# EFFECTIVENESS OF DEVELOPMENTAL CARE TRAINING PROGRAM ON ATTITUDE AMONG NURSING STUDENTS IN SELECTED COLLEGES AT BILASPUR DISTRICT C. G

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***ABSTRACT***

*Developmental Care is an approach that uses a range of medical and nursing interventions that aim to decrease the stress of preterm neonates in NICUs. Current practice requires the nursing staff to make a global pain assessment of neonates or apply validated pain scoring methods before taking appropriate actions to ameliorate newborn pain or discomfort. This study was aimed to improve attitude of nursing students regarding developmental care. Pre experimental one group Pre-test post-test design to evaluate the effectiveness of Developmental Care training programme on attitude among the nursing students. The sample size was 300 nursing students of selected nursing colleges. 5 point likert scale was used to assess likert scale. The results showed that in pre test 44 (14.6%) subjects had unfavorable attitude towards Developmental Care and 256 (85.5%) subjects had favorable attitude. In attitude, the pre test mean scores and standard deviation was 28.8 ± 6.52 whereas the post test means score and standard deviation was 37.54 ± 5.89 respectively. The calculated 't' value is 13.46 with the p value 0.000 is less than 0.05. The statistical analysis shows highly significant difference between mean pretest and post test attitude level. Therefore, developmental care program was effective improving attitude of nursing students regarding developmental care.*

***Key Words:*** *Developmental Care, NICUs, Developmental Care.*

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**INTRODUCTION:**

Transition from the intrauterine to extra uterine life is a critical event in life. **(Gupta, P. 2017)** Newborn undergo profound physiologic changes at the moment of birth (and probably psychological changes as well) as they are released from a warm, snug, dark, liquid filled environment that has met all of their basic needs into a chilly, unbounded, brightly lit, gravity- based outside world . **(Pillitteri, A. 2010)**

A baby born with a gestational age of less than 37 completed weeks ( or less than 259 days) is termed preterm baby **(Born to soon. 2012)** . These babies are also termed as immature, born early or premature. **(Dutta, P. 2018).** Sub-categories of preterm birth, based on gestational age: extremely preterm (less than 28 weeks) very preterm (28 to 32 weeks) moderate to late preterm (32 to 37 weeks) **(WHO. 2018**). Common causes of preterm birth include multiple pregnancies, infections and chronic conditions such as diabetes and high blood pressure; however, often no cause is identified. There could also be a genetic influence. **(WHO. 2018)**

The NICU is their first home. The artificial and over stimulating world of bright lights, loud sounds, unpleasant and painful touch, noxious smell and taste disorganizes these vulnerable babies at a time which is critical for brain development, both in terms of its structure as well as its functioning abilities. **(Module-4-Developmentally-Supportive-Care-and-Pain-Management**) When the preterm infant is stressed, behaviour such as respiratory pauses, tachypnea, colour changes, tremors sighing, flaccidity, finger splaying and gaze averting occurs. Such behaviors are alerts that the environment has become too stimulating and need to be modified. **(Pillitteri, A. 2010)**

The sound environment in NICU is louder the home and office **(Babu, D.M. 2017)** which comes from various sources, such as mechanical ventilators, radiant warmers, infusion pumps and incubators; handling of incubators by the nursing team and medical team (opening and closing doors, for example), voices/talking and movement of people in the unit; alarms; medical and family visits**. (Cardoso, S.M.S. 2015; Smith, S.W. 2018; Sa, M.M. 2018**). The excess noise typically experienced by NICU infants disrupts their growth and development, putting them at risk for hearing, language, and cognitive disabilities (**Mcmahon, E. 2012;Li**, **W.G. 2010)**, the incidence of hearing loss rises sharply to approximately 2-4 per 100 neonates. (**Wongs. 2018**). Reducing noise levels in the NICU can improve the physiologic stability of sick neonates and therefore enlarge the potential for infant brain development. (**Brown, G. 2009)**

**OBJECTIVES**

1. To assess the existing attitude regarding Developmental Care among the nursing students.
2. To evaluate the effectiveness of Developmental Care training programme on attitude among the nursing students.
3. To correlate between Attitude regarding Developmental Care among the nursing students.
4. To associate the post test level of attitude with their selected demographic variables.

