**“A STUDY TO ASSESS THE EFFECTIVENESS OF DEEP BREATHING EXERCISE AS PLAY WAY METHOD ON RESPIRATORY PARAMETERS AMONG CHILDREN ADMITTED WITH LOWER RESPIARTORY TRACT INFECTIONS,IN A SELECTED HOSPITAL, KOLAR”.**



**RESEARCH CONDUCTED BY**

|  |  |
| --- | --- |
| **Ms.ALPHONSA GEORGE** | **Ms. ALPHONSA JOHN** |
| **Ms. ARCHANA** | **Mrs.BHAVANA. B** |
| **Ms. ELIZABATH JOSEPH** | |

**RESEARCH PROJECT SUBMITTED TO**

**SRI DEVARAJ URS COLLEGE OF NURSING**

**TAMAKA, KOLAR**

**AS A PART OF REQUIREMENT FOR THE DEGREE OF BASIC BSc NURSING**

**UNDER THE GUIDANCE OF**

**DR. LAVANYA SUBHASHINI**

**VICE PRINCIPAL AND**

**HOD OF CHILD HEALTH NURSING**

**SRI DEVARAJ URS COLLEGE OF NURSING**

**TAMAKA, KOLAR**

**2020**

**DECLARATION BY THE CANDIDATE**

I hereby declare that this dissertation entitled “**A STUDY TO ASSESSTHE EFFECTIVENESSOF DEEP BREATHING EXERCISE AS APLAY WAY METHOD ON RESPIRATORY PARAMETERS AMONG CHILDREN ADMITTED WITH LOWER RESPIRATORY TRACT INFECTION INASELECTED HOSPITAL, KOLAR.**” Is a bonafide and genuine research work carried out by me under the guidance of **Dr.LavanyaSubhashini**, **Professor and HOD, Department of Child Health Nursing,**Sri DevarajUrs College of Nursing, Tamaka, Kolar- 563 103.

Signature of the Candidate

|  |
| --- |
| Ms.Alphonsa George |
| Ms.Alphonsa John |
| Ms.Archana |
| Mrs.Bhavana B |
| Ms.Elizabath Joseph |

Place: Tamaka, Kolar

Date:

**CERTIFICATE BY THE GUIDE**

This is to certify that the dissertation entitled “**A STUDY TO ASSESS THE EFFECTIVENESS OF DEEP BREATHING EXERCISE AS A PLAY WAY METHOD ON RESPIRATORY PARAMETERS AMONG CHILDREN ADMITTED WITH LOWER RESPIRATORY TRACT INFECTION IN A SELECTED HOSPITAL, KOLAR.**” Is a bonafide research workdone by Ms.Alphonsa George, Ms.Alphonsa John, Ms.Archana S, Mrs.Bhavana B, and Ms.ElizabathJoseph.As partial fulfilment of the requirement for the degree of Basic BSc Nursing.

Signature of Guide

|  |
| --- |
| **Dr.LavanyaSubhashini** |
| Vice principal |
| Head of the Department, Child Health Nursing |
| Sri DevarajUrs College of Nursing |
| Tamaka, Kolar-563 103 |

Place: Date:

**ENDORSEMENT BY THE HOD AND PRINCIPAL**

This is to certify that dissertation entitled “**A STUDY TO ASSESS THE EFFECTIVENESS OF DEEP BREATHING EXERCISE AS A PLAY WAY METHOD ON RESPIRATORY PARAMETERS AMONG CHILDREN ADMITTED WITH LOWER RESPIRATORY TRACT INFECTION IN A SELECTED HOSPITAL, KOLAR.**” Is a bonafide research workdonebyMs.Alphonsa George, Ms.Alphonsa John, Ms.Archana S, Mrs.Bhavana B andMs.ElizabathJoseph.A in partial fulfilment of the requirement for the degree ofBasic BSc Nursing.

|  |  |
| --- | --- |
| Signature of the HOD | Signature of the Principal |
|  |  |
| **Dr.LavanyaSubhashini** | **Dr. G. Vijayalakshmi** |
| Professor, Head of the Department, | Principal |
| Child Health Nursing | Sri DevarajUrs College of Nursing |
| Sri DevarajUrs College of Nursing | Tamaka, Kolar -563 103 |
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|  |
| --- |
| Ms.Alphonsa George |
| Ms.Alphonsa John |
| Ms.Archana |
| Mrs.Bhavana B |
| Ms.Elizabath Joseph |

**ACKNOWLEDGEMENT**

**‘Be thankful for what youhave, you will end up having more.If you concentrate on what you don’t have,you will never,ever have enough’**

**-ORPRAH WINFREY**

We take this opportunity to put down our deepest sense of gratitude to the numerous people who have stood by our side helping, guiding and encouraging us in the accomplishment. First and foremost, our heart full thanks goes to **Almighty God** who always stood by our side in every situations, and showered his blessings on us by giving us knowledge and wisdom for the successful completion of this study.

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**Thank you very much for all your support...**

**ABSTRACT**

**PROBLEM STATEMENT**

“A Study To Assess The Effectiveness Of Deep Breathing Exercise As A Play Way Method On Respiratory Parameters Among Children Admitted With Lower Respiratory Tract Infection In A Selected Hospital, Kolar.”

**OBJECTIVES OF THE STUDY**

1. To assess the pre and post-test respiratory parameters among children with lower respiratory tract infections in experimental group
2. To assess the pre and posttest respiratory parameters among children with lower respiratory tract infections in control group
3. To evaluate the effectiveness of deep breathing exercise as a play way method by comparing posttest respiratory parameters of experimental and control group

**NULL HYPOTHESES**

**H01**: There will not be any statistically significant difference between the Mean post test scores of respiratory parameters with mean pre-test scores of respiratory parameters in experimental group

**H02**:There will not be any statistically significant difference between the Mean post test score of respiratory parameters in the experimental group with mean post test scores of respiratory parameters in control group.

**METHODS**

Quantitative research approach adopted for the Study. Quasi-Experimental with non-equivalent control group research design is utilized to conduct the project.Childrenwith respiratory infection was selected for the study. Sample consists of children who are diagnosed as lower respiratory infections in a selected hospital. Sample size composed of 60. Among 60 sample, both group consist of 30 sample. The samplewasselected by using purposive sample technique. The first step obtain 30 sample were allotted to experimental group and next 30 sample were allotted to control group.

**MAJOR FINDINGS**

There was significant decrease in respiratory rate and increase saturation in experimental group. It is evident that a play way method is effective in improving the respiratory parameters.

There was only significant increase in saturation rate in control group. There is no evidence of decrease in saturation.

There was significant difference with the post-test respiratory parameters of respiratory rate ( p = <0.005 ) saturation rate (p= <0.006) on day 1, on day-2 respiratory rate (p= <0.005 ) saturation rate (p= < 0.007), and on day-3 respiratory rate (p=<0.005) saturation rate (p=<0.006), by applying student‘t’ test between Experimental and control group. So it is evident that a play way method is effective in improving the respiratory parameters.

**CONCLUSION**

The result shows, there was a considerable variance in respiratory parameters in experimental group. Hence breathing exercises as play way method were beneficial within children having lower respiratory tract infections.

**LIST OF ABBREVIATIONS**

|  |  |  |
| --- | --- | --- |
| **Sl. No** | **Abbreviations** | **Expansion** |
| 1 | LRTI | Lower Respiratory Tract Infection |
| 2 | % | Percentage |
| 3 | SD | Standard Deviation |
| 4 | SS | Significant |
| 5 | NS | Not Significant |
| 6 | F | Frequency |
| 7 | SDEM | Standard Deviation Error Mean |

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**INTRODUCTION**



**CHAPTER - I**

**INTRODUCTION**

**“If you know the art of breathing,**

**You have the strength, wisdom, and courage of ten tigers”**

**- CHINESAGE-**

Breathing is a continuous bodily activity that controls the mental and emotional process of the body. In today’s fast paced life, where people barely have time to relax, most of them become infected with many respiratory disorders.**1According to Oxford University, Breathing is defined as “To inhale air into your lungs and exhale it out again through your nose or mouth”**.

Respiratory system, a biological system consisting of particular organs and structures meant for gas exchange in animals and plants. The anatomy and physiology ensure this happen various substantially, based on the size of organism, environment in which it lives and its evolutionary history.2Respiratory system composed of upper and lower respiratory tracts. Together the two tracts are responsible for ventilation .3

Upper respiratory tract consistsofnose or nostrils, nasal cavity, mouth, throat (pharynx), and voice box (larynx). Respiratory system is lined with a mucous membrane that secretes mucus4. An upper respiratory infection affects the upper part of your respiratory system, including your sinuses and throat. Upper respiratory infection symptoms include a runny nose, sore throat, cough etc...Management for upper respiratory infections often includes rest, fluids and over-the-counter pain relievers5.

Lower Respiratory tract starts at the Trachea and includes Main stem Bronchi, Bronchial tubes and Lungs (alveoli). Lower respiratory tract infections inflict a high burden of disease in children worldwide and are urgently needed to differentiate this burden. Respiratory signs are observed that wheezing raised respiratory rate and use of accessory muscles.6

As per the 2019 report of National Health Portal of India, 41,996,260 cases and 3,740 deaths from respiratory infection were recorded across India in 2018. India contributes to

18% of the global population with respiratory infections are the prominent causes of mortality in children.7

The National policy of children (1947) said that “Healthy children are blessing of the state; and tomaintain their nature and care is our responsibility”. children are more dedicated to occurrence of various minor and major respiratory problems .The frequency rate of Asthma and Bronchiolitis in Karnataka , Gujarat ,Haryana , Madhya Pradesh , Uttar Pradesh are more than 50% and shown a reduction from 24.7 – 19.2 . Result shows that Asthma and Bronchiolitis was a leading cause of death in last 3 decade accounting above 9 -11%.8

To overcome breathing difficulty breathing techniques are helpful. The ultimate goal is for children to be capable to relax quickly when faced with breathing difficulty. Breathing exercise is an integral part plays a significant role in airway clearance and parenchyma expansion by improving the efficiency of respiratory muscles. Modified breathing exercise is mandatory in children because they might not co-operate like adult.Theprinciple is to mesmerize the children and not to create boredom. It can be accompanied by muscletone, that would evidence in a child. Various modified forms of breathing exercises like group exercises, candle blowing, blowing balloons, blow bottle exercise. abduction, adduction and forward movement of upper limbs, flute and mouth organ playing are found effective in children9

**NEED FOR THE STUDY**

Children are not ‘little adults’ they are in a dynamic process of growth and development, and are particularly vulnerable to acute and chronic effects of pollutants in their environment, which leads to ARI, diarrhoea etc. Among these infectious diseases ARI is the leading causes of mortality and morbidity in young children. Acute respiratory infections (ARI), particularly Lower Respiratory Infections (LRTI), are the major reason of death among children and are estimated to be responsible for between 1.9 million and 2.2 million childhood deaths globally. Lower respiratory infections (LRI) are the largest infectious reason of mortality among children worldwide, with 1-2 million under-five deaths and 12 million hospitalizations globally In India, 17% of all deaths in children <5 years old are due to pneumonia.10

