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**RESEARCH ARTICLE**

# A QUASI-EXPERIMENTAL STUDY TO ASSESS THE EFFECTIVENESS OF CARE BASED ON ROY'S ADAPTATION MODEL (PHYSIOLOGICAL DIMENSIONS) AMONG PEDIATRIC PATIENTS SUFFERING FROM UPPER RESPIRATORY TRACT INFECTION (URTI)

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**ABSTRACT**

**Aims:** The aim of the study is to determine the effect of a care based on Roy's adaptation model on physiological dimension among pediatric patients suffering from URTI.
**Settings and Design:** Quantitative approach was selected with pretest posttest design conducted in the HAHC Hospital, Delhi.
**Sample and Sampling:** 30 samples were chosen using convenience sampling technique. **Methods:** Care based on Roy's adaptation model was given to the study subjects and a structured questionnaire was used to collect data regarding the physiological dimensions of the subjects before and after the intervention.
**Results:** Findings revealed that the mean posttest physiological score of the experimental group was greater than the mean posttest physiological score of control group.
**Conclusions:** Thus it is concluded that care based on Roy's adaptation Model (physiological dimensions) was effective among pediatric patients suffering from URTI.



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## INTRODUCTION

Ahmadiafshar, Amini and Falakolaflaky, (2010) conducted a study to determine the prevalence of URTI and its association with some factors. This cross sectional study was conducted in Islam-Abad with 414 children aged 1-6 years children were randomly selected from the recorded file of health center of the area. Results showed that one hundred fifty seven (37.9%) of the children had experienced respiratory infections at least for once and the prevalence of respiratory infections was relatively high. Jain, Lodha, Kabra *et al*. (2001) conducted a study on upper respiratory tract infection and suggested that acute respiratory infections accounts for 20–40% of outpatient and 12–35% of inpatient attendance in a general hospital. URTI includes nasopharyngitis, pharyngitis, tonsillitis and otitis media constitutes to 87.5% of the total episodes of respiratory infections. Also according Joseph J and George J [3]URTIs are the major causes for mortality and morbidity under 3 years of children.

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In worldwide statistics every year 3.9 million deaths of toddler is due to upper respiratory tract infections, whereas, in India 15-20% of toddler admission to the hospital is due to URTI. They are the major cause of lower respiratory tract infections, many acute respiratory infections are mild and cause few symptoms. Nursing has made phenomenal achievement in the last century that has led to the recognition of nursing as an academic discipline and a profession. A move towards theory based practice has made contemporary nursing more meaningful and significant by shifting nursing focus from vocation to an organized profession. The need of the knowledge base to guide professional nursing practice has been realized and many theoretical frameworks have been contributed by the nurses (Basheer, 2013).

### Roy's Adaptation Model

Adaptation is the primary concept of interest in Roy's adaptation model. It is defined as the process and outcome in which thinking and feeling persons use conscious awareness to create integration between human perception and their environment. Roy's depict the individual as a bio-psychosocial being who is able to identify internal and external stimuli that are influencing the person's adaptive behaviors.

Individual responds to processes in two processes called the regulator and cognator subsystems. The regulator subsystem includes autonomic body responses. Cognitive subsystem responds through four cognitive emotional channels: perceptual and information processing, learning, judgment and emotion. Adaptation occurs when both the subsystems are stimulated resulting in behaviors change measured in physiological, self-concept, role function, and interdependence as shown in Figure 1.

The physiological mode measures all bodily functions. It encompasses oxygenation, nutrition, elimination, activity and rest, protection, the senses, fluid and electrolyte, neurological function and endocrine function (Radhamaniamma Jayasree, 2013). Self-concept mode focuses personal aspects of human system especially psychic and spiritual integrity. It deals with the perception of the physical self (Radhamaniamma Jayasree, 2013). Role function mode deals with the social integrity, focuses on performance of activities associated with various