**REVIEW OF LITERATURE**

**Gebreslasie,** K. **(2016)** was conducted facility based cross section study "to assess the prevalence and associated factors of preterm birth Northwest Ethiopia, Gondar town health institutions". Systematic sampling was used to select 540 study participants. Both bivariate and multiple logistic regression were fitted. The result showed that 4.4% from the total 540 mothers gave a preterm birth. The covariates of pregnancy induced hypertension (AOR 5.36 (95% CI 1.8, 15.96)) and being HIV positive (AOR 3.4 (95% CI 1.25, 9.2)) were found to be significantly associated with preterm birth. The main factors for preterm birth were pregnancy induced hypertension and being HIV positive.

**Bode, M.M., et al. (2009)** was conducted a prospective regional study on “an Outcome of extreme prematurity". The finding of the study reveals that there was a 35% increase in the number of live-born preterm births (138 in cohort 1 and 187 in cohort 2) despite a>10% decline in total births in the region (P<.001). Assisted fertility (rarely available for mothers in cohort 1) was responsible for 20% of pregnancies in cohort 2. Survival to hospital discharge increased over 20 years from 82% to 93% (P = .002), primarily because of higher survival for infants born at<27 weeks' gestation (63%vs 88%; P = .004). Changes in management in cohort 2 included the use of surfactant (62% of infants) and increased use of postnatal steroids (39% vs 9%; P<.001), that were associated with a shorter median duration of mechanical ventilation (13 vs 21 days; P<.001); however, the incidence of bronchopulmonary dysplasia was higher in cohort 2 (56% vs 35%; P<.001). There was a significant decrease in incidence of severe ultrasound abnormalities from 17% in cohort 1 to 7% in cohort 2 (P = .008). At 24 months of age, 7% of cohort 1 and 5% of cohort 2 had an abnormal neurologic exam. Bayley cognitive scores were improved in cohort 2 (significantly closer to the mean of their controls). As a result, survival without severe neurodevelopmental impairment increased from 62% in cohort 1 to 81% in cohort 2 (P<.001).

**Woodward, L., et al. (2009)** was conducted a prospective longitudinal study on "Very preterm children show impairments across multiple neurodevelopment domains by age 4 years". Data were gathered among 105 very preterm (< or = 33 weeks gestation) and 107 full term (FT) children born during 1998-2000. At 4 years corrected age, children underwent a comprehensive multidisciplinary assessment. **Result shows that at** age 4 years, compared to FT children, extremely preterm EPT and very preterm VPT children had increased risks of cerebral palsy (EPT 18%, VPT 15%, FT 1%), cognitive delay (EPT 33%, VPT 36%, FT 13%), language delay (EPT 29%, VPT 29%, FT 10%) and emotional/behavioural adjustment problems (EPT 37%, VPT 13%, FT 11%). EPT and VPT children were three times more likely to have multiple domain impairments than FT children (EPT 30%, VPT 29%, FT 10%).

**Sizun, J., & Wastrup, B**. **(2004)** was done a review on "Early Developmental Care for preterm neonates: a call for more research". Developmental Care is the use of a range of medical and nursing interventions to decrease the stress of preterm neonates in neonatal intensive care units. This article reviews the theory underlying such interventions and research based data in different scientific fields, including neuroscience, developmental and family psychology, medicine, and nursing. The conclusion is that more research is needed.

**Rivkees, S.A., et al. (2004**) was conducted a study on "Rest-activity patterns of premature infants are regulated by cycled lighting"**.** Premature infants who were born at <32 weeks' postmenstrual age and were medically stable in neonatal intensive care unit rooms were randomly assigned between 32 and 34 weeks' postmenstrual age to either continuous dim lighting or cycled lighting. Result shows Over the first 10 days at home, distinct day-night differences in activity were not seen in control subjects (D day-night: N 1.07 +/- 0.02), but experimental group infants were more active during the day than at night (day-night: 1.25 +/- 0.03). It was not until 21 to 30 days after discharge that day-night activity ratios in control infants matched those seen in experimental group infants shortly after discharge, yet even at this age, experimental group infants (day-night: 2.13 +/- 0.19) were considerably more active during the day than at night as compared with control subjects (day-night: 1.43 +/- 0.09).

