A DESCRIPTIVE STUDY TO ASSESS THE DEVELOPMENTAL MILESTONES OF CHILDREN 1-5 YEARS OF AGE IN SELECTED COMMUNITY AREA OF UTTAR PRADESH

Project reports submitted in partial fulfilment for the award of the degree of

BACHELAOR OF NURSING

Submitted by

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BONAFIDE CERTIFICATE

Certified that this project report **"A Descriptive Study to Assess the Developmental Milestones of Children 1-5 Years of Age in Selected Community Area of Uttar Pradesh"** is the bonafide work of "Ms. Nidhi Shakya, Ms. Amina Tijjani Wudilawa, Ms. Priya Bhati" who carried out the project work under my supervision.

SIGNATURE OF DEAN **SIGNATURE OF SUPERVISOR**

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INDEX

LIST OF TABLES

LIST OF FIGURES

LIST OF ANNEXURES

ABSTRACT

"A descriptive study to assess the developmental milestones of children 1-5 years of age in Dankaur Village, Greater Noida, Uttar Pradesh 2022.**".**

BACKGROUND

A child is a young person especially between infancy and youth. Development is the process of growing to maturity & Developmental delay is the condition of a child being less developed mentally or physically than is normal for its age. As estimated by the World Health Organization (WHO), about 5% of the world's children 14 years of age and under have some type of moderate to severe disability.

OBJECTIVES

1. To assess the developmental milestones of children 1-5 years of age in selected community areas of Dankaur Village, Greater Noida, Uttar Pradesh.
2. To find the association of developmental milestones with selected socio-demographic variables.

MATERIAL AND METHOD:

A quantitative approach with descriptive research design was used for this study. The sample consisted of 120 1–5-year-old children in Dankaur Village, Greater Noida, Uttar Pradesh. The sample was chosen by using purposive sampling technique. The data was collected by using self-structured questionnaire. Prior to data collection, written permission from Sarpanch, Dankaur Village, Greater Noida, Uttar Pradesh was taken along with oral consent from mothers of children 1-5 years of age. Data was analyzed by using descriptive & inferential statistics.

RESULTS:

The major findings of the present study reveal that 1 out of 120(0.83%) have developmental delay, 15(12.5%) are slow at development and 104 (86.6%) have their milestones achieved. As per socio-demographic variables reveal that only maternal education and marital status of parents show significant association with developmental milestones while gender, birth weight, mother's health status during

pregnancy, birth spacing, health status of the baby, nutritional, any congenital disease had no significant relationship with developmental milestones.

CONCLUSION:

Developmental milestones are set of functional skills that most children perform within certain age range in parameters pertaining to physical, gross motor, fine motor, language, play stimulation and self-care. In developing countries like India due to lack of proper nutrition and care, suboptimal development of children persists and goes unidentified. As per WHO , about 5% of world's children 14 years of age and under have moderate and severe level of disability due to lack of timely assessment and measures. Therefore, regular assessment of developmental milestones needs to be done to assess for any developmental delay.

KEY WORDS

Assessment, Developmental milestones, Children

NTRODUCTION

CHAPTER-1

INTRODUCTION

Little Children are a treasure, their worth you cannot measure. - Ron Zupsic

BACKGROUND OF STUDY

Child development entails the biological, psychological and emotional changes that occur in human beings between birth and the end of adolescence, as the individual progresses from dependency to increasing autonomy. It is a continuous process with a predictable sequence, yet having a unique course for every child. It does not progress at the same rate and each stage is affected by the preceding developmental experiences. Because these developmental changes may be strongly influenced by genetic factors and events during prenatal life, genetics and prenatal development are usually included as part of the study of child development.

Physical development is divided into two areas, growth and development. Growth is the physical changes of, the increase in size, height and weight. Development is how children gain control over their physical actions to do complicated and difficult activities more skillfully and easily. Growth and development are linked because the development and improvement of physical skills depends on the size of the child and their muscular strength. Physical development will usually follow a sequence even though the age may vary. There are factors that can affect this sequence, such as a disability.

Physical development is divided into fine motor skills and gross motor skills such as running, crawling and swimming and picking up objects between the thumb and finger, writing carefully, and even blinking.[1]

In a developing country like India, the high prevalence of under-nutrition, iodine deficiency, iron deficiency, and inadequate parental care are important risk factors for sub-optimal development. Yet, health care providers at the primary level are mostly unaware of the importance of the timely acquisition of developmental milestones by children under their care. Moreover, not much information on the attainment of developmental milestones (timely, delayed or advanced) by children in community

settings is available in India. This is especially true for children belonging to the disadvantaged sections of society.

Rimple sharma[3] If such developmental problems are prevalent and there is a significant delay in the acquisition of competencies by children, then a strong case can be made for introducing the concept of developmental surveillance in primary health care, as is done for physical growth for millions of young children in India.

Arti gupta[4] As estimated by the World Health Organization (WHO), about 5% of the world's children 14 years of age and under have some type of moderate to severe disability. Hence, the present study is planned to assess physical development among children of age 1-5 years and to find the association with selected socio-demographic variables.

Puhan Mamata, Panda Anuradha (2017)[5] **conducted** A pre-experimental Study to assess the Effectiveness of Planned Teaching Programme on Knowledge Regarding Developmental Milestones of Children between 0–2 Years among Mothers at Chirvaltola Basti, BBSR, Odisha. It was found that there was significant association between posttest knowledge scores among mothers regarding developmental milestones of 0–2 years children when compared to area type of family of the mother at 5% level of significance.

Trine Flensborg-Madsen, Erik L. Mortensen (2017) [6] conducted a study to find Associations of Early Developmental Milestones with Adult Intelligence. Later attainment of a number of milestones was associated with lower adult IQ with the strongest associations found for those related to language and social interaction. The adjusted full-scale IQ means were 107.0, 101.8, and 100.6 for being able to form a sentence at less than 24 months, at 24 months, and later than 24 months.

Mwaba SOC, Ngoma MS (2014)[7] conducted a descriptive study on **t**he Effect of HIV on Developmental Milestones in Children. The Central Statistical Office's Living Conditions Survey of 2010 in Zambia indicated that amongst children aged between 3 to 59 months which is just under 6 years 48.3% of the children in the rural areas of Zambia were stunted and 42.3% were stunted in the urban areas with an

average stunted rate of 46.7% overall in the whole country. the result has established that 90% of the HIV positive children have neurological problems. HIV is a serious health concern in Zambia.

Shivani Rikhy, Suzanne Tough (2010)[8] conducted a cross sectional study to assess the knowledge of mothers on developmental milestones and concluded that the majority of adults were unable to correctly answer questions related to when children under six years of age typically achieve developmental milestones. Knowledge of physical development exceeded knowledge about cognitive, emotional and social development. Adults were aware of the importance of positive experiences in influencing children's development.

Malik M, Pradhan SK (2007)[9] conducted a cross sectional study for Psychosocial developmental screening of the infants in an urban slum of Delhi and studying the factors influencing the development. Conclusion was that the objective evaluation and screening for psychosocial development of infants living tin urban slums is necessary for early detection and intervention.

Andrade SA, Santos DN (2005)[10] conducted a cross sectional study To assess the association between quality of stimulation in the family environment and child's cognitive development considering the impact of mother's schooling on the quality of stimulation and concluded that Quality of stimulation in the family environment is crucial for child's cognitive development, besides the significant role of the available resources and family dynamics. The study findings show the pertinence to cognitive development of interventions which improve the quality of the environment and the child-caregiver relationship.