In worldwide, Respiratory Infections in children place a considerable strain and serious on the health budget. On 2008 Lower Respiratory Infections was the major reason of deaths among all infectious diseases, and they accounted for 3.9 million deaths.Findings of WHO, 2010 reveals clinical pneumonia frequency are highest in South-East Asia (0.36 episodes per child-year), followed by Africa (0.33 episodes per child-year), Eastern Mediterranean (0.28 episodes per child-year), minimal in the Western Pacific (0.22 episodes per child-year), the Americas (0.10 episodes per child-year) and European Regions (0.06 episodes per child-year).11

In India occurrence of ARI was recognized 22%, among 5-10 age group it was lower in urban area (17.2%) as compare to rural area (26.8%) higher in. A significant association was found between ARI and low social class, overcrowded houses low birth weight, delay start initiation of breast feeding, timely given complementary feeding and immunization status.11

The number of ARI cases across the south Indian state of Karnataka in 2019 amounted to 2.45 million. This was nearly identical to the figures obtained in the year 2018. The number of cases witnessed a sharp drop during 2017**.10**

During clinical postings, the investigator had seen children diagnosed and hospitalized frequently with Respiratory Infections and found to have continuous cough, vomiting, and not taking food properly, increased school absenteeism and they are not having interest in activities. Family members were also looked apprehensive. So the investigator intended to do a study on breathing exercises as play way method on respiratory parameters within children having Respiratory Infections. 12

The study is a venture to help the children, parents and family members by improving the health status of children who are admitted to the paediatric ward having Lower Respiratory Tract Infections by breathing exercises. Many exercises are there like balloon blowing, candle blowing etc… are found effective in children, which can improve breathing pattern but when it could be applied as applying method for the child. It is very much acceptable by him. She or He can easily and eagerly perform it. So it felt necessary to develop simple breathing exercise which can be accepted by children to do it regularly will affect positively their lung expansion by reducing the secretion and respiratory complications. Children will be more interested to learn, practice and implement deep breathing if it is entertaining.

**OBJECTIVES**



**CHAPTER -2**

**OBJECTIVES**

**PROBLEM STATEMENT**

“A Study To Assess The Effectiveness Of Deep Breathing Exercise As A Play Way Method On Respiratory Parameters Among Children Admitted With Lower Respiratory Tract Infection In A Selected Hospital, Kolar.”

**OBJECTIVES**

1. To assess the pre and post-test respiratory parameters among children with lower respiratory tract infections in experimental group
2. To assess the pre and post-test respiratory parameters among children with lower respiratory tract infections in control group
3. To Evaluate the effectiveness of deep breathing exercise as a play way method by comparing post test respiratory parameters of both groups.

**NULL HYPOTHESES**

**H01**: There will not be any statistically significant difference between the Mean post test scores of respiratory parameters with mean pre-test scores of respiratory parameters in experimental group

**H02**: There will not be any statistically significant difference between the Mean post test score of respiratory parameters in the experimental group with mean post test scores of respiratory parameters in control group.

**ASSUMPTIONS**

* Children with Lower Respiratory Infections may have abnormal respiratory parameters.
* Nurses have an important role in reducing respiratory signs, improve breathing

Pattern and improve lung function in children with LRTI.

**OPERATIONAL DEFINITION**

* **EFFECTIVENESS**: It is the degree to which an activity fulfills its intended

Purpose function.In this study breathing exercises as play way methods refers

to the exercises performed as play through various ways like blowing horns,

blowing balloons and candle and flower for a period of 30 minutes in the

morning and evening for 3 consecutive days.

* **DEEP BREATHING EXERCISE**: It is an exercise intended to promote effective andhealthy breathing and breathe control. In this study breathing exercises as play way methods refers to the exercises performed as play through various ways like, blowing balloons and candle and flower for a period of 30 minutes in the morning and evening for 3 consecutive days.
* **RESPIRATORY PARAMETERS**: It is a measurable factor used for assessing ormeasuring respiratory function. In this study, Respiratory parameter refers to peak flow rate, saturation and respiratory rate
* **Peak flow rate:**  Peak expiratory flow rate is a measure of how fast air comes out of the lungs when exhale forcefully. This measure is called a peak flow or "PFR" and is measured in litters per minute. It is measured by using a micro life digital peak flow meter.
* **Saturation:** it is a measure of the amount of oxygen – carrying haemoglobin in

the blood relative to the amount of haemoglobin not carrying oxygen.

* **Respiratory rate:** It is the act of breathing; the normal respiratory rate is 16-20

bpm.

* **RESPIRATORY INFECTIONS** : It is an infection in the lungs or below the

voice box which includes Pneumonia, Bronchitisand Tuberculosis, In this

project lower respiratory infections refers to acute bronchitis, chronic bronchitis

bronchiolitis and Bronchopneumonia**.**

* **PLAY WAYMETHOD**: It is a measurable factor used for assessing or

measuring respiratory functions.

**Blowing Balloon:**

Blowing balloons work out on the intercostal muscles responsible for spreading and

elevating the diaphragm and rib cage. Grasp the balloon below the lip of the opening

between the index finger and thumb. Take a deep breath and seal the lips around the

balloon; blow the maximum of the air from the lungs to the balloon. Repeat this for

minutes.

**Dr. Andrew Weil. (2007)**

**Candle**

This technique helps to deliver oxygen and also helps to eliminate wastein the body

and helps maintaining the healthy cells. Have the child to inhaleadeep breath via

their nose as if they smell a flower then hold the breath for 2 seconds and exhale the

breathe slowly to blow off the lit candle. Repeat for 5 minutes.

**Rick Rockwell., (2013)**

* **SELECTED DEMOGRAPHIC VARIABLES**: A demographic variable is a variable collected by research describe the nature anddistribution of thesample used with inferential statistics within selected variable area.

**REVIEW OF LITERATURE**



**CHAPTER -3**

**Review of literature**

Review of literature is an essential component of the research process. It is critical examination of a publication related to a topic of interest. Review should be comprehensive and evaluative. Review of literature help to plan and conduct the study in a systematic manner.

Present study literature is reviewed and organized, under three broad headings

* Studies related to incidence and prevalence of respiratory tract infections
* studies related to breathing exercise on respiratory parameters within

Children with respiratory infections

An experimental project with non –equivalent control group pre-test post- test design was used to identify the usefulness of deep breathing exercises as play way method on respiratory variables in children having lower respiratory tract infection in selected hospital, Coimbatore during 2015. The sample size was 60 (exp-30 and control-30) selected by using convenient sampling technique. Data was collected by using demographic variables check list and the peak expiratory flow rate, forced expiratory volume by using micro life flow meters from the sample in both groups. Data analysis results revealed considerabledifference between pre and post-test scores of respiratory parameters both in paired ‘t’ test and independent ‘t’ test at 0.05 level as well as statistically significant connection between frequency of attacks in the last year and peak flow rate. The study was concluded that the play way method of deepbreathingtechniquewasuseful in children with lower respiratory tract infections.13

A quasi-experimental study conducted to evaluate effectiveness of baloon blowing on respiratory variables within children with LRTI at selected hospital, Kanyakumari district from April 2019.The sample size was 60(30 in study group 30 in control group). The data was collected by observational checklist prepared by the researcher. Results of the study shows that the mean score level of respiratory parameters within children with LRTI, study group was 29 in pre-test and 31.5 in post-test. The paired ‘t’ value is 10.5 which is considerable at P<0.05. The study summarised that baloon blowing exercise was useful on respiratory variables among children with LRTI.14

A quasi- experimental study with non-equivalent control group pre-testpost-test design was carried to estimate the effectiveness of breathing exercise as therapeutic play in respiratory status in children experiencing nebulization therapy with LRTI in a selected hospital Haryana 17/09/2017 – 18/10/2017.The sample size was 60(30 in experimental group 30 in control group) selected through purposive sampling. Data was collected using demographic variables and structured questionnaire to assess the effectiveness of nebulization therapy. The study concluded that respiratory status of children improved significantly in experimental group.15

A quasi experimental study conducted on the properties and reliability of clinical severity scaling royal children hospital, Austrailia.The inter- observe agreement and validity of a clinical asthma severity scale (ASS)derived from separate scores of wheeze, heart rate and acute muscle are were studied in 60 children (30 in control group and 30 in experimental group), independence assessment were made by two pediatricians and hey also rated patients as having a mild ,moderate , seviour or very seviour acute episode . Oxygen saturation was categorized as mild, moderate and severe. The study concludedthatduration of hospital stay did not reflect the ASS score in the emergency department but total duration of functional disability increased with ASS score. The substitution of an adjusted heart rate score for the raw heart rate score used in ASS detracted from scale performance.16

Aprospective case control study to identify the risk factors of ARTI in Cheluvambu government medical college hospital, Mysore. The sample size was 208 children aged 5 – 10 years. Pre designed Performa was used to evaluatethe risk factors of involved in the subjects. Chi square test is used for statistical analysis were p value < 0.05 was taken as significant. Logistic regression method was used by SPSS package for data analysis. The study results shows that inappropriate immunization for age (21.2 % vs 7.69 %), families having more than to under five children at home (30.1 vs11.4) and overcrowding (91.3 vs20.19) are highly associated with respiratory tract infections.17

An experimental study conducted to assess the usefulness of breathing exercises as a play way method upon cardiopulmonary variables within children with ARTI in a selected area of Dehradun, Uttarakhand. A total of 67 children aged 3–12 years having acute respiratory tract infections were randomly divided into experimental 34 and control group 33. Balloon blowing breathing exercises were administered to the experimental group. Post interventional cardiopulmonary parameters were assessed after 1 week in the groups. A significant connection between cardiopulmonary parameters and selected demographic variables. Breathing exercises have advantageous effects on cardiopulmonary variables within children with ARTI. 18

An experimental study aimed to evaluate the usefulness of strelinikova breathing exercises upon respiratory signs and parameters within children with lower respiratory infections in Masonic Hospital, Coimbatore. Total 60sample was collected. In experimental group, the intervention of Strelnikova breathing exercise was taught to the child and made them to do the exercises daily for 30 minutes in the morning, afternoon and evening for 5 consecutive days. In control group, the existing hospital routine was practised. The study findings reveal that Strelnikova breathing exercise was beneficial and there was significant reduction in respiratory signs and improvement in respiratory parameters in experimental group among child having Lower Respiratory Tract Infections.19

An experimental study conducted to assess the usefulness of a respiratory exercise program tailored for children having wheezing in Brazil. 14 patients concluded the 16-week respiratory exercise program. All the samplewere assessed with regard to lung function, respiratory muscle strength, aerobic capacity, standard of living and clinical presentation. Descriptive analysis was done. After 16 weeks of open-trial intervention, significant increases in maximum inspiratory pressure (27.6%) and maximum expiratory pressure (20.54%,) were demonstrated. 20

A quasi-experimental study to assess the effects of breathing exercise on lung volumes of children in Patiala. The sample size of 40 subjects with wheezing was enrolled in the study.One group was given breathing exercise intervention by the means of deep breathing, paper strip blowing and balloon blowing, cotton ball blowing and bottle blowing. Earlier or later the intervention period, the child was investigated withspirometeric analysis to find out the changes in the lung volumes. The exercises interventions were administrated for 1 weekperiod. Paired t-test was used to examine the changes in dependent variables from base-line. Unpaired t-test was used to compare and analyze the changes between the groups. The overall improvement of lung function was significantly more in breathing exercise interventions than control group.21

An interventional study of few-minute breathing exercise program as a treatment modality for respiratory infections and to evaluate its efficacy in improving quality of life among children in Kuwait. Non- Randomized study design was used. About 200 children with wheezing associated infections are divided to intervention group and control group. . Non- Randomized study design was used the study results revealed that there respiratory parameters PEF and FVC are significantly increased in post-test compared to the pre test scores (PEF 102±14.92) experimental group had good standard of living andgood lung function after the intervention.22

**METHODOLOGY**



**CHAPTER -4**

**METHODOLOGY**

“This section deals with the Methodology adopted for the study.” Research methodology is a way to solve problem. The researcher starts from initial identification to conclusions in a systematic procedure.