**RESEARCH METHODOLOGY**

The technique used to structure a study and to gather and analyze information in a systematic fashion.

**-Polit and Beck**

Research methodology involves the systematic procedures by which the researcher starts from the initial identification of the problem to its final conclusion. It involves steps, procedures and strategies for gathering and analyzing data in a research investigation. **Denise F. Polit, 2012**

**DATA ANALYSIS**

Data Analysis is the process of systematically applying statistical and/or logical techniques to describe and illustrate, condense and recap, and evaluate data

Interpretation is one of the most essential tasks in a research process to frame the recommendations of a research study, so that empirical evidence generated through research process can be used during implementation phase of research study. Interpretation is a very subjective activity; it is not graduated with the scientific method and procedure. **Suresh k Sharma**

The analysis and interpretation of data collected from 300 samples of nursing students to evaluate the effectiveness of Developmental Care training programme among nursing students in selected colleges at Bilaspur district C.G.

**RESULTS**

**TABLE .1: FREQUENCY & PERCENTAGE DISTRIBUTION OF PRE AND POST TEST LEVEL OF ATTITUDE OF NURSING STUDENTS REGARDING DEVELOPMENTAL CARE n= 300**

| Attitude level | Score | Pre-test | | Post-test | |
|---|---|---|---|---|---|
| | | f | % | f | % |
| Unfavourable | 1-38 | 44 | 14.6% | 0 | 0% |
| Favourable | 39-75 | 256 | 85.5% | 300 | 100 % |
| Total | 75 | 300 | | 300 | |

Table 1 shows that in pre test 44(14.6%) subject had unfavorable attitude towards Developmental Care and 256 (85.5%) subjects had favorable attitude whereas in post-test all 300 (100%) subjects had favorable attitude.

**TABLE .2: COMPARISON OF THE PRE & POST TEST LEVEL OF ATTITUDE OF NURSING STUDENTS REGARDING DEVELOPMENTAL CARE n= 300**

| ATTITUDE | Mean | SD | t value | p value |
|---|---|---|---|---|
| Pre test | 28.8 | 6.52 | 13.46 | 0.000<.05 |
| Post test | 37.54 | 5.89 | | Highly Significant |

* 0.05 level of significance

Table 2 the pre test mean scores and standard deviation of attitude level was 28.8 ± 6.52 whereas the post test mean score and standard deviation was 37.54 ± 5.89 respectively. The calculated 't' value is 13.46 with the p value 0.000 is less than 0.05. The statistical analysis shows highly significant difference between mean pretest and post test attitude level. Hence H1 hypothesis is accepted. Therefore it was inferred that the Developmental Care training programme was effective to improve the attitude of nursing students.

**TABLE NO. 3 ASSOCIATIONS BETWEEN POST-TEST LEVELS OF ATTITUDE WITH DEMOGRAPHIC VARIABLES**

**n= 300**

| Demographic Variables | Level Of Attitude | | | | Chi Square | df | P Value |
|---|---|---|---|---|---|---|---|
| | Frequency | Poor | Average | Good | | | |
| **1. Sex** | | | | | | | |
| Male | 29 | 04 | 10 | 15 | 9.87 | 1 | 0.03 |
| Female | 271 | 41 | 100 | 130 | | | |
| **2. Educational Level** | | | | | | | |
| BSc | 182 | 19 | 78 | 85 | 21.89 | 2 | 0.000 |
| P B BSc | 60 | 15 | 25 | 20 | | | |
| GNM | 58 | 08 | 20 | 30 | | | |

Table 3 shows that there was an association between demographic variable (sex and level of education) of nursing student with post test attitude level**.** The statistically significant difference has found because p value 0.03 which is less than 0.0 5regarding attitude levels in between male and female. Similarly statistically highly significant difference has found because p value =.000 which is less than .05 regarding attitude levels at different level of educations.

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