Khushbu Meshram, Archana Maurya (2005)[11] conducted an experimental study Effectiveness of Planned Teaching on Knowledge Regarding Developmental Milestones among the mothers of infant in selected Rural area of Wardha District Results: The study findings were in pretest knowledge score were seen into 4 categories, poor, average, good, and excellent. 8.33% of the mothers of infant had poor, 71.67% had average and 20% of them had good level of pretest knowledge score. Mean knowledge score was 6.93±1.83. in posttest knowledge score were

26.67% of the mothers of infants had good and 73.33% had excellent level of posttest knowledge score. Mean knowledge score was 13.35±1.41. Hence it is interpreted most of the parents understood about developmental milestones and its importance to find out the growth and developmental abnormalities easily.

NEED OF STUDY

Children's wellbeing is the basic concern of every nation. A healthy child brings happiness to the family, eternal joy to the parent and thrill to the society and hope to the nation. Children are the most valuable asset for any society. They are the builders of any nation. "Children health – tomorrow's wealth "children are priceless resources. Developmental delay is the worldwide problem especially among children of developing countries.

Arti gupta[4] As estimated by the World Health Organization (WHO), about 5% of the world's children 14 years of age and under have some type of moderate to severe disability. In the United States, developmental and/or behavioral disorders occur in 16-18% of children under 18 years of age. Other reported childhood disability prevalence includes Jamaica-15%, Pakistan-15%, and Bangladesh-8%. In India, sources have found prevalence of 1.5-2.5% of developmental delay in children under 2 years of age. These impairments impact not only the child and the family, but also the society, in terms of the cost of providing health care, educational support, and treatment services. Evidence supports that early treatment of developmental disorders leads to improved outcomes for children and reduced costs to society. However, studies in the US have shown only about 1/3 of children are identified prior to school entrance, and as a result, miss out on the proven long-term benefits of early intervention.

Maria-Mengel MR, Martins Linhares MB. Et al (2007) [14] This descriptive-correlational study aimed to detect risks for child developmental problems in the first four years of age, to identify the protective resources in the familiar environment, and to verify the best predictive variables of the development at risk. It is concluded that screening tests of risk for developmental problems and the analysis of the psychosocial factors in the familiar context should be considered as preventive intervention procedure in the Family Health Programs.

Suraj J Masih, Karobi Das, et al (2006)[15] conducted A descriptive cross-sectional study at village Dadu Majara, UT, Chandigarh to assess the developmental milestones and the health of toddlers. A total of 160 children between the age group of 12 to 24 months comprised the sample of the study and concluded the physical health assessment revealed that children were suffering from varied degrees of malnutrition ranging from grade I to grade IV. About 15.6% of subjects were found with abnormal physical characteristics. Illnesses (15 days prior to the study) were mostly fever, cough, loose stools, prickly heat, vomiting and enlarged cervical lymph nodes.

Due to modernization, there is increase in maternal risk factors which in turn impose a great threat on children's growth and development pattern. A child is a vital part of the society and they are the future of the country hence there is a need to assess developmental milestones as a part of preventive nursing.

PROBLEM STATEMENT

A descriptive study to assess the developmental milestones of children 1-5 years of age in selected community areas of Dankaur Village, Greater Noida, Uttar Pradesh.

AIM OF THE STUDY

To assess the developmental milestones of children 1- 5 years of age.

OBJECTIVES

- To assess the developmental milestones of children 1-5 years of age in selected community areas of Dankaur Village, Greater Noida, Uttar Pradesh.
- To find the association of developmental milestones with selected Socio-demographic variables.

HYPOTHESIS

H_1: There will be a significant association between developmental milestones with selected Socio- demographic variables at 0.05 level of significance.

OPERATIONAL DEFINITION

Assessment

The process of considering the amount or values of something, or decision that is made.

Developmental milestones

Developmental milestones are the set of functional skills or age- specific tasks that most children can do at a certain age range,

Children of 1-5 years

1 year – includes a child from 6 months till 1 year 6 months of age

2 years – includes a child from 1 year 6 months till 2 years 6 months of age.

3 years – includes a child from 2 years 6 months till 3 years 6 months of age.

4 years – includes a child from 3 years 6 months till 4 years 6 months of age.

5 years – includes a child from 4 years 6 months till 5 years 6 months of age.

INCLUSION CRITERIA

- Children of 1-5 years
- Children who are mentally or physically handicapped
- Children available at the time of data collection
- Mothers who are willing for the assessment

EXCLUSION CRITERIA

- Mothers who are not willing for the assessment.
- Children who are not well at the time of data collection.
- Children who are not available at home.

DELIMITATIONS

- The study was delimited to 120 samples.
- The study was delimited to children 1-5 years of age in selected areas of Dankaur Village, Greater Noida, Uttar Pradesh.
- The study was delimited to time period given for research.

CONCEPTUAL FRAMEWORK

A theory is a group of related concepts that propose action that guide practice. Theory refers to "a coherent group of general principle of explanation."

A nursing theory is a set of concepts, definition, relationship and assumptions or proposition derived from nursing models or from other disciplines and project a purposive, systematic view of phenomena by designing specific interrelationship.16 "Theory; a set of interrelated constructs, definition and propositions that present a systematic view of phenomena by specifying relations among variables, with the purpose of explaining and predicting the phenomena." – FREDRICK KERLINGER Theories are composed of concepts; definition, models, and proposition are based on assumptions.

It presents logically constructed and concepts to provide general explanation of relationship between the concepts of the research study, without using researcher's own experiences, previous research findings, or concepts of several theories or models.

COMPONENTS OF MODELS

GESSEL'S DEVELOPMENTAL THEORY

Gesell's theory is known as a maturational-developmental theory. This process is comprised of both internal and external factors. The intrinsic factors include genetics, temperament, personality, learning styles, as well as physical and mental growth. Simultaneously, development is also influenced by factors such as environment, family background, parenting styles, cultural influences, health conditions, and early experiences with peers and adults. Gesell was the first theorist to systematically study the stages of development, and the first researcher to demonstrate that a child's developmental age (or stage of development) may be different from his or her chronological age.

Cyclic spiral

According to Gesell, growth can be thought of as a cyclical spiral. Each cycle of the spiral encompassing the time it takes to move through six stages, or half-year increments. Gesell's cycles of development are divided into six well-defined stages

which are repeated throughout life. One cycle includes the following stages: Smooth, Break-Up, Sorting Out, Inward zing, Expansion, and Neurotic "Fitting Together".

MATURATIONAL DEVELOPMENTAL THEORY)[17]