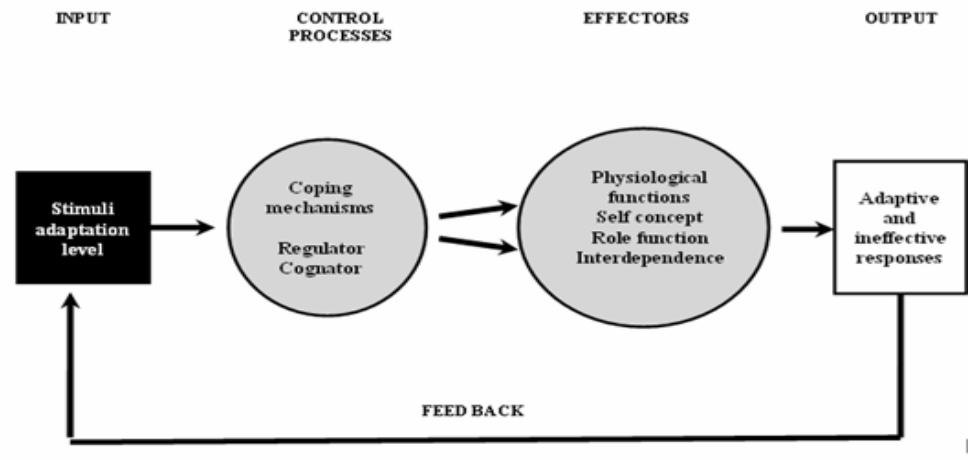


**Figure 1. Roy's Adaptation Model**

**Table 1. Comparison of Posttest Physiological Scores in Experimental and Control Group for each dimension in Terms of Mean, Standard Deviation, Mean Difference Standard Error And 't' Value**

$n_1+n_2=30$

| Dimension | Experimental Group $n_1=15$ | | Control Group $n_2=15$ | | MD | SE | t-Value | p-Value |
|---|---|---|---|---|---|---|---|---|
| | Posttest | | Posttest | | | | | |
| | Mean | SD | Mean | SD | | | | |
| Problems Associated With Oxygenation | 23.3 | 0.59 | 18.3 | 1.11 | 5 | 0.32 | 15.15 | 0.0001*** |
| Problems Associated With Nutrition | 5.27 | 0.96 | 3.93 | 0.7 | 1.34 | 0.297 | 4.33 | 0.0002*** |
| Problems Associated With Activity And Rest | 16.9 | 1.36 | 9.67 | 0.49 | 7.23 | 0.37 | 19.35 | 0.0001*** |
| Problems Associated With Protection | 7.87 | 0.35 | 6.53 | 1.13 | 1.34 | 0.30 | 4.37 | 0.0002*** |
| Problems Associated With Fluid And Electrolyte | 13.9 | 0.35 | 12.8 | 1.37 | 1.1 | 0.36 | 2.91 | 0.0069*** |

***$t'_{(28)}=2.05$ at $p<0.05$, significant at 0.001 level

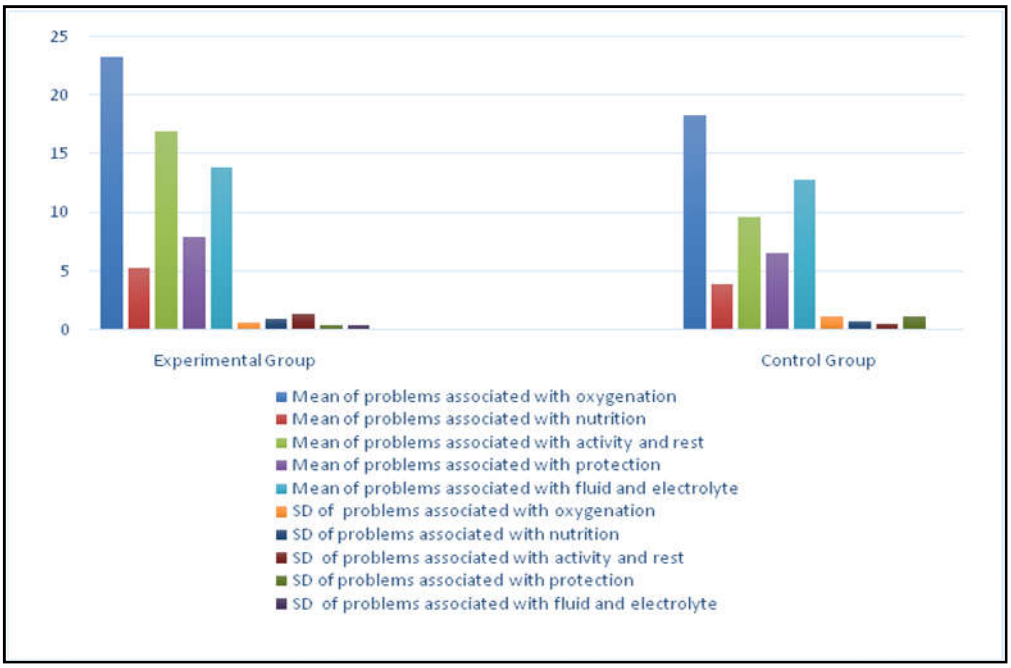


**Figure 2. Comparison of posttest physiological scores in experimental and control group for each dimension in terms of mean and standard deviation**

