68 %) students were having chickenpox and 13(26%) cases found in monsoon season. Maximum 49 (98%) students are*

¹ Undergraduate Student, Faculty of Nursing Sciences, Krishna Institute of Medical Sciences, Deemed To Be University Karad, Dist –Satara, Maharashtra, India

² Associate Professor, Faculty of Nursing Sciences, Krishna Institute of Medical Sciences, Deemed To Be University Karad, Dist –Satara, Maharashtra, India

³ Professor, Faculty of Nursing Sciences, Krishna Institute of Medical Sciences, Deemed To Be University Karad, Dist –Satara, Maharashtra, India

⁴ Asst. Professor, Faculty of Nursing Sciences, Krishna Institute of Medical Sciences, Deemed To Be University Karad, Dist –Satara, Maharashtra, India

having 8-10 days of illness of period also no specific investigation done. All 50 students were given first line of treatment.

Conclusions: *In present study we concludes that majority of the Kerala students suffers with chicken pox when they are exposed to environment of Western Maharashtra So compulsory childhood varicella vaccination including vaccination of risk groups and susceptible individuals are essential to reduce the incidence of chickenpox, associated complications, and subsequent death.*

Key words: *Prevalence, Clinical Profile, Chicken Pox, Student Nurse*

I. Introduction:

Chickenpox is highly infectious, self limiting disease affecting all age groups and can cause serious life threatening complications particularly in elderly and pregnant women.¹ This clustering of cases in adults is probably due to increasing varicella vaccination in children , decreased exposure to varicella –zoster virus , increased virus virulence, and the immigration of non-immune adults from the tropics.²

Chickenpox is an infection caused by the varicella zoster virus. .The disease caused by the intial infection with varicella zoster virus (VZV) The disease result in a characteristic skin rash that form small, itchy blisters, which eventually scab over usually starts on the chest back of face then spreads to the rest of the body.³

Most cases are in children under age 5. It spreads very easily from one person to another. The classical symptom of chicken pox is an itchy rash, the rash turns into fluid filled blisters and eventually into scabs. It usually shows up on the face , chest , and back and then spreads to the rest of the body. Other symptoms includes fever, headache, tiredness and loss of appetite.⁴

So as a researcher decided to work on the cases of chickenpox among the nursing student of Tertiary Care Hospital taken treatment in OPD . Student nurses are at high risk of contracting and transmitting the nosocomial vericella.

II. Material and Method:

Research methodology is solving the research problem in a systematic way. It involves problem statement, objectives of the study, hypothesis that has been formulated, methods utilized to analysis the data .

Research Approach : Non descriptive Research approach

Research design : Record based study

Setting of the study : Tertiary Care Hospital, Medical Record Department..

Sample : OPD paper of Student Nurses who suffered with chickenpox.

Sample Size : 50

Sampling Technique : Purposive Sampling Technique

Data collection tool : Structured questionnaire was prepared and used for data collection.

Section I : Deals with demographic data of the sample

Section II :

Part A : Describing frequency and distribution of clinical profile of chicken pox cases.

Part B : Prevalence of chicken pox cases during year 2016-2020

Ethical Clearance:

The study was approved by the Institutional Ethical Committee before the initiation of study. Formal permission to conduct the study was acquired from Dean / Principal as well as Medical Director of Krishna Hospital, Karad. Confidentiality of the subjects was maintained.

III. Result:

Section-I

Table 1 : Describing frequency and distribution of demographic data.

N=50

S.No	Socio-demographic Variable		Frequency	Percentage
1	OPD No	-	-	-
2	Age	18 yrs	29	58%
		19 yrs	16	32 %
		20 yrs	5	10 %
3	Sex	Female	50	100 %
4	Residence	Kerala	48	96 %
		Maharashtra	2	4 %

5	Religion	Hindu	2	4 %
		Christian	48	96 %
6	Marital status	Unmarried	50	100 %
7	Academic year of suffering	1st yr	30	60 %
		2nd yr	15	30 %
		3rd yr	5	10 %
		4th yr	-	-

Table-1 Depicts that 29 (58%) student nurses were of age group 18, and all are female student nurses and maximum students are from Kerala belonging to Christian religion and Unmarried. out of 50 student nurses 30 (60 %) suffered with chicken pox in their 1st year of academic year.

Section-II - Part A

Table-2 Describing frequency and percentage of clinical profile of chicken pox cases.