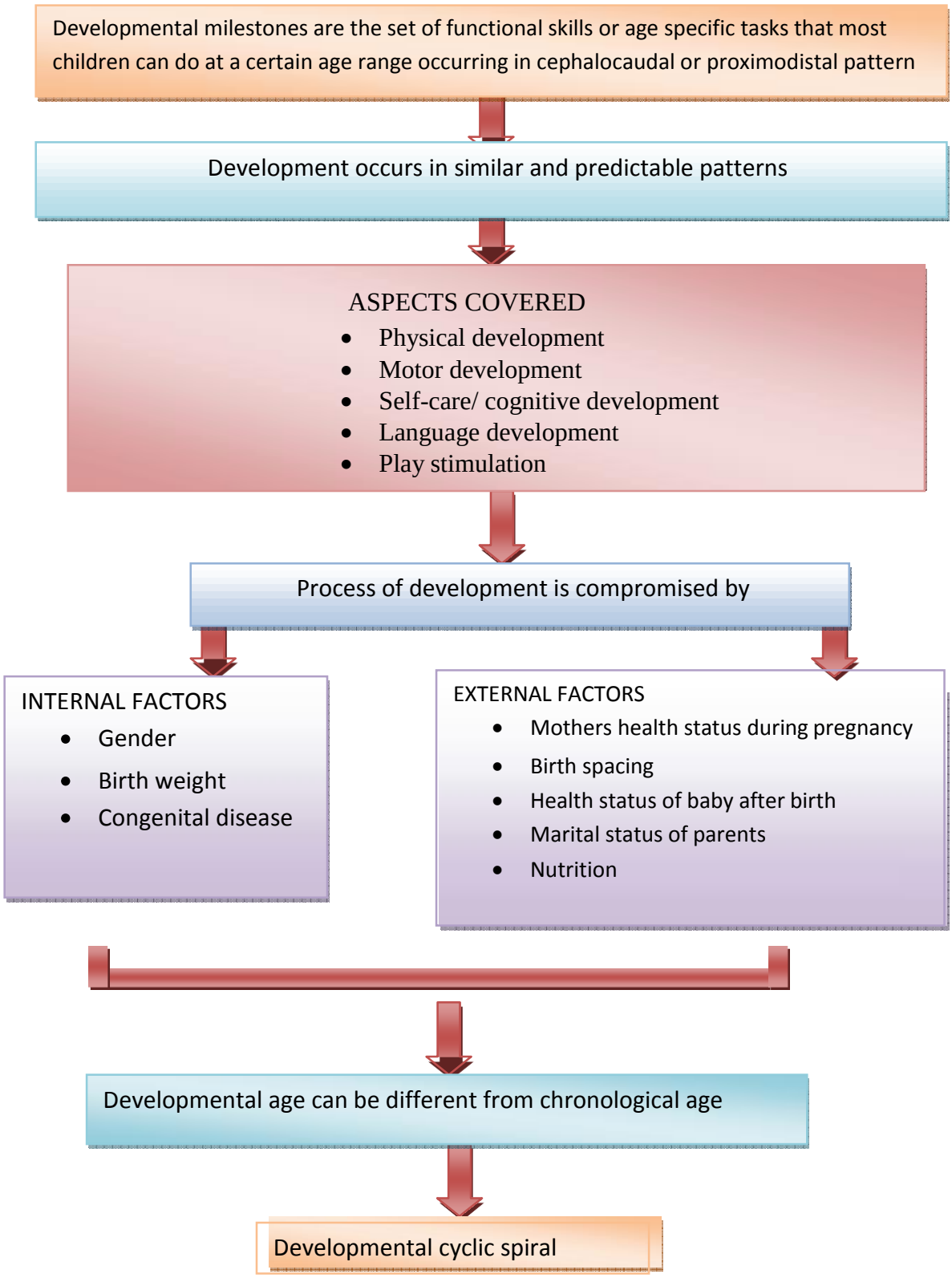
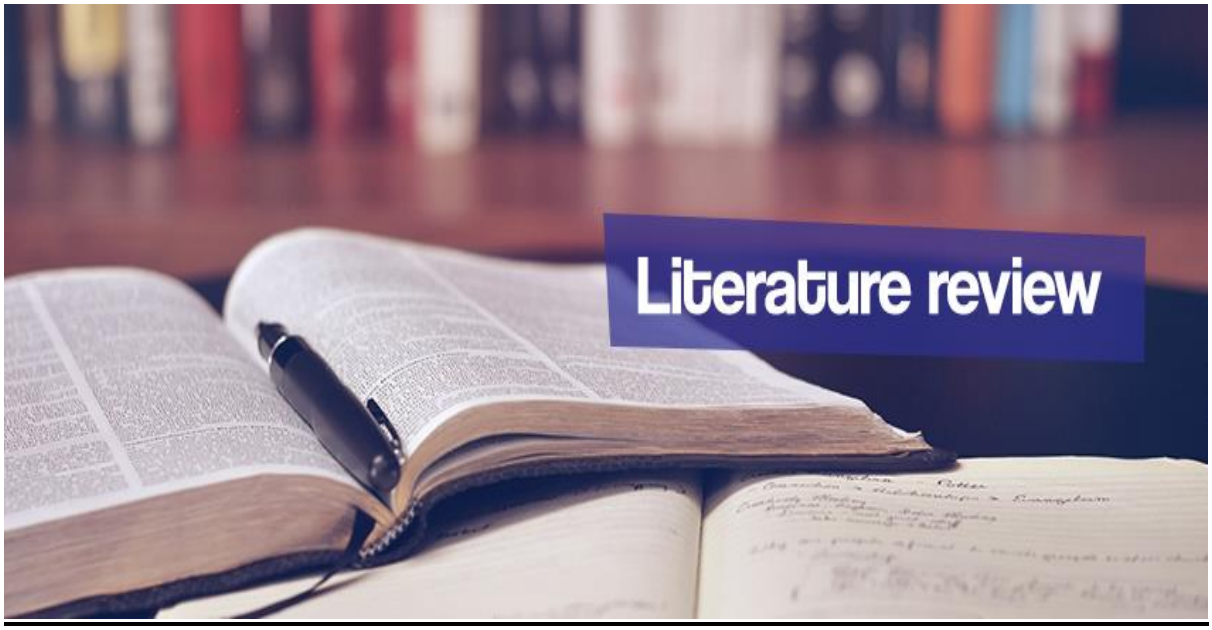


Figure 1: Flowchart of Gessel's Developmental Theory

REVIEW OF LITERATURE



CHAPTER 2
REVIEW OF LITERATURE

"The only thing you absolutely have to know is the location of the liberary."[18]
-Albert Einstein

INTRODUCTION

The purpose of review of literature was to gain an insight into the various aspects of the problem under study such as design, method, instruments, measures and techniques of data collection that may proof useful in the proposed project.

Polit and hungler 2003 "A literature review is a written summary of the existing knowledge on a research problem. The task of reviewing research literature involves the identification, selection, critical analysis and written description of existing information" [19]

1. Ms Puhan Mamata, Mrs. Panda Anuradh , (2017)[15] **conducted** A pre experimental Study to assess the Effectiveness of Planned Teaching Programme on Knowledge Regarding Developmental Milestones of Children between 0–2 Years among Mothers at Chirvaltola Basti, BBSR, Odisha .A Pre experimental research design where one group pre test post test was undertaken on 50 mothers of chrivaltola basti, Bhubaneswar, odisha selected by convenient sampling technique. Data was collected through closed ended multiple choice questionnaires with selected variables age, religion, education, occupation, type of family, age of children in the family and sources knowledge. The data collected were analyzed by using descriptive and inferential statistics. Area wise post test highest mean percentage (93.45%) with mean (10.28) f. The lowest mean percentage in post test is (89.38%) with mean score (11.62) for area. Area wise post test highest mean score is (10.28±0.93) with mean percentage 93.45% for the area "developmental milestones of 0–6 months children''. The lowest post tests mean score is (11.62±1.01) with mean percentage 89.38% for the area "developmental milestones of 13–24 months of children''. A significant difference between pre test and post knowledge was found. (t-45.6, $p \leq 0.05$). It shows that chi square is calculated to find out the association between post test knowledge

scores of the mothers with their selected demographic variables. It was found that there was significant association between post test knowledge scores among mothers regarding developmental milestones of 0–2 years children when compared to area type of family of the mother at 5% level of significance.

2. Trine Flensborg-Madsen ,ErikL. Mortensen (2017)[6] descriptive study to assess the Associations of Early Developmental Milestones With Adult Intelligence .The study investigated whether age at attainment of 20 developmental milestones within the areas of language, walking, eating, dressing, social interaction, and toilet training was associated with adult intelligence. Mothers of 821 children of the Copenhagen Perinatal Cohort recorded 20 developmental milestones at a 3 year examination, and all children were administered the Wechsler Adult Intelligence Scale when they were 20–34 years old. Later attainment of a number of milestones was associated with lower adult IQ with the strongest associations found for those related to language and social interaction.