**RESEARCH APPROACH**

The selection of research approach is the basic procedure for research enquiry. Quantitative approach was adopted for the study.

**RESEARCH DESIGN**

A research design encompasses the methodology and procedure employed to conduct a research. Quasi-Experimental with non-equivalent control group research design will be used to conduct the study

**VARIABLES**

Variables are properties or characteristics of some event, object, or person that can make on different values or amounts when conducting research experiments often manipulate variables. A variable as the name implies, is something that varies.

**Independent variables**:Deep breathing exercises

**Dependent variables**: Respiratory parameters

**SETTING OF THE STUDY**

Setting of the study is the physical location and conditions in which data collection take place in a study.

In the present study, the setting was paediatric ward of R L Jalappahospital and Research Centre, Tamaka, Kolar.

**POPULATION**:

Children with respiratory infections are the sample selected for the study.

**SAMPLE SIZE**

Sample size composed 60 children with Respiratory Tract Infection.Among 60 sample, 30were in experimental group and in control group 30.

**SAMPLING TECHNIQUE**

The sample were selected by using purposive sample technique. The first step obtain 30 sample were allotted to experimental group and next 30 sample were allotted to control group.

**SAMPLING CRITERIA**

**Inclusion criteria:**

* Children with Lower Tract Infection who were admitted in selected area.
* Children who are able to do activity.
* Children who are willing to participate.
* children who are able to understand locally spoken

**Exclusion criteria:**

* Children who are very sick
* Children with physical disabilities such as blindness, deaf, dumb and specialized children (MR)

**DATA COLLECTION TOOL**

Tool consist of two parts

**Tool - 1**

**Sociodemographic data**

It deals with demographic parameters such as age, gender, school, residence, religion, pet animals in house type of allergy frequency of attack in last year and duration of illness.

**Tool-2**

**Clinical Variables**

It consists of severity and exacerbation grade scale to assess the respiratory signs. It includes respiratory rate, pulse rate and saturation rate.

**DATA COLLECTION PROCEDURE**

The data was collected in the following steps by self-administration, which includes

**Step 1:** Permission was obtained from the Institutes ethical committee to carry out the study

**Step 2:** A formal written permission was obtained from the hospital authorities

**Step 3:** By using purposive sampling technique, 60 children were selected based on who fulfilled the inclusion criteria were selected in both experimental 30 and control group 30.

**Step 4:** On the day of data collection, investigator introduced to parents of children and informed the purpose of the study, then the informed consent was taken from parents and assent was taken from children.

**Step 5:**

Assessed respiratory rate, pulse rate and saturation before started the breathing exercise in experimental group and control group.

The breathing exercise was given to experimental group and routine care was given to control group among children admitted in Paediatric ward.

The breathing exercise was done by using

* Balloon blowing exercise
* Candle blowing exercise
* Rechecking respiratory rate and saturation with pulse oximeter

**Step 6:** The breathing exercises are given and respiratory parameters are assessed for 3 days continuously in the morning, afternoon and evening

**Step 7:** Each Breathing exercise for 15 minutes

**PLAN FOR DATA ANALYSIS**

The data obtained was planned and analysed in terms of objectives of the study using descriptive and inferential statistics.

Descriptive statistics like frequency, percentage, mean, standard deviation and inferential statistics like paired‘t’ test was used to test the difference of pre and post test score within the groups and student t test was used between the groups.

**SUMMARY**

This chapter deals with the research methodology that is research approach, research design, sampling technique, research setting, criteria for selection of sample, description of data collection tool, procedure and plan for data analysis.

**ANALYSIS OF DATA AND**

**INTERPRETATION** 

**CHAPTER 5**

**DATA ANALYSIS ANDINTERPRETATION**

This chapter talks about thedataanalysis, interpretations to assess the Effectiveness of Deep Breathing Exercise as a Play Way Method on Respiratory Parameters withinChildrenwithRespiratoryInfection in selected Hospital, Kolar.

Data were composed from 60 children with Respiratory Tract Infections, 30 children under experimental group, 30 children under control group. The data were analysed and demonstrated under following headings.

**ORGANIZATION OF DATA**

The data is categorized and organized as follows,

**Section 1****:** Socio demographic data

**Section 2:** Asses the pre and post-test respiratory parameters among children with Respiratory Infections in experimental group

**Section 3****:** Asses the pre and post-test respiratory parameters among children with Respiratory Infections in control group

**Section 4:**Evaluatetheusefulnessof deep breathing exercise as a play way method by comparing post-test respiratory parameters of both groups.

**SECTION 1**

Socio demographic data of both Experimental and Control Group.

**TABLE -1:** Socio demographic data of children in both experimental and control group

**n=60**

|  |  |  |  |
| --- | --- | --- | --- |
| Sl No. | Demographic Variables | Frequency(f) | Percentage (%) |
| 1. | **Age in years** |  |  |
| 1.1. 6-8 years | 42 | 70 |
| 1.2. 9-11years | 18 | 30 |
| 2. | **Sex** |  |  |
| 2.1, Male | 34 | 56.7 |
| 2.2. Female | 26 | 43.3 |
| 3. | **Class** |  |  |
| * 1. UKG to1 std | 29 | 48.3 |
| 3.2. 2 – 3rd std | 18 | 30 |
| 3.3. 4th – 5th std | 10 | 16.7 |
| * 1. 6th – 7th std | 3 | 5 |
| 4. | **Residence** |  |  |
| 4.1. Rural | 51 | 85 |
| 4.2. Urban | 9 | 15 |
| 5. | **Religion** |  |  |
| 5.1. Hindu | 56 | 93.4 |
| 5.2. Christian | 2 | 3.3 |
| 5.3. Muslim | 2 | 3.3 |
| 6. | **Pet animals in Home** |  |  |
| 6.1. Yes | 21 | 35 |
| 6.2. No | 39 | 65 |
| 7. | **Type of allergy** |  |  |
| 7.1. Dust | 10 | 16.7 |
| 7.2. Season | 3 | 5 |
| 7.3. Food | 2 | 3.3 |
| 7.4. None | 45 | 75 |
| 8. | **Duration of breast feeding** |  |  |
| 8.1. 0-6 Month | 3 | 5 |
| 8.2. 6 Month – 1 Year | 58 | 80 |
| 8.3. 1-3 Year | 9 | 15 |
| 9. | **Frequency of attack in the last year** |  |  |
| 9.1. 0-2 Times | 57 | 94 |
| 9.2. 3-4 Times | 3 | 6 |
| 9.3. 5 and Above | 0 | 0 |
| 10. | **Duration of illness** |  |  |
| 10.1. 0-1 Year | 55 | 91 |
| 10.2. 2-3 Year | 5 | 9 |
| 10.3. 4-5 Year | 0 | 0 |
| 10.4. Above 5 year | 0 | 0 |

**SECTION 2**

Asses the pre and post-test respiratory parameters among children having LRTI in experimental group.

**TABLE -2**:Pre and post-test respiratory parameters among children with LRTI among experimental group.

**n:60**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Sl No | Day | Parameters | Mean | SD | ‘t’ value | ‘p’ value | Inference |
| 1 | Day -1 | Respiratory rate | 29.27 | 2.800 | -10.237 | <0.001 | Significance |
| Saturation Rate | 96.23 | 1.501 | -15.444 | <0.0001 | Significance |
| 2 | Day- 2 | Respiratory rate | 27.93 | 2.493 | 13.551 | <0.001 | Significance |
| Saturation Rate | 96.50 | 1.660 | -14.082 | <0.0001 | Significance |
| 3 | Day -3 | Respiratory rate | 28.27 | 3.104 | 11.588 | <0.001 | Significance |
| Saturation Rate | 96.70 | 1.564 | -15.289 | <0.0001 | Significance |

**Table 2 shows that:**

There was significant difference with the respiratory parameters of respiratory rate (p= <0.001) saturation rate (p= <0.000) on day 1, on day-2 respiratory rate (p= <0.001) saturation rate (p = < 0.0001), and on day-3 respiratory rate (p= <0.001) saturation rate (p= <0.0001), by applying paired‘t’test between Experimental group.

There was significant decrease in respiratory rate and increase saturation in experimental group. It is evident that a play way method is effective in improving the respiratory parameters.

**SECTION 3**

Asses the pre and post-test respiratory parameters among children having LRTI in control group

**TABLE-3:** Pre and post-test respiratory parameters among children with LRTI among control group.

**n=60**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Sl No | Day | Parameters | Mean | SD | ‘t’ value | ‘p’ value | Inference |
| 1 | Day -1 | Respiratory rate | 33.20 | 3.483 | -1.992 | .056 | No Significance |
| Saturation Rate | 93.17 | 2.107 | -2.079 | .047 | Significance |
| 2 | Day- 2 | Respiratory rate | 34.53 | 1.305 | 1.819 | .079 | Not Significance |
| Saturation Rate | 92.93 | 1.037 | -2.112 | .043 | Significance |
| 3 | Day -3 | Respiratory rate | 34.07 | 1.596 | -.229 | .821 | Not Significance |
| Saturation Rate | 92.20 | 2.520 | -2.536 | .017 | Significance |

**This Table shows that:**

There was a significant difference with the respiratory parameters of saturation rate (‘p’=.047) on day 1, on day-2 saturation rate (‘p’ value=.043) and no significant change in saturation rate on day 3(p== 0.17)in Control group. There were no significant changes in respiratory rate on day 1,2 and 3 and saturation rate is Improving even though the breathing exercise is not maintained.

There was only significant increase in saturation rate in control group. There is no evidence of decrease in saturation

**SECTION 4**

Assess the effectiveness of deep breathing exercise as a play way method by comparing post-test respiratory variablesofboth groups.

**TABLE -4:** Comparing post-test respiratory variables of both groups.

**n=60**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Sl No | Day | Parameters | EXPERIMENTAL  Mean±SD | CONTROL  Mean±SD | SDEM | ‘t’ value | p= | Inference |
| 1 | Day-1 | Respiratory rate | 29.27±2.43 | 33.20±3.167 | .444 | -5.39 | < 0.005 | Significance |
| Saturation rate | 96.23±1.47 | 93.17±4.069 | .552 | 3.8 | <0.006 | Significance |
| 2 | Day-2 | Respiratory rate | 27.9±2.43 | 34.53±3.026 | .578 | -9.30 | < 0.005 | Significance |
| Saturation rate | 96.50±1.38 | 92.93±3.999 | .342 | 4.61 | < 0.007 | Significance |
| 3 | Day-3 | Respiratory rate | 28.27±1.87 | 34.07±2.638 | .444 | -9.81 | < 0.005 | Significance |
| Saturation rate | 96.70±1.34 | 93.20±4.334 | .482 | 4.22 | < 0.006 | Significance |

**This Table shows that:**

There was significant difference with the post-test respiratory parameters of respiratory rate

( p=<0.005 ) saturation rate (p=<0.006) on day 1, on day-2 respiratory rate (p= <0.005 ) saturation rate (p= < 0.007), and on day-3 respiratory rate (p=<0.005) saturation rate (p=<0.006), by applyingstudent‘t’ test between Experimental and control group.So it is evident that a play way method is effective in improving the respiratory parameters.