life roles (Radhamaniamma Jayasree, 2013). Interdependence mode also deals with social integrity and it focuses on affectional relationships, provision and receipt of social support (Radhamaniamma Jayasree, 2013). Roys has defined health as being and becoming a whole and integrated person. The goal of nursing is to promote adaptation by maintaining adaptive responses and converting ineffective responses to adaptive ones (Radhamaniamma Jayasree, 2013).

## METHODS AND MATERIALS

### Participants

The sample for the present study compromised of 30 pediatric patients aged 1-5 years, 15 each in experimental and control group suffering from URTI admitted in the HAHC Hospital, Delhi. The subjects were selected using convenience non-probabilitysampling technique.

### Material

The tool was prepared by reviewing various literatures as mentioned above. A detailed discussion was held with five experts in field of Nursing on the objectives of the study to draft the tool for the study to collect information from the subjects.

### Section 1 – Demographic data

It comprised of items such as age, sex, religion, type of the family, area of residence, social support, number of siblings, family income, source of information, history of episodes of URTI, history of prolonged illness, current duration of illness and any other prolonged illness.

### Section 2- Questionnaire based on Roy's adaptation model for children with URTI.

It enclosed questions based on physiological needs of the adaptive system of Roy's adaptation model encompassing, oxygenation, nutrition, activity and rest, protection and fluid & electrolyte. Out of total 09 physiological modes (oxygenation, nutrition, elimination, activity and rest, protection and fluid & electrolyte, senses, neurological and endocrine), 05 modes were selected. The selected physiological areas were measured before and after intervention.

### Procedure

Fifteen pediatric patients were assigned between the age group of 1-5 years to each group who were admitted in the pediatric ward of HAHC Hospital, Delhi were selected through convenience sampling technique. Informed consent was taken from caregivers of pediatric patients for participation in the study. Socio demographic profile of pediatric patients was filled by the researcher. Each pediatric patient was given individual code number. In both controls as well as in experimental group, initial assessment based on Roy's adaptation questionnaire on day 1$^{st}$ was done. In experimental group, 5 days need based care was provided along with the Health talk on management and prevention of URTI on5$^{th}$ day. In control group no intervention was taken. On 5$^{th}$ day only post evaluation of physiological dimension based on RAM questionnairewas done for both the groups.

### Statistical methods

The descriptive and inferential statistics was used for analysis. Calculations were done manually with the calculator and SPSS (Statistical Package for Social Sciences) version 20.Outcomes of physiological dimensionsare presented as mean and standard deviation. Significant levels were set to be *P* value less than 0.05.

### Ethical Consideration

The study was done after approval from the Institutional Ethical Committee of Jamia Hamdard, Delhi. Approval from Research Project Analysis Committee was also taken.

## RESULTS

The data presented in table 1 and figure 2 shows that the mean posttest physiological score 23.3 for problems associated with oxygenation, 5.27 for problems associated with nutrition, 16.9 for problems associated with activity and rest, 7.87 for problems associated with protection and 13.9 for problems associated with fluid and electrolyte with SD 0.59,0.96,01.36,0.35,0.35 respectively of the experimental group is greater than the mean posttest physiological score 18.3 for problems associated with oxygenation, 3.93 for problems associated with nutrition, 9.69 for problems associated with activity and rest, 6.53 for problems associated with protection and 12.8 for problems associated with fluid and electrolyte with SD 1.11,0.7,0.49,1.13,1.37 respectively of the control group. The obtained mean differences for each dimension was found to be statistically significant as evident from obtained 't' value of 15.15, 4.33, 19.35, 4.37 and 2.91 ($p<0.05$) for df (28) for each dimension, which were greater than the table value of 2.05. Therefore there was a significant difference between posttest mean physiological scores of pediatric patients suffering from URTI in experimental and control group as assessed by a structured questionnaire at 0.05 level of significance.