3. Dabar Deepti,Ranjan Das (2016)[22] conducted a community based cross sectional study on Growth and Development of Under-Five Children in an Urbanized Village of South Delhi.To assess the socio-emotional and cognitive development in children 0–5 years and to find out the proportion of children having developmental delay and its associated factors.A community-based cross-sectional study was carried out in 520 children .Development was assessed using the Indian Council for Medical Research Development ScreeningTest.In all, 10.6% of children<5 years old were found to be developmentally delayed.Maximum number of children (10.1%) were found to have a delay in the do main of 'hearing lan-guage, concept development'. Of all the factors, the strongest association was found with stunting,paternal education, alcohol abuse, attendance in anganwadi/playschool.The study concludes that developmental delay is present in a sizable proportion of children<5 years of age and may be a significant factor in the overall achievement of life's potentialin them.

4. Gupta Arti, mani kalvaini (2016)[20] conducted a cross sectional study on achievement of motor milestones and associated factors among children in rural North India .A pretested questionnaire was used to collect the data. The median age at the time of the highest observed milestone was calculated and compared with the WHO

windows of achievement.Overall, 221 children aged 4–18 months were included in the study. The median age of motor development exhibited a 0.1–2.1-month delay compared to the WHO median age of motor milestone achievement. The prevalence of the gross motor milestone achievements for each of the six milestones ranged from 91.6% to 98.4%. Developmental delay was observed in 6.3% of the children. After adjusting for different variables, children with birth order of second or more were found to be significantly associated with the timely achievement of gross motor milestones.Conclusion of the study was that The apparently healthy children of the rural area of Haryana achieved gross motor milestones with some delay with respect to the WHO windows of achievement. the median value of this delay was low.

5. Pauline Ejemen Osamor, Bernard Owumi, (2015)[32] research is to explore the socio-cultural context of developmental milestones in infancy in a Nigerian community. In-depth interview was conducted with 30 mothers enrolled from an infant welfare clinic, southwest, Nigeria The transcripts were coded and analyzed using the Atlas ti 7.0 software package in a combination of thematic and narrative approaches. Mean age of participants was 33.3 (SD 5.1) years, 73% were married, 80% had two or more older children. Mothers expect that a child will be able to sit unaided, crawl and be able to stand by the age of one year. Opinion was divided about if it was possible to predict the age a child will attain a specific milestone. Most mothers reported that the age at which babies attain developmental milestones depends on childrearing practices utilized by the mother. Other factors they perceive as influencing developmental milestones include: having siblings, the age at which siblings and/or parents achieve similar milestones and the environment the child is reared in. Teething was considered an important milestone which has specific culture-bound connotations. Walking was considered one of the most significant milestones, not only indicating normal development but also signifying some independence for both mother and child.

6. **Mukherjee SB, Aneja S(2014)**[25] conducted a exploratory study Incorporating developmental screening and surveillance of young children in office practice. Objective was To review existing developmental screening and monitoring tools for children validated in Indian under-five children, and provide a proposed practice

paradigm for developmental screening in office practice.Scientific papers were retrieved by an electronic database search using MeSH terms 'screening tool', 'developmental delay', and filter of 'children under 5 years'. Those relevant to office practice and validated internationally or in Indian children were reviewed.Screening tools applicable to Indian office practice have been compared and certain tools have been recommended according to the level of risk of developmental delay. An algorithmic approach to screening has been given along with strategies for incorporation. Conclusion was that Screening and surveillance for high risk of developmental delay are essential components of child health care. It is possible to incorporate both into routine practice.

7. Saini Kamla (2014)[23] Conducted a descriptive study to assess the knowledge of mothers regarding developmental milestones of infants in selected hospital of Ludhiana Punjab was undertaken with the objectives to assess the knowledge of mothers regarding developmental milestones of infant and to ascertain the relationship of knowledge of mothers with selected demographic variables. The study sample consisted of total 100 mothers of infants from child care areas. Data was analyzed by inferential statistics and presented through tables and figures. Findings revealed that maximum number of mothers (53%) had good knowledge score regarding developmental milestones of infants. Mean percentage and rank order of knowledge score was highest in introduction (63% and rank 1st) and lowest in the area of social development (21% and rank 6th). Variables i.e. age, parity, educational status, occupation, monthly family income, source of information, place of living and number of children were found to be non-significant.

8. Mwaba SOC, Ngoma MS, (2014) [7] conducted a descriptive study on the Effect of HIV on Developmental Milestones in Children.The Central Statistical Office's Living Conditions Survey of 2010 in Zambia indicated that amongst children aged between 3 to 59 months which is just under 6 years 48.3% of the children in the rural areas of Zambia were stunted and 42.3% were stunted in the urban areas with an average stunted rate of 46.7% overall in the whole country.HIV has been linked to a wide range of developmental challenges such as cognitive development stagnation, neurological problems, learning difficulties and speech and language problems. Though it is difficult to isolate its singular effect on the neurological status of children

infected with it, the result has established that 90% of the HIV positive children have neurological problems. HIV is a serious health concern in Zambia.

9.**Rikhv Shivani Suzzane Tough, (2010)**[8] conducted a cross sectional study to asses the knowledge of mothers on developmental milestones. Computer assisted telephone interviews were completed with 1443 randomly selected adults. Adults were eligible if they had interacted with a child less than 14 years of age in the past six months and lived in Alberta, Canada.Sixty three percent of respondents answered two (or more) out of four questions on physical development correctly. Fifteen percent of respondents answered two (or more) out of three questions on cognitive development correctly. Seven percent of respondents answered three (or more) out of five questions on social development correctly. Two percent of respondents answered three (or more) out of five questions on emotional development correctly. Parents and females were better able to identify physical developmental milestones compared to non-parents and males. 81% of adults correctly responded that a child's experience in the first year of life has an important impact on later school performance, 70% correctly responded that a child's ability to learn is not set from birth, 50% of adults correctly responded that children learn more from hearing someone speak than from television, and 45% recognized that parents' emotional closeness with a baby influences later achievement. Among parents, there was no relationship.Conclusions was that The majority of adults were unable to correctly answer questions related to when children under six years of age typically achieve developmental milestones. Knowledge of physical development exceeded knowledge about cognitive, emotional and social development. Adults were aware of the importance of positive experiences in influencing children's development.

10. **Ade A, Gupta SS,** (2010)[33] conducted a case control study to asses the Effect of improvement of pre-school education through Anganwadi center on intelligence and development quotient of children. Eight Anganwadi centers were selected using simple random sampling out of sixteen Anganwadi centers in Talegaon PHC area where intervention was done. Ten children in age group of 4-6 years were selected randomly from each of the eight Anganwadi center in intervention arm. For each child from intervention arm, one agematched child was selected from the matched Anganwadi center. For each subject, Intelligence Quotient and Development Quotient

were assessed.Mean Development Quotient (DQ) and Intelligence Quotient (IQ) values were higher among children in intervention Anganwadi centers (16.2 points for DQ and 10.2 points for IQ). This difference was found statistically significant (p = <0.01). Mean DQ among boys was found 10.1 points higher than that among the girls in control arm, this was statistically significant. According to multivariate linear regression model, the determinants of DQ were: intervention; age of the child; education of mother; sex of child; and PEM grade and the determinants for IQ were: intervention; age of the child; and income.This study shows that intervention to improve the Early Childhood Education and Development.

11. Sachdeva , Amir A (2010)[29] conducted a Cross sectional descriptive study in field practice areas of the Department of Community Medicine, JN Medical College, Aligarh, India. A total of 468 (243 boys and 225 girls) children aged 0-3 years were included. Developmental screening was performed for each child. A multitude of biological and environmental factors were analysed. As many as 7.1% of the children screened positive for global developmental delay. Maximum delay was observed in the 0-12 months age group (7.0%). Undernutrition and prematurity were the two most prevalent etiological diagnoses (21% each). Stunting and maternal illiteracy were the micro environmental predictors on stepwise binary logistic regression while prematurity and a history of seizures emerged significant biological predictors. conclusion was that Developmental delay can be predicted by specific biological and environmental factors which would help in initiating appropriate interventions.