**DISCUSSION**



**CHAPTER -6**

**DISCUSSION**

This chapter discuss the major result of the study and the relation to similar studies conducted by another researcher.

The aim of the study toidentify the usefulness of deep breathing exercise as a play way method on respiratory variables among children with respiratory infection inselected hospital, Kolar.” Data collection and analysis were imposed based on the study objectives.

**STUDY OBJECTIVES**

1. To assess the pre and post-test respiratory variables among children with lower respiratory infections in experimental group.
2. To assess the pre and post-test respiratory variables among children with lower respiratory tract infections in control group.

To evaluate the effectiveness of deep breathing exercise as a play way method by comparing post-test respiratory parameters of both groups.

**NULL HYPOTHESES**

**H01**: There will not be any statistically significant difference between the Mean post test scores of respiratory parameters with mean pre-test scores of respiratory parameters in experimental group

**H02**:There will not be any statistically significant difference between the Mean post test score of respiratory parameters in the experimental group with mean post test scores of respiratory parameters in control group.

**MAJOR FINDINGS OF THE STUDY**

There was significant decrease in respiratory rate and increase saturation in experimental group. It is evident that a play way method is effective in improving the respiratory parameters.

There was significant difference with the post-test respiratory parameters of respiratory rate ( p = <0.005 ) saturation rate (p= <0.006) on day 1, on day-2 respiratory rate (p= <0.005 ) saturation rate (p= < 0.007), and on day-3 respiratory rate (p=<0.005) saturation rate (p=<0.006), by applying student‘t’ test between Experimental and control group.So it is evident that a play way method is effective in improving the respiratory parameters.

The study findings were consistent with the findings of the study conducted by Ms. JosmyGeorge,In which among 60 sample. There was considerable improvement in respiratory parameters in experimental group hence breathing exercise as play way method were beneficial within children with lower respiratory infection.12

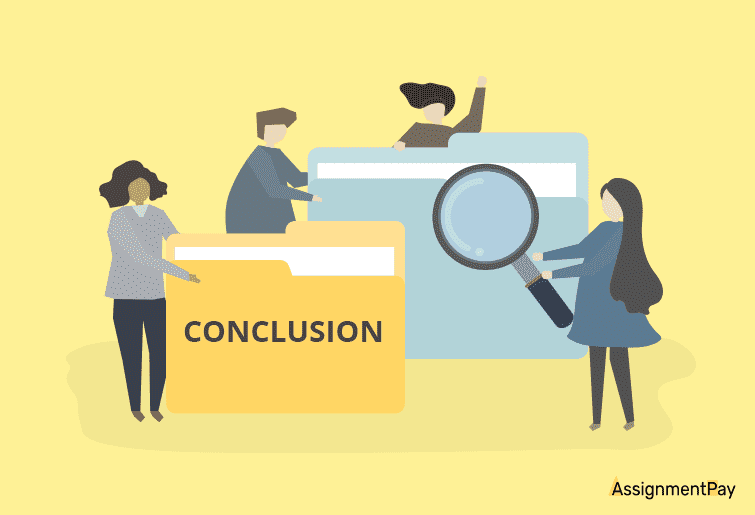
These findings were further supported by the project of Mr KaramjeetKaur. The study shows that there is a reduction in respiratory signs and more improvement of respiratory parameters as compare to conventional group.23

Studies of Vimala, Arul showed that Strelinikova breathing exercise was effective in respiratory signs. The findings shows that the administration of these findings was further supported by aStrelinikova breathing exercise has a better effect in reducing lower respiratory tract infections.24

**Summary**

There is considerable difference with the post-test respiratory parameters of respiratory rate, saturation rate, it is evident that play way method is useful in improving the respiratory parameter

**CONCLUSION**



**CHAPTER -7**

**CONCLUSION**

This chapter uplift the importance of this research study. It deals with the important conclusion drawn from the study and their implications with major findings, Its limitations recommendation and implications for nursing practise nursing education and nursing research. The purpose of the study toassessthe usefulnessof deep breathing exercise as a play way method on respiratory parameters within childrenhavinglower respiratory infection in selected hospital, Kolar.

There was valuabledifference with the respiratory parameters of respiratory saturation rate. So it is evident that play way method is useful in improving the respiratory parameters.

**MAJOR FINDINGS**

There was significant decrease in respiratory rate and increase saturation in experimental group. It is evident that a play way method is effective in improving the respiratory parameters.

There was only significant increase in saturation rate in control group. There is no evidence of decrese in saturation.

There was significant difference with the post-test respiratory parameters of respiratory rate ( p = <0.005 ) saturation rate (p= <0.006) on day 1, on day-2 respiratory rate (p= <0.005 ) saturation rate (p= < 0.007), and on day-3 respiratory rate (p=<0.005) saturation rate (p=<0.006), by applying student‘t’ test between Experimental and control group.So it is evident that a play way method is effective in improving the respiratory parameters.

**Conclusion-**It is evident that play way method is useful in improving the respiratory parameters.

**IMPLICATIONS FOR NURSING**

**NURSING SERVICE**

* Self-instructional module regarding breathing exercises given by the health personnel will help the children to improve their knowledge on exercises.
* Nursing service department can arrange health education programmes in the outpatient department for teaching the children onbreathing exercises.
* Nurses as a change agent can introduce various breathing measures toenhance lung function withinchildren having lower respiratory tract infections.

**NURSING EDUCATION**

* Imparting the concepts of promotive aspects in breathing exercises to nursing students.
* Nursing students must be encouraged to utilize knowledge on promotive measures to give health education and demonstration in hospital and community.

**NURSING ADMINISTRATION**

* Administrators should take initiative action to update the knowledge of nursing personnel regarding breathing exercises in improvement of lung function and reducing the signs of respiratory illness by in-service education.
* Nurse administrators can conduct workshop and seminars on breathing exercises in respiratory infections to all level of nursing personnel in the hospital.
* To organize awareness camp regarding breathing exercises for children on special days.

**NURSING RESEARCH**

* The emerging researchers can effectively utilize the study findings for their reference purpose
* The research study enhances the scientific body of professional knowledgein nursing field.

**RECOMMENDATIONS**

* Similar study can be done in different settings (rural and urban).
* Similar study can be replicated on larger sample there by findings can be generalized.
* IMNCI- Management of child with LRTI should include a play way method at all levels of care .

**DELIMITATIONS OF THE STUDY**

The study isdelimited to

Sample size is 60

Data collection period is for 5 weeks.

**SUMMARY**

This chapter has brought out various implications of the study and provided recommendations. Studies of this kind should be on going to improve respiratory status of the child.

**CHAPTER -8**

**SUMMARY**



**CHAPTER -8**

**SUMMARY**

Lower Respiratory Infections inflict a high burden of disease in children worldwide and are urgently needed to differentiate this burden. Lower respiratory infections (LRI) are the largest infectious reason of mortality among children worldwide, with 1-2 million under-five deaths and 12 million hospitalizations globally. In India, 17% of all deaths in children <5 years old are due to pneumonia. So, we need to know about the efficiency of various breathing exercises in play way method.

**STUDY OBJECTIVES**

1. To assess the pre and post respiratory variables among children having lower respiratory tract infections in experimental group
2. To assess the pre and post respiratory variables among children having lower respiratory tract infections in control group
3. To assess the usefulness of deep breathing exercise as a play way method by comparing post test respiratory parameters of both group

**NULL HYPOTHESES**

**H01**: There will not be any statistically significant difference between the Mean post test scores of respiratory parameters with mean pre-test scores of respiratory parameters in experimental group

**H02**:There will not be any statistically significant difference between the Mean post test score of respiratory parameters in the experimental group with mean post test scores of respiratory parameters in control group.

**METHODOLOGY**

In this study ,quasi-experimental study research design was selected. The sample consists of 30 children’s for experimental group,30 children’s in control group of selected hospital in Kolar, by using purposive sampling technique, the sample were selected. Data was collected, analysed, interpreted based on descriptive and inferential statistics.

**MAJOR FINDINGS**

There was significant decrease in respiratory rate and increase saturation in experimental group. It is evident that a play way method is effective in improving the respiratory parameters.

There was only significant increase in saturation rate in control group. There is no evidence of decrese in saturation.

There was significant difference with the post-test respiratory parameters of respiratory rate ( p = <0.005 ) saturation rate (p= <0.006) on day 1, on day-2 respiratory rate (p= <0.005 ) saturation rate (p= < 0.007), and on day-3 respiratory rate (p=<0.005) saturation rate (p=<0.006), by applying student‘t’ test between Experimental and control group.So it is evident that a play way method is effective in improving the respiratory parameters.

 **REFFERENCE**

on respiratory signs and parameters among children with

Vimala Arul. Effectiveness of strelnikova breathing exercises

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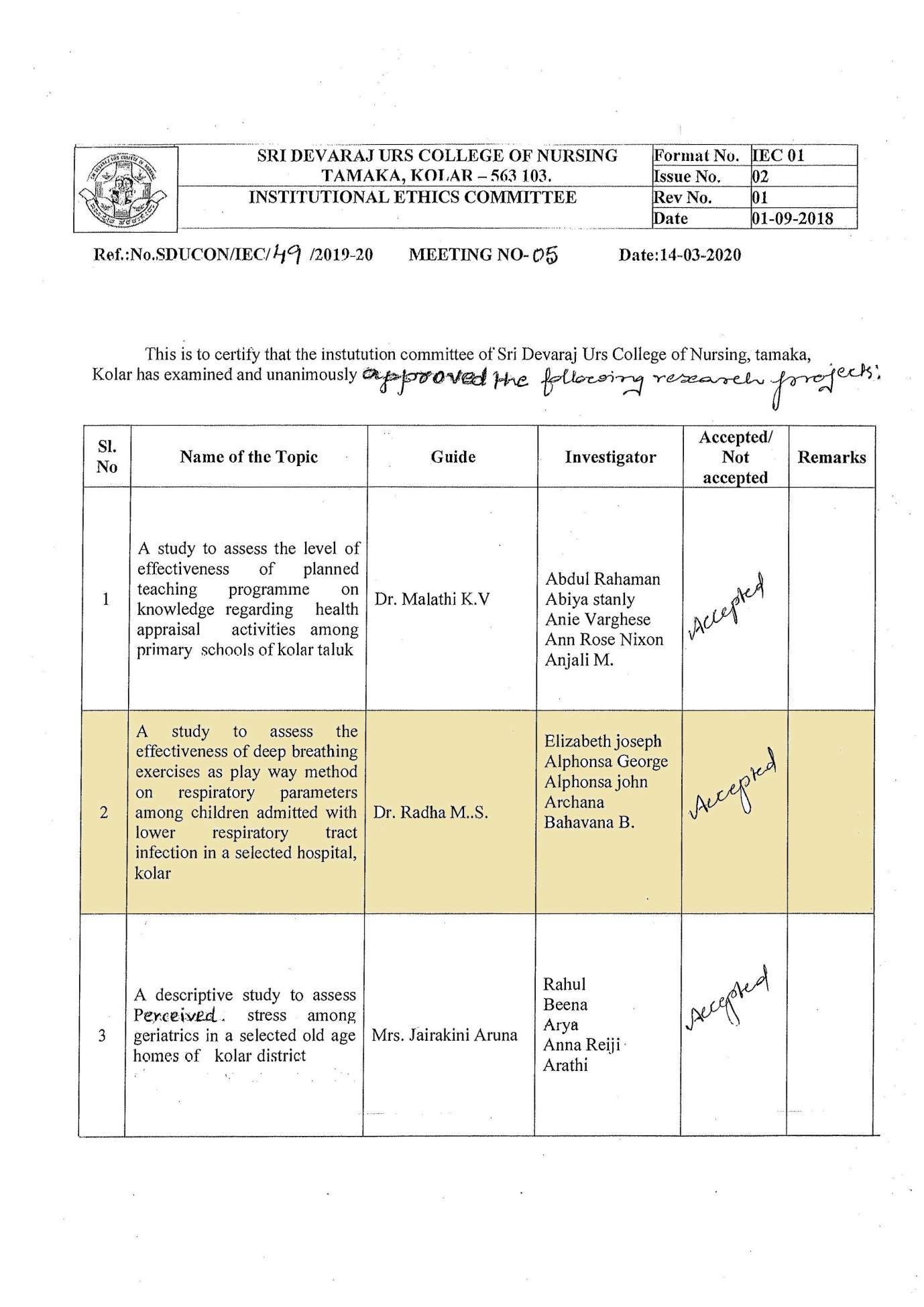
Modality for respiratory infections