## DISCUSSION

Theory-based nursing practice is dependent on the concept that the work of any discipline is directed by its knowledge base. The practice then is guided by the distinctive theories of that particular discipline. A nurse practitioner using process of theory-based nursing practice develops a practice proposition and a plan for schematic application of this nursing process in the relevant area of nursing. Nursing research and practice are based on nursing theories and models such as Roy's adaptation model in the relevant area of nursing. RAM is a highly developed and widely used conceptual description of nursing. It is accepted by the nursing community, in nursing practice, education, and research (Bilal *et al*., 2013). The patient's adaptation with problems and their complications of the diseases plays a pivot role in their disease control and improvement of their adaptation level. The present study pursued the same goal to investigate the effect of one of the nursing model, Roy's adaptation model. The findings of the study were discussed in terms of objectives and literature. The findings revealed that the care provided based on Roy's adaptation model (physiological dimensions) among pediatric patients suffering from URTI was effective.

These findings are supported by the study conducted by Alimohammadi, Maleki, Shahriari *et al* in Isfahan in 2013 to assess the effect of a care plan based on Roy's adaptation model biological dimension on stroke patients' physiologic adaptation level. This study was a clinical trial in which 50 patients. Results of the comparison of the mean scores of changes of adaptation in the patients affected by brain stroke in the study and control groups showed a significant increase in physiological dimension in the study group by 47.30 for each dimension after intervention ($P < 0.001$) (Nasrollah Alimohammadi, ?). Also, Sadeghnejad investigated the effect of Roy model based self-care on adaptation of diabetic patients and showed that patient's urea and potassium levels were reduced and their level of albumin increased. Analysis of Roy assessment form showed that mean score of maladaptive behaviors in physiologic dimension significantly decreased to 1.9 after intervention, compared to before intervention (5.7) ($P < 0.001$) (Sadeghnejad *et al*., 2010).

**Conclusion**

The study revealed that care based onRoy's adaptation Model (physiological dimensions) was effective among pediatric patients suffering from URTI.

**Limitation**

Limitation of the study is that it was confined to a specific geographical area (Delhi), specific disease condition URTI, and the study was conducted with small number of samples due to shortage of time for data collection. Therefore generalization cannot be done.

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**Conflicts of interest**

There are no conflicts of interest.

## REFERENCES

Ahmadiafshar, A. *et al*. 2010. Upper Respiratory Tract Infection In Preschool Children. Indian Journal of Maternal and Child Health: Official Publication of Indian Maternal and Child Health Association. August; 12(3): 1-7.

Jain, N., Lodha, R., Kabra, S.K. 2001. I*ndian Journal of Pediatrics. Upper Respiratory Tract Infections.*68: 1135–8.

Joseph, J., George, J. 2015. A Study to Assess the Effectiveness of Structured Teaching Programme Regarding Knowledge on Prevention of Upper Respiratory Tract Infection Among Mothers of Toddler in Selected Hospital, Bangalore. *International Journal of Science and Research.* 4(12): 1913-1917.

Basheer, S.P. and Khan, S.Y. 2013. A Concise Textbook Of Advanced Nursing Practice. 2nd ed. Emmess Medical; 439-449.

Radhamaniamma Jayasree. 2013. Journal of Pharmaceutical and Biomedical Sciences. Nursing Care of Patients with Rheumatoid Arthritis:- An Application Of Roys Adaptation Model. 27(27): 486-492.

Bilal, S.H. Badr Naga, Nijmeh, M. *et al*.2013. Middle East Journal of Nursing; Roy Adaptation Model: A Review. January 7(1). 58-61.

Nasrollah Alimohammadi, *et al*. 2015. Effect of a Care Plan Based on Roy adaptation Model Biological Dimension on Stroke Patients' Physiologic Adaptation Level. Iranian Journal of Nursing and Midwifery Research; 20(2). 275-81.

Sadeghnejad, M., Vonki, Z., Memarian, R. 2010. Evaluating the effect of using nursing care plan based on "Roy adaptation model" on the adaptation of type 2 diabetics. Mashhad Univ 1:5-20.

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