12. **Santos DN, Assis AM, Bastos A (2008)**[28] conducted a cohort study on Determinants of cognitive function in childhood in a middle income context. This cohort study collected data on family socioeconomic status, household and neighborhood environmental conditions, child health and nutritional status, psychosocial stimulation and nursery school attendance. The effect of these on Wechsler Pre-School and Primary Scale of Intelligence scores at five years of age was investigated using a multivariable hierarchical analysis, guided by the proposed conceptual framework. Unfavourable socioeconomic conditions, poorly educated mother, absent father, poor sanitary conditions at home and in the neighborhood and low birth weight were negatively associated with cognitive performance at five years of age, while strong positive associations were found with high levels of domestic

stimulation and nursery school attendance. Conclusion was Children's cognitive development in urban contexts in developing countries could be substantially increased by interventions promoting early psychosocial stimulation and preschool experience, together with efforts to prevent low birth weight and promote adequate nutritional status.

13. **Maria-Mengel MR, Martins Linhares MB. (2007)**[26] This descriptive-correlational study aimed to detect risks for child developmental problems in the first four years of age, to identify the protective resources in the familiar environment, and to verify the best predictive variables of the development at risk. The non-clinical sample was composed by 120 children registered in a Family Health Program. The assessment instruments for global development, expressive language and familiar environment were used. The logistic regression analysis indicated that the lower the father's educational level, the higher the risk for developmental problems. Both the history of low nutritional state at six months of age and the psychosocial risk in the family environment increased the chances of having expressive language problems. It is concluded that screening tests of risk for developmental problems and the analysis of the psychosocial factors in the familiar context should be considered as preventive intervention procedure in the Family Health Programs.

14. **Malik M, Pradhan SK, (2007)**[9] conducted a cross sectional study for Psychosocial developmental screening of the infants in an urban slum of Delhi and studying the factors influencing the development. In this cross-sectional study 202 infants and their mothers were included. Psychosocial Development Screening Test developed by Indian Council of Medical Research was used to assess the development status of infants, and the mothers were interviewed for socio-demographic details .Infants who achieved milestones in time were 92.5% for personal skills, 91.8% for hearing language and concept development and 90.6% for gross motor milestones, respectively. These percentages were lower for Vision and fine motor (88.6) and social skills (81.4). Sex of the infant and socioeconomic status of their families significantly influences the few domains of development. Other factors like age of the infant, literacy of their mothers were not significantly influencing the development of infants. Conclusion was that The objective evaluation and screening for psychosocial

development of infants living tin urban slums is necessary for early detection and intervention.

15. J Masih Suraj, Karobi Das (2006)[21] conducted A descriptive cross-sectional study at village Dadu Majara, UT,Chandigarh to assess the developmental milestones and the health of toddlers. A total of 160 children between the age group of 12 to 24 months comprised the sample of the study. The achieved developmental milestones were assessed with the help of the Denver Development Screening Test. Majority of the children were able to achieve the developmental milestones. Some of the activities that the children had difficulty according to their age were broad jump, pedaling tricycle, jumping inplace (gross motor), imitating vertical line, tower of 4 and 8 cubes (fine motor), points one namedbody part, naming a picture, use of plurals and combining two different words (language) andremoving gannents (personal social). The physical health assessment revealed that children weresuffering from varied degrees of malnutrition ranging from grade I to grade IV. About 15.6% of subjectswere found with abnormal physical characteristics. Illnesses (15 days prior to the study) were mostly fever, cough, loose stools, prickly heat, vomiting and enlarged cervical lymph nodes.

16. **Andrade SA, Santos DN (2005)**[10] conducted a cross sectional study To assess the association between quality of stimulation in the family environment and child's cognitive development considering the impact of mother's schooling on the quality of stimulation.A cross-sectional study comprising 350 children aged 17-42 months was carried out in central and peripheral areas of Salvador, Northeastern Brazil, in 1999. A socio-economic questionnaire was used, along with the Home Observation for Measurement of the Environment Scale (HOME Inventory), and the Bayley Scale for Infant Development. Bivariate and multivariate analyses were carried out through linear regression at 5% level of significance.There was a positive (beta=0.66) and statistically significant association between quality of stimulation in the family environment and child's cognitive development. Part of the effect was mediated by the mother's working circumstances and educational level. It was verified that a better quality of stimulation is provided for those who come early in the birth order in family, and live with only a few others under five years of age. This pattern of stimulation is better among children who live with their parents and whose mothers

have better education, have a job and a partner involved in the family environment.conclusions was that Quality of stimulation in the family environment is crucial for child's cognitive development, besides the significant role of the available resources and family dynamics. The study findings show the pertinence to cognitive development of interventions which improve the quality of the environment and the child-caregiver relationship.

17. **Isaranurug S, Nanthamongkolchai S (2005**)[24] Conducted a study on Factors influencing development of children aged one to under six years old in four provinces across Thailand. Two sub-districts or communities were selected from each province. The population covered in the present study were 193 children aged one to under three years and 251 children aged three to under six years, and their main caregivers. The data was collected from April to September 2000. Denver II test kit was used to test the child development and a questionnaire was used to collect family and child factors. The results of analysis using Logistic Regression found that risk factors for lower child development among children aged one to under three years were father's education at the primary school level or lower (OR = 3.0 , 95%CI = 1.14, 7.9) and not having good household environments (OR = 2.9, 95%CI = 1.28, 6.8). The risk factors for lower development among children aged three to under six years were father's education at the primary school level or lower (OR = 3.57, 95% CI = 1.74, 7.32) and inappropriate child raising (OR = 2.72, 95%CI = 1.48, 4.99). Families with fathers having a low level of education, inappropriate household environments or inappropriate child raising should receive assistance so that children can have appropriate development for their age level.

18. **Walker SP, Chang SM, (2004)**[30] conducted a study to determine the effect of psychosocial intervention on the development of LBW infants and to compare term LBW and normal-birth-weight (NBW) infants Term LBW (n = 140) and NBW infants (n = 94) were enrolled from the main maternity hospital in Kingston, Jamaica. The LBW infants were randomly assigned to control or intervention comprising weekly home visits from birth to 8 wk and from 7 to 24 mo of age. Development was assessed at 15 and 24 mo with the Griffiths Scales. The intervention benefited the infants' developmental quotient (DQ, $P < 0.05$) and performance subscale at 15 mo ($P < 0.02$), the hand and eye ($P < 0.05$) and performance subscales ($P < 0.02$) at 24 mo,

and home environment at 12 mo. The effect of the intervention on development was mediated in part by the improvement in the home environment. The control LBW infants had significantly lower scores than the NBW in DQ and several subscales, whereas there were no significant differences between the NBW and the LBW infants after intervention. In conclusion, term LBW was associated with developmental delays, which were reduced with psychosocial intervention.

19. **Gardner JM[1], Walker SP (2003)**[31] conducted a randomized controlled trial To determine whether early psychosocial intervention with low birth weight term (LBW-T) infants improved cognition and behavior and to compare LBW-T with normal birth weight (NBW) infants.A randomized controlled trial was carried out in Kingston, Jamaica, with 140 LBW-T infants (weight<2500 g). The intervention comprised weekly home visits by paraprofessionals for the first 8 weeks of life aimed at improving maternal-child interaction. LBW-T and 94 matched NBW (weight 2500 to 4000 g) infants were recruited from the main maternity hospital. Main outcome measures were problem solving (2 means-end tests: cover and support) and 4 behavior ratings at 7 months. Analyses used were the t test for intervention effects and multiple regression to compare LBW and NBW infants.LBW-T intervened infants had higher scores than LBW-T control infants on the cover test (P<.05) and were more cooperative (P<.01) and happy (P<.05). LBW-T control infants had poorer scores on both the cover (P<.001) and support tests (P<.01), vocalized less (P<.02), and were less cooperative (P<.001), happy (P<.02), and active (P<.02) than NBW infants. LBW-T intervened infants had lower scores than NBW infants only on the support test (P<.05).Conclusion was that Early low-cost intervention can improve cognition and behavior of LBW-T infants in developing countries.