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**ANNEXURES**



**ANNEXURE-1**

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**ANNEXURE-2**

**LETTER REQUESTING PERMISSION FOR CONDUCTING RESEARCH STUDY**

**From,**

3rd year BSc Nursing Students Date:12/03/2021

SDUCON

Tamaka, Kolar

**To,**

The Medical Superintendent

R.L.J.H & RC

Tamaka, Kolar

Through the proper channel

Respected Sir,

Sub: -Requesting permission to conduct Research Study-reg:

With reference to the above mentioned subject we the undersigned students of III rd year BSc Nursing under the department of Paediatrics Nursing Speciality would like to conduct research, “A study to assess the Effectiveness of Deep Breathing Exercise as a Play way method on Respiratory parameters among children admitted with Lower Respiratory Tract Infection in a selected hospital, Kolar”. as a part of partial fulfilment for basic degree. Hence we kindly request you to grand permission to collect data in paediatric ward without disturbing hospital routines and comfort of the patient.

Kindly consider the letter and do the needful.

Thanking you

Yours faithfully,

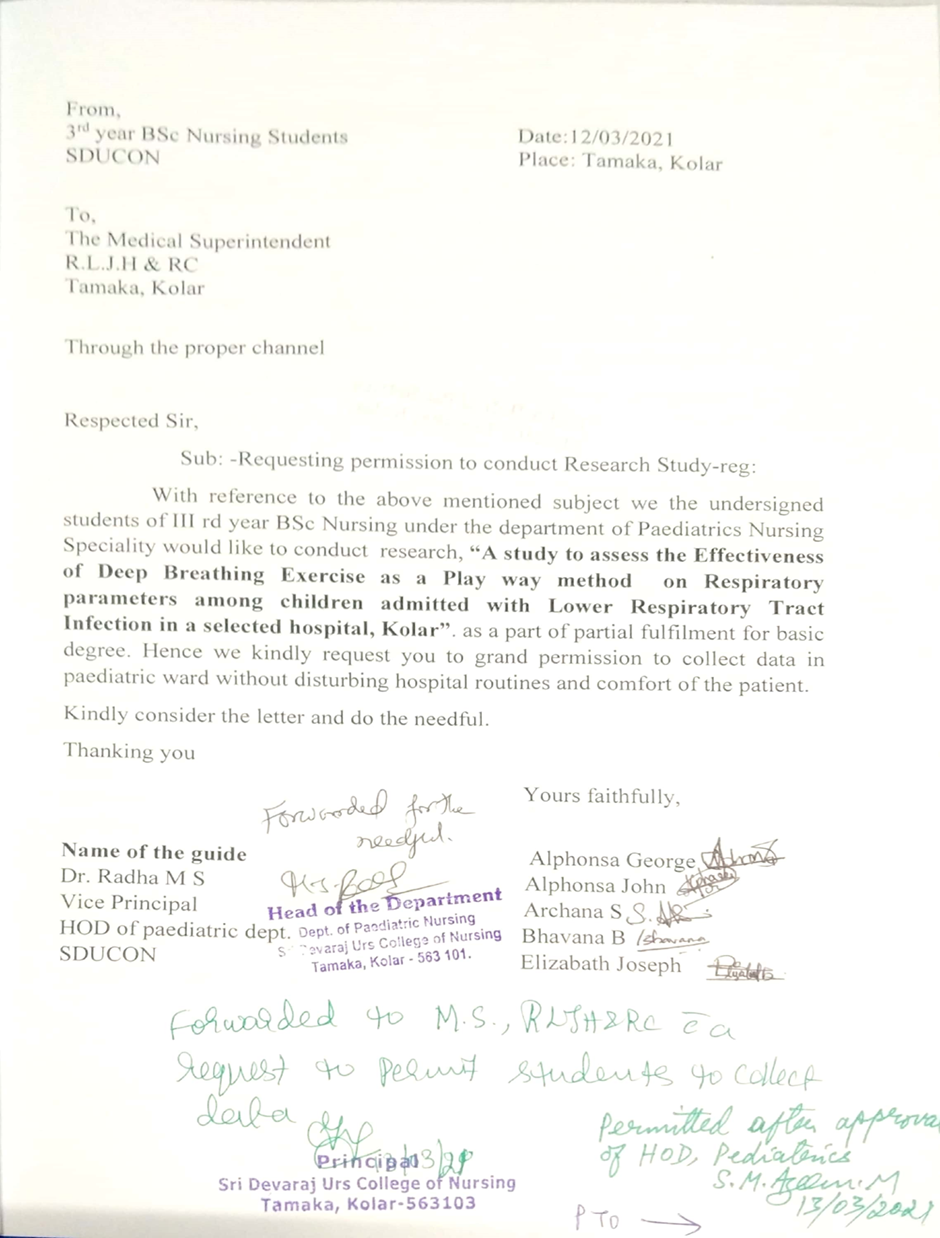
Name of the guide Alphonsa George

Dr.Radha M SAlphonsa John

Vice Principal Archana S

HOD of Paediatric Dept.Bhavana B

SDUCON Elizabath Joseph



**ANNEXURE-3**

**INFORMED CONSENT FORM**

Name of the Investigators: Alphonsa George, Alphonsa John,

Archana S, Bhavana B, Elizabath Joseph

Name of the Organization: Sri Devaraj URS College of Nursing

Title of the study:“A study to assess the effectiveness of Deep Breathing Exercise as a Play way method on Respiratory parameters among children admitted with Lower Respiratory Tract Infection in a selected hospital, Kolar”.

If you agree to participate in the study, we will collect information (as per Performa) from you or a person responsible for you or both. We will collect relevant details.

You are invited to part in this research study. You are being asked to participate in this study because you satisfy our eligibility criteria. The information in the given document is meant to help you decide whether or not to take part. Please feel free to ask any queries. We give our consent to collect information & also can be used for medical research, test validation, or education as long as our privacy is maintained.

I have read or it has been read and explained to me in my own language. I have understood the purpose of this study, the nature of information that will be collected and disclosed during the study. I had the opportunity to ask questions and the same has been answered to my satisfaction. I understand that I remain free to withdraw from this study at any time and this will not change my future care. I the undersigned agree to participate in this study and authorize the collection and disclosure of my personal information for presentation and publication.

Patient’s /Parent’s signature/thumb impression

Person obtaining consent and his/her signature:

Principal investigator signature:Principal investigator

**ಮಾಹಿತಿ ಒಪ್ಪಿಗೆಪತ್ರ**

ತನಿಖಾಧಿಕಾರಿಗಳ ಹೆಸರು: ಅಲ್ಫೊನ್ಸ ಜಾರ್ಜ್, ಅಲ್ಫೊನ್ಸ ಜಾನ್,

ಅರ್ಚನಾ ಎಸ್, ಭಾವನಾ ಬಿ, ಎಲಿಜಬತ್ ಜೋಸೆಫ್

ಸಂಸ್ಥೆಯ ಹೆಸರು: ಶ್ರೀ ದೇವರಾಜ್ ಅರಸು ಕಾಲೇಜ್ ಆಫ್ ನರ್ಸಿಂಗ್

ಅಧ್ಯಯನದ ಶೀರ್ಷಿಕೆ: “ಕೋಲಾರ್‌ನ ಆಯ್ದ ಆಸ್ಪತ್ರೆಯಲ್ಲಿ ಶ್ವಾಸಕೋಶದ ಸೋಂಕಿನಿಂದ ದಾಖಲಾದ ಮಕ್ಕಳಲ್ಲಿ ಉಸಿರಾಟದ ನಿಯತಾಂಕಗಳ ಮೇಲೆ ಆಳವಾದ ಉಸಿರಾಟದ ವ್ಯಾಯಾಮದ ಪರಿಣಾಮಕಾರಿತ್ವವನ್ನು ನಿರ್ಣಯಿಸುವ ಅಧ್ಯಯನ”.ಅಧ್ಯಯನದಲ್ಲಿ ಭಾಗವಹಿಸಲು ನೀವು ಒಪ್ಪಿದರೆ ನಿಮ್ಮಿಂದ ಅಥವಾ ನಿಮ್ಮ ಅಥವಾ ಇಬ್ಬರ ಜವಾಬ್ದಾರಿಯುತ ವ್ಯಕ್ತಿಯಿಂದ ನಾವು ಮಾಹಿತಿಯನ್ನು (ಪ್ರದರ್ಶನದ ಪ್ರಕಾರ) ಸಂಗ್ರಹಿಸುತ್ತೇವೆ. ನಾವು ಸಂಬಂಧಿತ ವಿವರಗಳನ್ನು ಸಂಗ್ರಹಿಸುತ್ತೇವೆ.

ಈ ಸಂಶೋಧನಾ ಅಧ್ಯಯನದಲ್ಲಿ ಭಾಗವಹಿಸಲು ನಿಮ್ಮನ್ನು ಆಹ್ವಾನಿಸಲಾಗಿದೆ. ನಮ್ಮ ಅರ್ಹತಾ ಮಾನದಂಡಗಳನ್ನು ನೀವು ಪೂರೈಸಿದ ಕಾರಣ ಈ ಅಧ್ಯಯನದಲ್ಲಿ ಭಾಗವಹಿಸಲು ನಿಮ್ಮನ್ನು ಕೇಳಲಾಗುತ್ತದೆ. ಕೊಟ್ಟಿರುವ ಡಾಕ್ಯುಮೆಂಟ್‌ನಲ್ಲಿನ ಮಾಹಿತಿಯು ಭಾಗವಹಿಸಬೇಕೆ ಅಥವಾ ಬೇಡವೇ ಎಂಬುದನ್ನು ನಿರ್ಧರಿಸಲು ನಿಮಗೆ ಸಹಾಯ ಮಾಡುತ್ತದೆ. ದಯವಿಟ್ಟು ಯಾವುದೇ ಪ್ರಶ್ನೆಗಳನ್ನು ಕೇಳಲು ಹಿಂಜರಿಯಬೇಡಿ. ಮಾಹಿತಿಯನ್ನು ಸಂಗ್ರಹಿಸಲು ನಾವು ನಮ್ಮ ಒಪ್ಪಿಗೆಯನ್ನು ನೀಡುತ್ತೇವೆ ಮತ್ತು ನಮ್ಮ ಗೌಪ್ಯತೆಯನ್ನು ಕಾಪಾಡಿಕೊಳ್ಳುವವರೆಗೂ ವೈದ್ಯಕೀಯ ಸಂಶೋಧನೆ, ಪರೀಕ್ಷಾ ಮೌಲ್ಯಮಾಪನ ಅಥವಾ ಶಿಕ್ಷಣಕ್ಕಾಗಿ ಸಹ ಬಳಸಬಹುದು.