N=50

S.NO	CLINICAL PROFILE		FREQUENCY	PERCENTAGE
1	Previous History	Yes	-	-
		No	50	100%
2	BMI	Normal	50	100%
		Abnormal	-	-
3	Presence of fever	Yes	50	100%
		No	-	-
4	Presence of sign and symptoms	a) Papule	50	100%
		b) Maculae	-	-
		c) Rashes	-	-

		d) Scabs	-	-
5	Severity of Illness	a) Mild	37	74%
		b) Moderate	12	24%
		c) Severe	1	2%
6	Any complication	a) Yes	1	2%
		b)	49	98 %
7	Period of occurrence	a) Summer	34	68 %
		b) Winter	3	6%
		c) Monsoon	13	26%
8	Days of illness	a) 4-6 days	-	-
		b) 6-8 days	-	-
		c) 8-10 days	49	98 %
		d) 10-12 days	1	2 %
9	Investigation done	a) Yes	-	-
		b) No	50	100 %
10	Treatment	a) First Time	50	100 %
		b) Advanced	-	-

Table-2 Depicts that all 50 students nurses were not having any previous history, all are having normal BMI, and 50 student were having fever and sign of papule as a chicken pox . Maximum 37 (74%) were having mild illness, 12 (24%) moderate and 1 comes under severe illness. only 1 student nurse was having complication and 49 (98%) were no complications. In summer season occurrence 34 (68 %) students were having chickenpox and 13(26%) cases found in monsoon season. Maximum 49 (98%) students are having 8-10 days of illness of period also no specific investigation done . All 50 students were given first line of treatment.

Section II Part- B-

Table-3 Prevalence of Chicken pox cases during year 2016-2020

Year	Academic Year	No of Student	Frequency	Percentage
2016-2017	1	102	11	10.78 %
	2	99	0	0
	3	96	15	14.70%
	4	90	0	0
	Total	387	26	6.71 %
2017-2018	1	100	0	0
	2	102	0	0
	3	98	12	12.22 %
	4	97	0	0
	Total	397	12	3.22 %
2018-2019	1	100	14	14 %
	2	100	12	12 %
	3	102	5	4.90%
	4	99	5	5.05 %
	Total	401	36	8.97 %
2019-2020	1	100	4	4
	2	100	3	3
	3	100	0	0
	4	102	0	0

	Total	402	7	1.74 %
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Table-3 Depicts that prevalence of 4 batches from 2016-2020 among 401 students 36 (8.97%) cases of chicken pox were found in year 2018-2019. Also in 2016-17 3rd year 15 students (14.70 %), 3rd year 12 (12.22%) in 2017-18 as well as in 2018-2019 1st year 14 (14%) and in 1st year 4 (4 %) students in 2019-2020 suffered with chicken pox.

IV. Discussion:

Chickenpox is a unpleasant illness and the most of the children's are admitted to hospital with chickenpox, but most common complication of the disease is bacterial infection. Most serious complications includes hemorrhagic chickenpox , brain infections with the varicella virus, chickenpox pneumonia and an assortment of other rare complications . Children's are the risk of chicken pox5.

The analysis of data was organized and presented under the following objectives.

The clinical profile in table no.1 shows maximum 29 (58%) students nurses were of age group 18.and all are female student nurses.37 (74%)students comes under mild illness,12 (24%) moderate and only 1 student came to severe illness. Similar study was conducted by,Bovill B1 Bonnister 613 patients were admitted with chickenpox .Male shows more severe disease and complications than female but no adults male and female gender were independently risk factor for severe illness of chickenpox.6 The present study shows that female students are not showing many complications but they are suffered with most percentage, with age 18 yrs in their 1st yr of academics.

The Epidemiology of Varicella in Staff and Students of a Hospital in the Tropics Ashok R Venkitaraman, T Jacob John .A five-year retrospective survey of the epidemiology of varicella in staff and students revealed a high incidence of 0.72 cases per 100 per year. The incidence was highest among 17–24 year-olds, especially among student nurses (3.22 cases per 100 per year). Most cases of varicella occurred in the cooler and more humid months of the year. Among 102 candidate student nurses aged 17–20 years, only 29.7% had complement-fixing antibodies to Varicella-Zoster Virus. Thus hospital personnel are at high risk of contracting and transmitting nosocomial varicella. These results existing evidence that the epidemiology of varicella in the tropics is different from that in temperate regions.7

In present study as per the demographic data of 50 cases of student nurses suffered with chickenpox 48. 96% were from Kerala residence and all are of Christian religion. According to the prevalence of chickenpox Table no.3. During the batch of 2016 to 2020, most cases of chickenpox were found in year 2018-2019 among 401 students 36 (8.97%) cases were there. Only case-patients whose medical records included a positive diagnosis were included in the study.Similar study conducted by **Arun Kumar G, Vandana KE, Sathikumar N**. Chicken pox patients were collected with cross sectional study design. The study group was comprised of medical (53.9%), nursing (16.6%) and allied health (29.5%) students. By birth, 27.0% study subjects belonged to Karnataka state,

16.6% to Kerala State and 42.7 to remaining states of India, while 13.8% were born outside India.[9] both study shows that most of Kerala students suffered with chickenpox in there adult age. So here we can suggest or give a proposal to the organization of nursing collage to plan any specific programme for the Kerala students those who are under the risk8.

V. Conclusions:

Study concludes that we should immunize Kerala students at the time of admission to prevent Chickenpox as prevalence of Kerala student is higher than other students.

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Conflict of Interest: Nil

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