20. **Cadarette SM, Liu Y (2001)**[27] conducted a descriptive study to determine biological, social and environmental correlates of poor development among preschool children. Baseline data from the Canadian National Longitudinal Survey of Children and Youth (NLSCY, a population-based study of child health, development and well-being), A total weighted sample of 1233 500 (n = 6982 unweighted) children aged from birth to 3 years were studied. Developmental attainment was measured by the motor, social and development (MSD) scale. Children scoring amongst the lowest 15% for their age group were categorized as having poor developmental attainment

(PDA). Correlates of PDA were determined using logistic regression. The MSD scale may not be discriminatory enough to identify PDA in children aged < 1 years. Among children aged between 1 and 3 years, biological factors remain important correlates of PDA, whereas the timing of social and environmental factors appears important to their effects on developmental attainment. The findings suggest a complex relationship between risk factors and developmental outcomes. Correlates of PDA vary according to the age of a child. Social and environmental factors appear to play a larger role among older children. Prospective studies are required to determine the effect of change in risk factor profiles on child development.

21. Meshram Khushbu, Archana Maurya,[11] conducted a experimental study Effectiveness of Planned Teaching on Knowledge Regarding Developmental Milestones among the Mothers of infant in selected Rural area of Wardha District 60 subjects recruited based on inclusion criteria, and utilized the technique of Non probability convenience sampling. Pre experimental one group pre test post test without control group used, the instruments were structured questionnaires and the planned teaching was given after the pre test. Results: The study findings were in pre test knowledge score were seen into 4 categories, poor, average, good, and excellent. 8.33% of the mothers of infant had poor, 71.67% had average and 20% of them had good level of pre test knowledge score. Mean knowledge score was 6.93±1.83. in post test knowledge score were 26.67% of the mothers of infants had good and 73.33% had excellent level of post test knowledge score. Mean knowledge score was 13.35±1.41. Hence it is interpreted most of the parents understood about developmental milestones and its importance to find out the growth and developmental abnormalities easily.

SUMMARY

This chapter deals with review of literature of related research and in research articles about developmental milestone in under five children under different determinant that affect the growth and development. The literature review help the researcher in preparation od data collection tool and plans of data analysis.

METHODOLOGY

CHAPTER – 3
METHODOLOGY

Methodology is the process of collecting information and data for the purpose of making decisions which comprises the theoretical analysis of the body of methods and principles associated with a branch of knowledge.

The study is to be conducted in single phase where it includes developmental milestones in 1-5 years children.

This chapter includes:

- Research approach
- Research design
- Research setting
- Target population
- Sample
- Sample size
- Sampling technique
- Inclusive criteria
- Exclusive criteria
- Variables
- Independent variable
- Dependent variable
- Selection and development of tool
- Description of tool
- Validity of tool
- Reliability of tool
- Pilot study
- Procedure for data collection
- Ethical consideration
- Plan for data analysis
- Summary

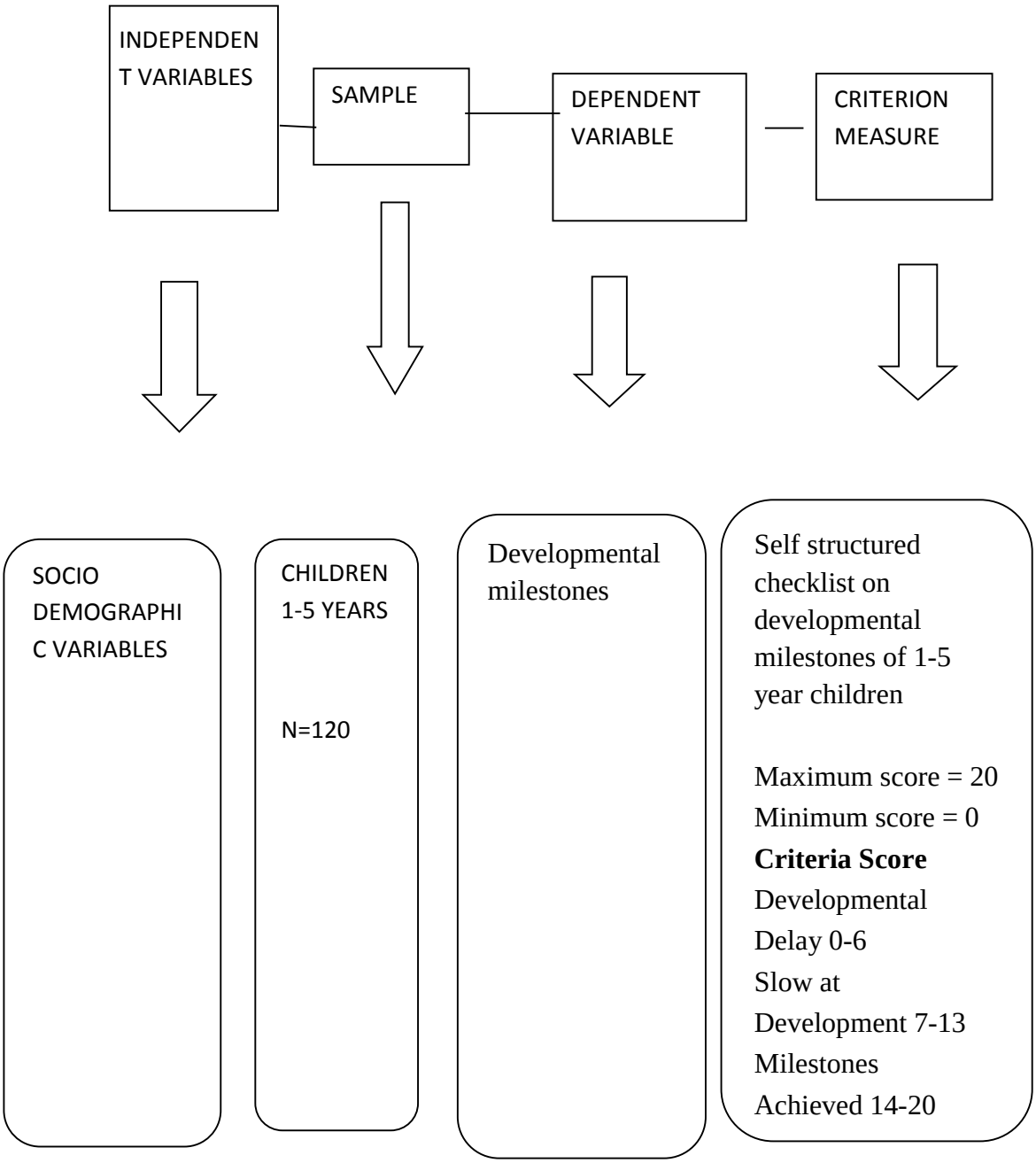


Figure 2. Research Design

Research Approach

"Research approach refers to researchers overall plan for obtaining answers to researchers' questions and for testing research hypothesis"

Research approach used in the study is quantitative approach for testing objective theories by examining the relationship among variables.

Research Design

According to David J Luck and Ronald S Rubin,

"A research design is the determination and statement of the general research approach or strategy adopted for the particular project. It is the heart of planning."

A non- experimental cross-sectional design was considered appropriate to assess the developmental milestones in children aged 1-5 years in selected community areas, Dankaur village Uttar Pradesh.

Variables

The variables for the study are as follows:

A. Independent Variable

- Gender
- Birth weight
- Mother's health status during pregnancy
- Birth spacing
- Health status of baby after birth
- Marital status of parents
- Nutrition (Breastfeeding / weaning)
- Any congenital disease
- Type of family
- Socio economic status
- Maternal education

B. Dependent Variable

- Developmental milestones

Research Setting

The research setting is the location in which the research is conducted.