ನಾನು ಓದಿದ್ದೇನೆ ಅಥವಾ ಅದನ್ನು ನನ್ನ ಸ್ವಂತ ಭಾಷೆಯಲ್ಲಿ ಓದಿದ್ದೇನೆ ಮತ್ತು ವಿವರಿಸಲಾಗಿದೆ. ಈ ಅಧ್ಯಯನದ ಉದ್ದೇಶ, ಅಧ್ಯಯನದ ಸಮಯದಲ್ಲಿ ಸಂಗ್ರಹಿಸಿ ಬಹಿರಂಗಪಡಿಸುವ ಮಾಹಿತಿಯ ಸ್ವರೂಪವನ್ನು ನಾನು ಅರ್ಥಮಾಡಿಕೊಂಡಿದ್ದೇನೆ. ನನಗೆ ಪ್ರಶ್ನೆಗಳನ್ನು ಕೇಳುವ ಅವಕಾಶವಿತ್ತು ಮತ್ತು ನನಗೆ ತೃಪ್ತಿ ಅದ ಉತ್ತರ ನೀಡಲಾಗಿದೆ. ನಾನು ಯಾವುದೇ ಸಮಯದಲ್ಲಿ ಈ ಅಧ್ಯಯನದಿಂದ ಹಿಂದೆ ಸರಿಯಲು ಮುಕ್ತನಾಗಿರುತ್ತೇನೆ ಮತ್ತು ಇದು ನನ್ನ ಭವಿಷ್ಯದ ಆರೈಕೆಯನ್ನು ಬದಲಾಯಿಸುವುದಿಲ್ಲ ಎಂದು ನಾನು ಅರ್ಥಮಾಡಿಕೊಂಡಿದ್ದೇನೆ. ನಾನು ಈ ಅಧ್ಯಯನದಲ್ಲಿ ಭಾಗವಹಿಸಲು ಮತ್ತು ಸಂಗ್ರಹಣೆಯನ್ನು ಅಧಿಕೃತಗೊಳಿಸಲು ಒಪ್ಪುತ್ತೇನೆ ಮತ್ತು ಪ್ರಸ್ತುತಿ ಮತ್ತು ಪ್ರಕಟಣೆಗಾಗಿ ನನ್ನ ವೈಯಕ್ತಿಕ ಮಾಹಿತಿಯನ್ನು ಮುಚ್ಚುತ್ತಿದ್ದೇನೆ.

ರೋಗಿಯ ಸಹಿ / ಪೋಷಕರಹೆಬ್ಬೆರಳು ಅನಿಸಿಕೆ

ಒಪ್ಪಿಗೆ ಪಡೆಯುವ ವ್ಯಕ್ತಿ ಮತ್ತು ಅವನ / ಅವಳ ಸಹಿ:

ಪ್ರಧಾನ ತನಿಖಾಧಿಕಾರಿ ಸಹಿ:

ಪ್ರಧಾನ ತನಿಖಾಧಿಕಾರಿ ಸಹಿ:

**ANNEXURE-4**

**Letter Requesting Opinions and Suggestions of Experts For Establishing Content Validity Of Research Tool**

From,

3rd year BSc Nursing Students Date:12/03/2021

SDUCON

Tamaka, Kolar

To,

Through thePrinicpal

Respected Madam

Sub: Request for Opinions and Suggestions of Experts for Establishing Content Validity of Research Tool.

We the 3rd year BSc Nursing students of Sri Devaraj URS College of Nursing,Tamaka,Kolar has selected the below mentioned topic for our main project for the fulfilment of Basic BSc Nursing.

**TITLE OF THE STUDY**

“**A STUDY TO ASSESS THE EFFECTIVENESS OF DEEP BREATHING EXERCISE AS A PLAY WAY METHOD ON RESPIRATORY PARAMETERS AMONG CHILDREN ADMITTED WITH LOWER RESPIRATORY TRACT INFECTION IN A SELECTED HOSPITAL, KOLAR.**”

With regards to the above , we kindly request you to validate the tool ( Stenderized tool and subject data sheet) for its appropriateness and relevancy we are here with enclosing the objectives of the study , criteria rating scale for your reference we would be highly obliged and remain thank full for your grate help preferable as early as possible .

**Thanking You Yours sincerely**

Ms.Alphonsa George

Enclosures:Ms.Alphonsa John

1, Objectives of the study Ms. Archana

2, Standardized tool and subject data sheet Mrs.Bhavana B

3, Content Validity certificate Ms.Elizabath Joseph

**DEMOGRAPHIC VARIABLES**



**ANNEXURE-5**

**DEMOGRAPHIC VARIABLES**

**1, Age**

1.1,6-8 years

1.2, 9-11years

**2, Sex**

2.1, Male

2.2, Female

**3, Education**

3.1, UKG to1 std

3.2, 2 – 3rdstd

3.3, 4th – 5thstd

3.4, 6th – 7thstd

**4, Residence**

4.1, Rural

4.2, Urban

**5, Religion**

5.1, Hindu

5.2, Christian

5.3, Muslim

**6, Pet animals in home**

6.1, Yes

6.2, No

**7, Type of allergy**

7.1, Dust

7.2, Season

7.3, Food

7.4, None

**8, Duration of breast feeding**

8.1, 0-6 Month

8.2, 6 Month – 1 Year

8.3, 1-2 Year

**9, Frequency of attack in the last year**

9.1, 1-2 Times

9.2, 3-4 Times

9.3, 5 and Above

**10, Duration of illness**

10.1, 0-1 Year

10.2, 2-3 Year

10.3, 4-5 Year

10.4,Above 5 years

**ಜನಸಂಖ್ಯಾಶಾಸ್ತ್ರಮಾಹಿತಿ**

1.ವಯಸ್ಸು

1.16-8 ವರ್ಷ

1.2 . 9-12 ವರ್ಷ

2.ಲಿಂಗ

2.1 ಪುರುಷ

2.2 ಮಹಿಳೆ

3.ವಿದ್ಯಾರ್ಹತೆ

3.1. ಯುಕೆಜಿ-1ನೇತರಗತಿ

3.2.2ರಿಂದ 3ನೇತರಗತ

3.3 4ರಿಂದ 5ನೇತರಗತಿ

3.4 .6 ರಿಂದ 7ನೇತರಗತಿ

4.ನಿವಾಸ

4.1.ಗ್ರಾಮ

4.2. ಪಟ್ಟಣ

5.ಧರ್ಮ

5.1 .ಹಿಂದು

5.2.ಮುಸ್ಲಿಂ

5.3.ಕ್ರಿಸ್ಟಿಯನ್

6. ಮನೆಯಲ್ಲಿಸಾಕುಪ್ರಾಣಿಗಳಇರುವಿಕೆ

6.1.ಹೌದು

6.2.ಇಲ್ಲ

7 .ಮೈತುರಿಕೆ /ಅಲರ್ಜಿ

7.1.ಧೂಳೂ

7.2.ಋತುಕಾಲಗಳು

7.3.ಆಹಾರ

7.4 .ಇತರೆ

8.ಹಾಲುಣಿಸುವಿಕೆಯಕಾಲಾವಧಿ

8.1. 0-6ತಿಂಗಳು

8.2.6ತಿಂಗಳು-1ವರ್ಷ

8.3. 1-2ವರ್ಷ

9.ಹೊಡೆತದಆವರ್ತನೆವರ್ಷಮಾನದಲ್ಲಿ

9.1.1 ರಿಂದ 2ಬಾರಿ

9.2.3ರಿಂದ 4ಬಾರಿ

9.3 .5ರಿಂದಮೇಲೆ

10. ರೋಗದಕಾಲಾವಧಿ

10.1 .0-1 ವರ್ಷ

10.2.2-3ವರ್ಷ

10.3 .4-5ವರ್ಷ

10.4 .5 ವರ್ಷದಮೇಲೆ

**ANNEXURE-6**

**SUBJECT DATA SHEET**

1. **Demographic characteristic**

* Age
* Gender
* Education
* Residence
* Religion
* Pet animals in the house
* Type of allergy
* Duration of breast feeding
* Frequency of attack during last 1 year
* Duration of illness

1. **CLINICAL EVALUATION TOOL**

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Sl. no.** | **Respiratory parameters** | **Day 1** | | | **Day 2** | | | **Day3** | | |
| **M** | **A** | **E** | **M** | **A** | **E** | **M** | **A** | **E** |
| 1 | Respiratory rate |  |  |  |  |  |  |  |  |  |
| 2 | Saturation rate |  |  |  |  |  |  |  |  |  |
| 3 | Peak flow rate |  |  |  |  |  |  |  |  |  |

**ANNEXURE 7**

****

****

**EXPERIMENTAL GROUP**

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Sl.No | Age | Gender | Education | Residence | Religion | Pet animals(in house) | Type of allergy | Duration of breast feeding | Frequency of attack in last year | Duration of illness |
| 1 | 0 | 1 | 1 | 1 | 0 | 0 | 0 | 1 | 0 | 0 |
| 2 | 0 | 0 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 2 |
| 3 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 0 | 0 |
| 4 | 2 | 1 | 3 | 1 | 0 | 0 | 0 | 1 | 0 | 0 |
| 5 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 0 | 0 |
| 6 | 4 | 0 | 5 | 1 | 0 | 0 | 0 | 1 | 1 | 1 |
| 7 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 0 | 0 |
| 8 | 1 | 1 | 2 | 1 | 0 | 1 | 0 | 1 | 0 | 0 |
| 9 | 4 | 0 | 5 | 0 | 0 | 1 | 2 | 1 | 1 | 1 |
| 10 | 2 | 0 | 3 | 1 | 0 | 0 | 0 | 1 | 0 | 0 |
| 11 | 1 | 1 | 4 | 1 | 0 | 2 | 0 | 1 | 0 | 0 |
| 12 | 4 | 0 | 5 | 0 | 2 | 0 | 0 | 1 | 0 | 0 |
| 13 | 1 | 1 | 4 | 1 | 0 | 0 | 0 | 1 | 1 | 1 |
| 14 | 0 | 1 | 1 | 1 | 0 | 0 | 0 | 1 | 0 | 0 |
| 15 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 1 | 0 | 0 |
| 16 | 5 | 0 | 6 | 1 | 0 | 0 | 0 | 1 | 0 | 0 |
| 17 | 3 | 0 | 4 | 0 | 0 | 1 | 0 | 2 | 1 | 1 |
| 18 | 2 | 1 | 3 | 0 | 0 | 0 | 0 | 3 | 0 | 0 |
| 19 | 5 | 0 | 6 | 1 | 1 | 0 | 1 | 1 | 2 | 2 |
| 20 | 2 | 1 | 3 | 1 | 0 | 2 | 0 | 1 | 0 | 0 |
| 21 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 22 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 23 | 0 | 0 | 1 | 1 | 0 | 0 | 2 | 1 | 1 | 1 |
| 24 | 4 | 1 | 5 | 1 | 0 | 0 | 0 | 1 | 0 | 0 |
| 25 | 3 | 1 | 4 | 1 | 0 | 2 | 0 | 2 | 0 | 0 |
| 26 | 6 | 1 | 7 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 27 | 3 | 1 | 4 | 1 | 0 | 1 | 0 | 0 | 0 | 0 |
| 28 | 2 | 0 | 3 | 1 | 0 | 0 | 0 | 3 | 1 | 2 |
| 29 | 1 | 0 | 2 | 1 | 0 | 0 | 1 | 1 | 1 | 1 |
| 30 | 2 | 1 | 3 | 1 | 0 | 0 | 0 | 1 | 0 | 0 |

**CONTROL GROUP**

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Si. No | Age | Gender | Education | Residence | Religion | Pet animals(in house) | Type of allergy | Duration of breast feeding | Frequency of attack in last year | Duration of illness |
| 1 | 4 | 1 | 5 | 1 | 1 | 0 | 0 | 2 | 1 | 1 |
| 2 | 0 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 |
| 3 | 1 | 1 | 2 | 1 | 0 | 0 | 1 | 1 | 0 | 0 |
| 4 | 1 | 0 | 2 | 0 | 0 | 0 | 1 | 1 | 0 | 0 |
| 5 | 2 | 1 | 3 | 1 | 0 | 0 | 0 | 1 | 0 | 0 |
| 6 | 0 | 1 | 1 | 1 | 0 | 2 | 0 | 1 | 1 | 1 |
| 7 | 3 | 0 | 4 | 1 | 0 | 1 | 2 | 1 | 1 | 1 |
| 8 | 0 | 1 | 1 | 1 | 0 | 1 | 0 | 3 | 2 | 2 |
| 9 | 3 | 1 | 4 | 1 | 0 | 0 | 0 | 1 | 0 | 0 |
| 10 | 2 | 0 | 3 | 1 | 0 | 0 | 0 | 2 | 0 | 0 |
| 11 | 1 | 1 | 2 | 1 | 0 | 1 | 3 | 1 | 0 | 0 |
| 12 | 4 | 1 | 5 | 1 | 0 | 1 | 0 | 1 | 0 | 0 |
| 13 | 6 | 1 | 7 | 1 | 0 | 0 | 0 | 1 | 0 | 0 |
| 14 | 0 | 1 | 1 | 1 | 0 | 0 | 0 | 1 | 0 | 0 |
| 15 | 5 | 0 | 6 | 1 | 0 | 1 | 3 | 1 | 1 | 2 |
| 16 | 2 | 1 | 3 | 1 | 0 | 0 | 0 | 1 | 1 | 1 |
| 17 | 0 | 1 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 1 |
| 18 | 5 | 0 | 6 | 1 | 0 | 0 | 0 | 1 | 0 | 0 |
| 19 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 1 | 0 | 0 |
| 20 | 1 | 0 | 2 | 1 | 0 | 1 | 0 | 3 | 1 | 1 |
| 21 | 3 | 0 | 4 | 1 | 0 | 1 | 0 | 1 | 1 | 1 |
| 22 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 0 | 0 |
| 23 | 0 | 0 | 1 | 1 | 0 | 1 | 1 | 1 | 0 | 0 |
| 24 | 2 | 0 | 3 | 1 | 0 | 0 | 0 | 1 | 0 | 0 |
| 25 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 0 | 0 |
| 26 | 0 | 0 | 1 | 0 | 2 | 1 | 0 | 2 | 1 | 1 |
| 27 | 2 | 0 | 3 | 1 | 0 | 0 | 0 | 1 | 0 | 0 |
| 28 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 1 |
| 29 | 0 | 0 | 1 | 1 | 0 | 1 | 1 | 1 | 0 | 0 |
| 30 | 0 | 0 | 1 | 0 | 0 | 2 | 3 | 1 | 2 | 1 |

**ANNEXURE-8**

**KEY WORDS**

AGE

* 6 years - 0
* 7 years - 1
* 8 years - 2
* 9 years - 3
* 10 years - 4
* 11 years - 5
* 12 years – 6

GENDER

* Male - 0
* Female – 1

EDUCATION

* LKG - 0
* UKG - 1
* 1st Standard - 2
* 2nd Standard - 3
* 3rd Standard - 4
* 4th Standard - 5
* 5th Standard - 6
* 6th Standard - 7
* 7th Standard – 8

RESIDENCE

* Urban – 0
* Rural - 1

RELEGION

* Hindu - 0
* Muslim - 1
* Christian – 2

PET ANIMALS IN THE HOUSE

* No - 0
* Dog - 1
* Cat - 2

TYPE OF ALLERGY

* No - 0
* Dust Allergy - 1
* Season Allergy - 2
* Food Allergy - 3

DURATION OF BREASTFEEDING

* 6 Months - 0
* 6 Months – 1 Year – 1
* 1 – 2 Year - 2
* 2 – 3 Year - 3

FREQUENCY OF ATTACK

* No - 0
* 1-2 Times - 1
* 3-4 Times - 2
* 5 and above -3

DURAION OF ILLNESS

* No - 0
* 0-1 year - 1
* 2-3 year - 2
* 4-5 year - 3
* 5 and above - 4

**ANNEXURE 9**

**EXPERIMENTAL GROUP**

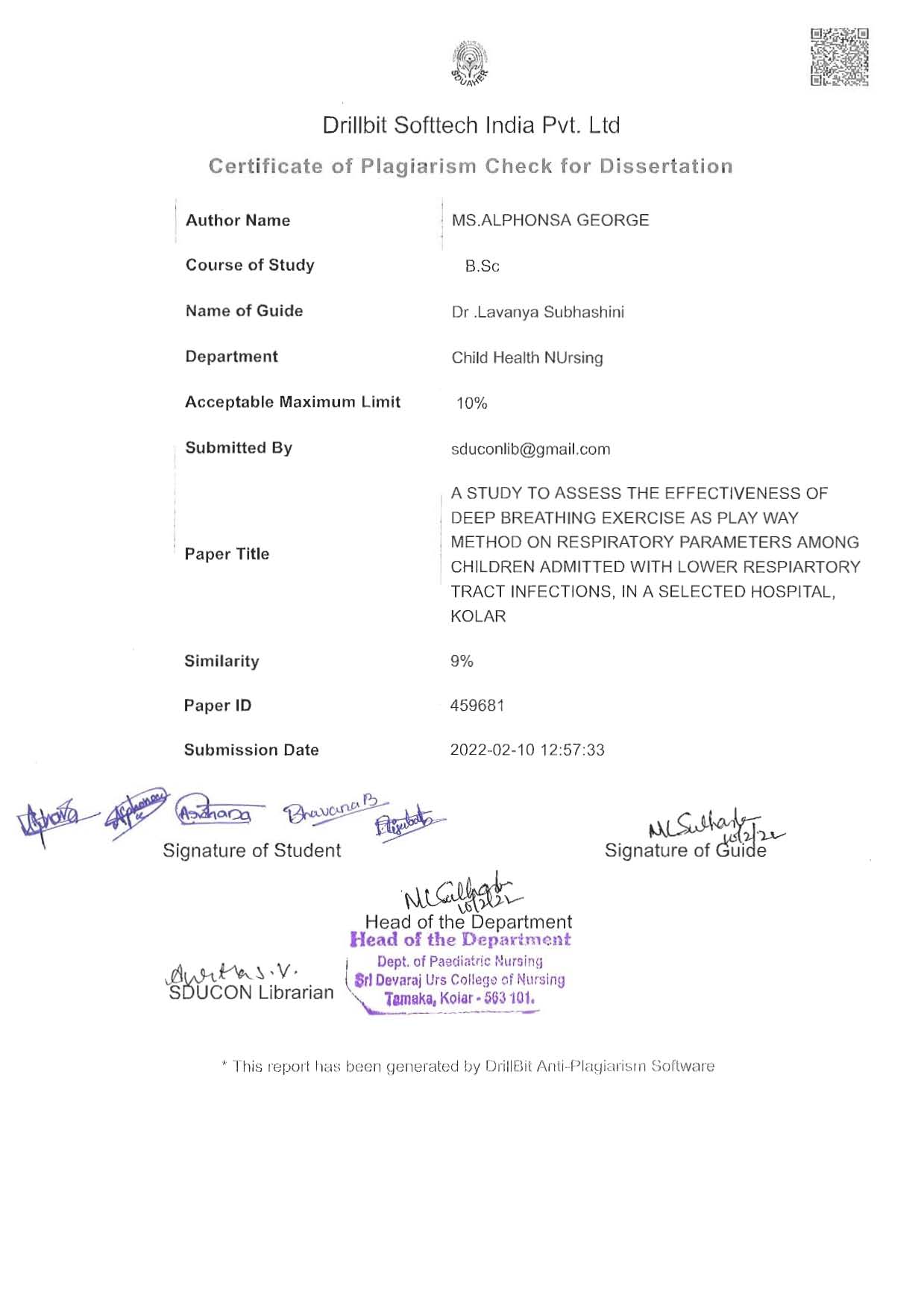
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **SI NO** | **GROUP** | **RRED1Pr** | **RRED1Po** | **RRED2Pr** | **RRED2Po** | **RRED3Pr** | **RRED3Po** | **STRED1Pr** | **STRED1po** | **STRED2Pr** | **STRED2Po** | **STRED3Pr** | **STRED3Po** | **PFRED1Pr** | **PFRED1Po** | **PFRED2Pr** | **PFRED2Po** | **PFRED3Pr** | **PFRED3Po** |
| 1 | 1 | 38 | 30 | 35 | 28 | 35 | 30 | 92 | 98 | 94 | 99 | 94 | 98 | 600 | 600 | 600 | 600 | 600 | 600 |
| 2 | 1 | 36 | 32 | 34 | 30 | 34 | 32 | 95 | 98 | 90 | 94 | 94 | 99 | 600 | 600 | 600 | 600 | 600 | 600 |
| 3 | 1 | 38 | 30 | 36 | 32 | 36 | 30 | 90 | 95 | 92 | 95 | 92 | 96 | 600 | 600 | 600 | 600 | 600 | 600 |
| 4 | 1 | 34 | 32 | 34 | 30 | 36 | 28 | 93 | 97 | 90 | 95 | 90 | 95 | 600 | 600 | 600 | 600 | 600 | 600 |
| 5 | 1 | 32 | 26 | 32 | 28 | 30 | 28 | 89 | 93 | 90 | 94 | 89 | 96 | 600 | 600 | 600 | 600 | 600 | 600 |
| 6 | 1 | 32 | 30 | 34 | 28 | 36 | 28 | 92 | 98 | 94 | 99 | 95 | 99 | 600 | 600 | 600 | 600 | 600 | 600 |
| 7 | 1 | 36 | 28 | 34 | 28 | 34 | 28 | 92 | 94 | 94 | 96 | 94 | 96 | 600 | 600 | 600 | 600 | 600 | 600 |
| 8 | 1 | 32 | 30 | 30 | 28 | 32 | 26 | 90 | 95 | 90 | 95 | 92 | 96 | 600 | 600 | 600 | 600 | 600 | 600 |
| 9 | 1 | 34 | 26 | 32 | 28 | 32 | 28 | 94 | 98 | 96 | 98 | 94 | 99 | 600 | 600 | 600 | 600 | 600 | 600 |
| 10 | 1 | 34 | 30 | 36 | 32 | 34 | 30 | 92 | 96 | 94 | 98 | 90 | 95 | 600 | 600 | 600 | 600 | 600 | 600 |
| 11 | 1 | 32 | 28 | 34 | 26 | 34 | 28 | 89 | 96 | 89 | 96 | 90 | 96 | 600 | 600 | 600 | 600 | 600 | 600 |
| 12 | 1 | 36 | 28 | 26 | 24 | 38 | 26 | 90 | 97 | 90 | 98 | 92 | 96 | 600 | 600 | 600 | 600 | 600 | 600 |
| 13 | 1 | 30 | 24 | 32 | 24 | 34 | 26 | 94 | 99 | 94 | 98 | 94 | 97 | 600 | 600 | 600 | 600 | 600 | 600 |
| 14 | 1 | 34 | 30 | 36 | 28 | 36 | 26 | 96 | 98 | 95 | 97 | 95 | 97 | 600 | 600 | 600 | 600 | 600 | 600 |
| 15 | 1 | 36 | 30 | 34 | 30 | 32 | 30 | 90 | 95 | 89 | 95 | 88 | 94 | 600 | 600 | 600 | 600 | 600 | 600 |
| 16 | 1 | 30 | 28 | 28 | 26 | 32 | 26 | 92 | 95 | 92 | 95 | 92 | 96 | 600 | 600 | 600 | 600 | 600 | 600 |
| 17 | 1 | 34 | 32 | 32 | 30 | 36 | 28 | 90 | 95 | 93 | 96 | 93 | 95 | 600 | 600 | 600 | 600 | 600 | 600 |
| 18 | 1 | 38 | 34 | 36 | 30 | 34 | 30 | 94 | 97 | 95 | 97 | 95 | 97 | 600 | 600 | 600 | 600 | 600 | 600 |
| 19 | 1 | 34 | 30 | 32 | 28 | 34 | 28 | 93 | 98 | 94 | 97 | 94 | 97 | 600 | 600 | 600 | 600 | 600 | 600 |
| 20 | 1 | 34 | 28 | 36 | 28 | 36 | 30 | 94 | 97 | 94 | 97 | 92 | 98 | 600 | 600 | 600 | 600 | 600 | 600 |
| 21 | 1 | 38 | 30 | 38 | 30 | 36 | 30 | 90 | 97 | 90 | 97 | 92 | 97 | 600 | 600 | 600 | 600 | 600 | 600 |
| 22 | 1 | 38 | 34 | 36 | 28 | 34 | 30 | 90 | 95 | 92 | 96 | 94 | 96 | 600 | 600 | 600 | 600 | 600 | 600 |
| 23 | 1 | 38 | 32 | 38 | 26 | 36 | 26 | 90 | 95 | 90 | 96 | 90 | 96 | 600 | 600 | 600 | 600 | 600 | 600 |
| 24 | 1 | 36 | 30 | 38 | 30 | 34 | 30 | 92 | 94 | 90 | 95 | 90 | 95 | 600 | 600 | 600 | 600 | 600 | 600 |
| 25 | 1 | 36 | 26 | 34 | 28 | 34 | 30 | 94 | 97 | 94 | 97 | 92 | 98 | 600 | 600 | 600 | 600 | 600 | 600 |
| 26 | 1 | 32 | 26 | 32 | 24 | 30 | 24 | 94 | 97 | 94 | 98 | 95 | 99 | 600 | 600 | 600 | 600 | 600 | 600 |
| 27 | 1 | 36 | 26 | 36 | 24 | 36 | 28 | 92 | 96 | 92 | 98 | 92 | 97 | 600 | 600 | 600 | 600 | 600 | 600 |
| 28 | 1 | 34 | 28 | 34 | 26 | 36 | 28 | 94 | 96 | 94 | 96 | 94 | 96 | 600 | 600 | 600 | 600 | 600 | 600 |
| 29 | 1 | 38 | 30 | 38 | 32 | 36 | 30 | 90 | 95 | 90 | 96 | 92 | 98 | 600 | 600 | 600 | 600 | 600 | 600 |
| 30 | 1 | 36 | 30 | 38 | 24 | 36 | 26 | 93 | 96 | 92 | 97 | 90 | 97 | 600 | 600 | 600 | 600 | 600 | 600 |