The research is conducted in natural setting i.e., selected community Dankaur Village Greater Noida, Uttar Pradesh. The sample was collected from Dankaur Village. The total number of children were 120. The reason of selection of this area was researcher's familiarity with the setting, feasibility and expected cooperation from authorities in getting permission for conducting study.

Target Population

According to Talbot,

"A population is a group whose members possess specific attributes that researcher is interested in studying."

The target population for the study is children of 1-5 years residing in selected community areas.

Sample and Sampling Technique

Sample used for present study were 120 children of 1-5 years selected by non-probability purposive sampling technique in Selected community area Dankaur village Uttar Pradesh.

Criteria For Sample Selection

A. Inclusion Criteria

Inclusion criteria are characteristics that the prospective subjects must have if they are to be included in the study.

Inclusion criteria for the study is as follows:

- Children of 1-5 years
- Children who are mentally or physically handicapped
- Children available at the time of data collection
- Mothers who are willing for the assessment

B. Exclusion Criteria

Exclusion criteria are those characteristics that disqualify prospective subjects from inclusion in the study.

Exclusion criteria for the study are as follows:

- Mothers who are not willing for the assessment.
- Children who are not well at the time of data collection.
- Children who are not available at home.

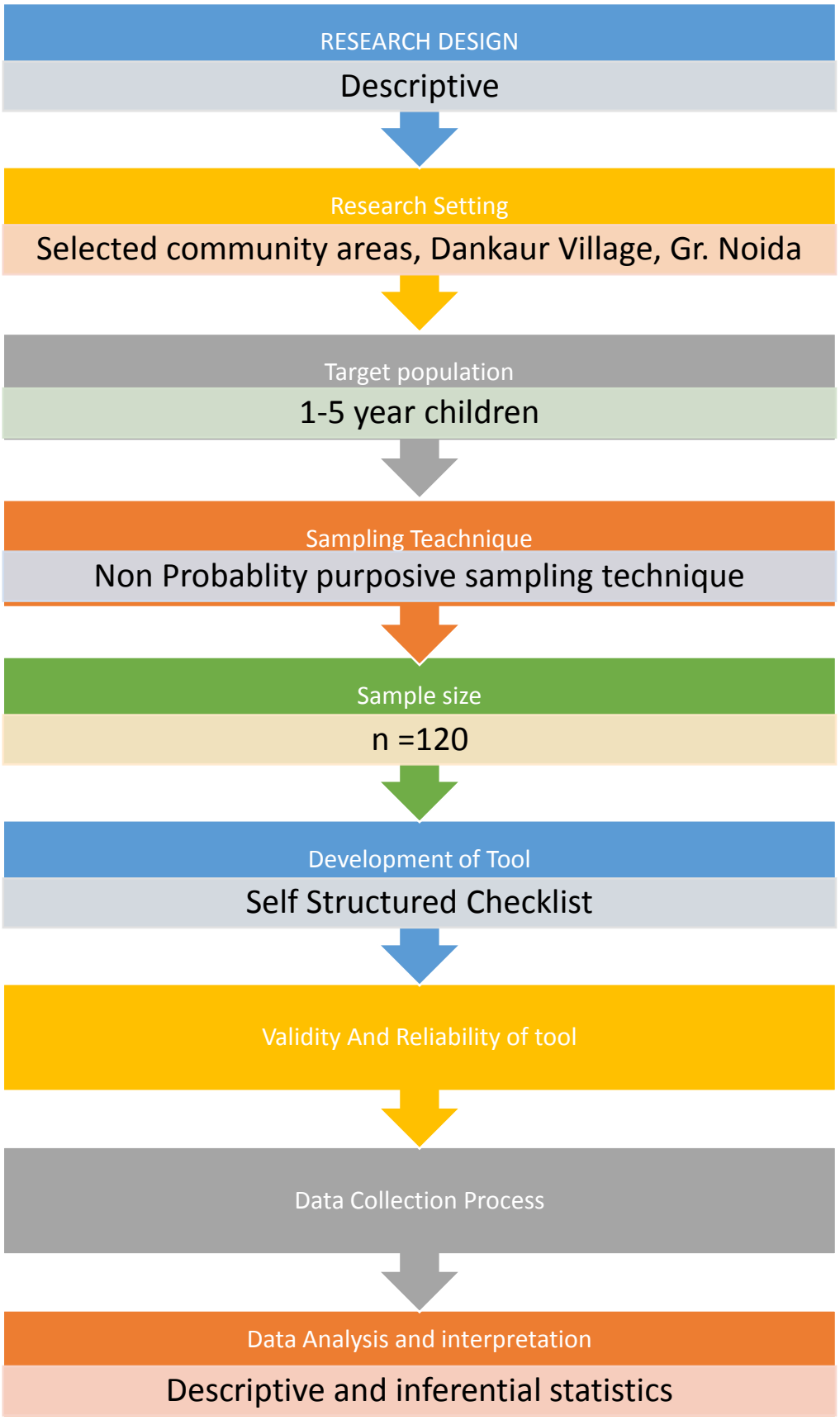


Figure 3: Research Methodology Flowchart

Selection and development of tool

Development of the tool was done after the extensive review & study of literature, opinions & suggestions from experts in the field. A self structured checklist was used to assess the developmental milestones of 1–5-year children.

Description of tool

A self structured checklist was used to assess the developmental milestones of 1–5-year children.

An intensive review of literature, experts' opinion and suggestions of the research panel, researcher's professional experiences and informal interview with the mothers of children provided the basis for the construction of self-structured checklist.

The tool consists of following two sections:

Section– A: Socio– Demographic Variables

It consists of sample characteristics of children 1-5 years of age. It comprised of 8 items for obtaining information regarding gender, birth weight, mother's health status during pregnancy, birth spacing, health status of baby after birth, marital status of parents, nutrition (breastfeeding / weaning), any congenital disease, type of family, socioeconomic status and maternal education.

Section B: Self structured checklist

Blue print was prepared & marks were distributed according to objectives to be attained.

The tool consists of 20 parameters prepared for assessment of developmental milestones in children of age 1-5 years.

Each parameter has two possibilities i.e. yes or no. For each parameter present in child(yes), the child is given 1 mark& for any absence of parameter(no), the child is marked 0.

Parameters are related to following aspects:

PARAMETERS	NUMBER OF ASPECTS ASSESSED
PHYSICAL	6
GROSS MOTOR	3
FINE MOTOR	2
LANGUAGE	4
PLAY STIMULATION	3
SELF CARE SKILLS	2

Total items : 20
Maximum Score :20
Minimum score :0

Criterion Measure

The criterion measure used in the study was checklist parametric developmental score on developmental milestones in 1–5-year children. The checklist parametric developmental score refers to the total score on parameter items in self structured checklist.

CRITERIA	SCORING
DEVELOPMENTAL DELAY	0-6
SLOW AT DEVELOPMENT	7-13
MILESTONES ACHIEVED	14-20

Validity of tool

The prepared tool along with the objectives, operational definitions, criteria for validation and scoring key was submitted to different field experts of nursing of GSON to establish content validity. The experts were requested to give valuable suggestion for purpose of developing better relevant tool to perform the study. Changes were incorporated according to their suggestions.

Reliability of tool

The reliability of the research tool was established with the help of Spearman Split Half Method i.e., by calculating coefficient of correlation first by Karl Pearson's formula and then by applying Spearman's Brown Prophecy formula. The reliability was found to be 0.98. Hence the tool was found to be reliable.