**CONTROL GROUP**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Sl.NO** | **GROUP** | **RRCD1Pr** | **RRCD1Po** | **RRCD2Pr** | **RRCD2Po** | **RRCD3Pr** | **RRCD3Po** | **STRCD1Pr** | | **STRCD1Po** | **STRCD2Pr** | **STRCD2Po** | **STRCD3Pr** | **STRCD3Po** | **PFRCD1Pr** | **PFRCD1Po** | **PFRCD2Pr** | **PFRCD2Po** | **PFRCD3Pr** | **PFRCD3Po** |
| 1 | 2 | 40 | 39 | 38 | 37 | 38 | 35 | | 80 | 82 | 81 | 83 | 81 | 82 | 600 | 600 | 600 | 600 | 600 | 600 |
| 2 | 2 | 32 | 31 | 35 | 36 | 37 | 34 | | 92 | 93 | 95 | 95 | 96 | 98 | 600 | 600 | 600 | 600 | 600 | 600 |
| 3 | 2 | 30 | 30 | 30 | 28 | 29 | 30 | | 98 | 98 | 97 | 96 | 99 | 99 | 600 | 600 | 600 | 600 | 600 | 600 |
| 4 | 2 | 36 | 37 | 34 | 36 | 32 | 32 | | 89 | 90 | 90 | 91 | 92 | 93 | 600 | 600 | 600 | 600 | 600 | 600 |
| 5 | 2 | 35 | 30 | 34 | 34 | 34 | 34 | | 95 | 95 | 93 | 94 | 93 | 95 | 600 | 600 | 600 | 600 | 600 | 600 |
| 6 | 2 | 37 | 35 | 34 | 33 | 36 | 36 | | 89 | 89 | 96 | 96 | 95 | 85 | 600 | 600 | 600 | 600 | 600 | 600 |
| 7 | 2 | 39 | 39 | 35 | 35 | 37 | 37 | | 88 | 96 | 92 | 93 | 89 | 90 | 600 | 600 | 600 | 600 | 600 | 600 |
| 8 | 2 | 30 | 30 | 32 | 32 | 32 | 32 | | 96 | 95 | 95 | 95 | 95 | 93 | 600 | 600 | 600 | 600 | 600 | 600 |
| 9 | 2 | 37 | 36 | 36 | 36 | 38 | 38 | | 93 | 97 | 92 | 93 | 85 | 86 | 600 | 600 | 600 | 600 | 600 | 600 |
| 10 | 2 | 30 | 30 | 32 | 32 | 34 | 36 | | 92 | 91 | 95 | 95 | 92 | 92 | 600 | 600 | 600 | 600 | 600 | 600 |
| 11 | 2 | 35 | 33 | 36 | 35 | 36 | 34 | | 88 | 87 | 87 | 87 | 87 | 89 | 600 | 600 | 600 | 600 | 600 | 600 |
| 12 | 2 | 38 | 37 | 39 | 37 | 35 | 35 | | 85 | 86 | 88 | 88 | 90 | 93 | 600 | 600 | 600 | 600 | 600 | 600 |
| 13 | 2 | 32 | 32 | 30 | 29 | 33 | 33 | | 95 | 95 | 99 | 99 | 96 | 98 | 600 | 600 | 600 | 600 | 600 | 600 |
| 14 | 2 | 35 | 34 | 37 | 35 | 32 | 30 | | 94 | 94 | 89 | 88 | 95 | 97 | 600 | 600 | 600 | 600 | 600 | 600 |
| 15 | 2 | 31 | 30 | 33 | 30 | 37 | 37 | | 96 | 96 | 94 | 95 | 86 | 90 | 600 | 600 | 600 | 600 | 600 | 600 |
| 16 | 2 | 39 | 35 | 35 | 37 | 36 | 35 | | 85 | 86 | 94 | 94 | 87 | 90 | 600 | 600 | 600 | 600 | 600 | 600 |
| 17 | 2 | 30 | 32 | 30 | 32 | 34 | 34 | | 99 | 98 | 99 | 99 | 92 | 93 | 600 | 600 | 600 | 600 | 600 | 600 |
| 18 | 2 | 36 | 35 | 38 | 38 | 39 | 38 | | 90 | 97 | 87 | 88 | 88 | 90 | 600 | 600 | 600 | 600 | 600 | 600 |
| 19 | 2 | 31 | 30 | 36 | 37 | 34 | 36 | | 97 | 96 | 95 | 96 | 96 | 94 | 600 | 600 | 600 | 600 | 600 | 600 |
| 20 | 2 | 35 | 36 | 37 | 39 | 30 | 30 | | 94 | 94 | 92 | 93 | 98 | 99 | 600 | 600 | 600 | 600 | 600 | 600 |
| 21 | 2 | 34 | 36 | 32 | 35 | 35 | 35 | | 93 | 93 | 95 | 94 | 93 | 94 | 600 | 600 | 600 | 600 | 600 | 600 |
| 22 | 2 | 39 | 35 | 37 | 38 | 36 | 34 | | 90 | 91 | 93 | 94 | 92 | 95 | 600 | 600 | 600 | 600 | 600 | 600 |
| 23 | 2 | 35 | 27 | 37 | 39 | 36 | 34 | | 94 | 95 | 88 | 89 | 90 | 93 | 600 | 600 | 600 | 600 | 600 | 600 |
| 24 | 2 | 33 | 29 | 37 | 34 | 35 | 33 | | 94 | 94 | 88 | 88 | 90 | 92 | 600 | 600 | 600 | 600 | 600 | 600 |
| 25 | 2 | 32 | 30 | 31 | 30 | 34 | 34 | | 92 | 92 | 94 | 94 | 93 | 95 | 600 | 600 | 600 | 600 | 600 | 600 |
| 26 | 2 | 36 | 33 | 37 | 38 | 39 | 39 | | 89 | 90 | 88 | 88 | 86 | 90 | 600 | 600 | 600 | 600 | 600 | 600 |
| 27 | 2 | 32 | 35 | 29 | 30 | 26 | 28 | | 95 | 96 | 99 | 98 | 98 | 99 | 600 | 600 | 600 | 600 | 600 | 600 |
| 28 | 2 | 37 | 36 | 35 | 35 | 35 | 34 | | 95 | 96 | 94 | 98 | 94 | 96 | 600 | 600 | 600 | 600 | 600 | 600 |
| 29 | 2 | 33 | 34 | 35 | 34 | 31 | 30 | | 95 | 94 | 92 | 91 | 98 | 99 | 600 | 600 | 600 | 600 | 600 | 600 |
| 30 | 2 | 28 | 30 | 33 | 35 | 35 | 35 | | 99 | 99 | 95 | 96 | 95 | 97 | 600 | 600 | 600 | 600 | 600 | 600 |

**ANNEXURE 10**

**CERTIFICATE OF PLAGIARISM CHECK**

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