Pilot Study

The pilot study is the sample test of actual study. To ensure the reliability and feasibility, the pilot study was conducted in month of March 2022. 120 subjects were taken from selected community areas, Dankaur village, Greater Noida for data collection. Pilot study was done to ensure the reliability of the tool and the feasibility of the study. Prior permission was taken from the Sarpanch of Dankaur village. Data was collected by administering self-structured checklist. Participants were explained regarding the study and its purpose. The subjects and their mothers were cooperative with us and it took 15 to 20 minutes for obtaining data from each subject. The analysis of pilot study was done in accordance with the objectives.

Data Collection Procedure

A formal written permission was obtained from Sarpanch of Dankaur Village, Greater Noida before collection of data. Data was collected in selected community Dankaur village in April 2022. 120 subjects were selected by purposive sampling technique in selected community areas. The sample subjects were selected using a purposive sampling technique and were administered with self-structured checklist. The researcher first introduced herself to the mothers and children and explained the purpose of gathering the information. The mother and child was assured that their response would be kept confidential and used only for research purpose. An informed verbal consent was taken from mothers of 1-5 year children. After this, data was

collected through a self-structured checklist. Investigators for data collection were members of research team. Total 3 investigators had collected the data through prepared tools by assessment of milestones. It took 15 to 20 minutes for obtaining data from each subject. The sample chosen for pilot study were not considered for the final study.

Ethical Consideration

After explaining the type and purpose of study written permission was taken from Dean (Galgotias School of Nursing) and Sarpanch Dankaur village Greater Noida prior to data collection.

Verbal consent was taken from mothers of 1-5 year children after explaining purposes of the study.

The results of the study are kept confidential and used for research purpose only.

Plan For Data Analysis

Analysis of data was done in accordance with objectives of study using descriptive and inferential statistics. In statistics mean, median, standard deviation and chi square were used to describe the 1–5-year children according to variables i.e., gender, birth weight, mother's health status during pregnancy, birth spacing, health status of baby after birth, marital status of parents, nutrition (breastfeeding/ weaning), any congenital disease, type of family, socioeconomic status, maternal education. The level of significance chosen was $p<0.05$. Result of the study were shown in the form of tables and bar diagrams.

Summary

This chapter dealt with the research approach, research design, selection and description of setting, target population, sample and sampling technique, selection and development of tool, content validity of tool, pilot study, reliability of tool, data collection procedure, ethical considerations and plan of data analysis.

ANALYSIS AND INTERPRETATION OF DATA

CHAPTER-4
ANALYSIS AND INTERPRETATION OF DATA

Analysis of data is a process inspecting, cleaning, transferring and modeling data with a goal of discovering useful information, suggesting conclusions, and supporting decision making.

This chapter deals with the analysis and interpretation of data collected from 120 children from 1-5 years in community area of Dankaur Village, Greater Noida, Uttar Pradesh.

Data interpretation refers to the process of critiquing and determining the significance important information such as survey result, experimental findings and observation or narrative reports. Interpreting data is an important critical thinking skill that helps you comprehend text book, graph and tables.

The main purpose of data analysis is to translate the information collected during the course of study into interpretable from so that the research question could be answered. The analysis is to summarized, compare and test the proposed relationship and infer findings.

PROBLEM STATEMENT

A descriptive study to assess the developmental milestones of children 1-5 years of age in selected community areas of Dankaur Village, Greater Noida, Uttar Pradesh.

AIM OF STUDY

To assess the developmental milestones of children 1-5 years of age.

OBJECTIVES

- To assess the developmental milestones of children 1-5 years of age in selected community areas of Dankaur Village, Greater Noida, Uttar Pradesh.
- To find the association of developmental milestones with selected socio-demographic variables

HYPOTHESIS

H1: There will be a significant association between developmental milestones with selected Socio- demographic variables at 0.05 level of significance.

NULL HYPOTHESIS

H_O: There will be no significant association between developmental milestones with selected Socio- demographic variables at 0.05 level of significance.

ORGANISATION OF FINDINGS

The data collected from children 1-5 years of age has been organized and presented under the following headings based on objectives of the study.

SECTION 1: Frequency and percentage distribution of socio-demographic variables.

SECTION 2: Assess the developmental milestones of children 1-5 years of age.

SECTION 3: Association between the developmental milestones in relation to selected socio-demographic variables.

SECTION 1

Frequency and percentage distribution of Socio-demographic variables

- Distribution of 1–5-year children according to their gender shows that most of 1–5-year children i.e., 69 (57.5%) are males whereas 51 (42.5%) are females.
- Distribution of 1–5-year children according to their birth weight shows that most of 1–5-year children i.e., 61(50.8%) had birth weight 2-3 kg whereas least children i.e., 2(1.66%) had birth weight > 4kg.
- Distribution of 1–5-year children according to their mother's health status during pregnancy shows that most of 1–5-year children i.e., 76(63.33%) were healthy whereas least children i.e., 9 (7.5%) were anemic.
- Distribution of 1–5-year children according to their birth spacing shows that most of 1–5-year children i.e., 53(44.16%) were 1-2 years spaced whereas least children i.e., 14 (11.66%) were 3-4 years spaced.
- Distribution of 1–5-year children according to their health status of baby after birth shows that most of 1–5-year children i.e., 87(72.5%) were healthy whereas least children i.e., 1(0.8%) was having pneumonia.

- Distribution of 1–5-year children according to their mother's marital status of parents shows that most of 1–5-year children i.e., 105(8.5%) were married and living together whereas least children i.e., 15 (12.5%) were married and living apart.
- Distribution of 1–5-year children according to their nutrition shows that most of 1–5-year children i.e,66 (55%) was breast feeding whereas least children i.e., 18 (15%) were bottle fed.
- Distribution of 1–5-year children according to their any congenital disease shows that all the children were free from congenital disease i.e., 120(100%).
- Distribution of 1-5- year children according to their type of family shows that most of 1-5 year children i.e., 72 (60%) have joint family whereas least children i.e., 48 (40%) have nuclear family.
- Distribution of 1-5-year children according to their socioeconomic status shows that most of 1-5 year children i.e., 86 (71.7%) has 10,000-20,000 socioeconomic status whereas least children i.e., 4 (3.33%) has 30,000 or above socioeconomic status.
- Distribution of 1-5 year children according to their maternal education shows that most of the 1-5 year children i.e., 76 (63.4%) mothers are 12^{th} pass whereas least children i.e., 6 (5%) mothers are graduate.

Table 1: Frequency and percentage distribution of Socio-Demographic variables.

S. No	Demographic variable	Frequency (f)	Percentage (%)
1	**Gender**		
	Male	69	57.5
	Female	51	42.5
2	**Birth Weight**		
	1-2 kg	30	25
	2-3 kg	61	50.84
	3-4 kg	27	22.5
	>4 kg	2	1.66
3	**Mother Health Status During Pregnancy**		
	a. Hypertension	25	20.8
	b. Anemia	9	7.5

	c. Healthy	76	63.4
	e. Others	10	8.3
4	**Birth Spacing**		
	a. 1-2 years	53	44.16
	b. 2-3 years	37	30.85
	c. 3-4 years	14	11.66
	d. >4 years	16	13.33
5	**Health Status of Baby After Birth**		
	a. Healthy	87	72.5
	b. Neonatal jaundice	20	16.66
	c. Pneumonia	1	0.84
	d. Others	12	10
6	**Marital Status of Parents**		
	a. Married & living together	105	87.5
	b. Married & living apart	15	12.5
	c. Divorced	0	0
	d. Single parent	0	0
7	**Nutrition**		
	a. Breastfeeding	66	55
	b. Weaning	36	30
	c. Both	18	15
8	**Any Congenital Diseases**		
	a. Absent	120	100
	b. If any-		
	Down syndrome		
	Muscular dystrophy		
	Others		
9	**Type of family**		
	Nuclear family	48	40
	Joint family	72	60
10	**Socio economic status**		
	10,000-20,000	86	71.7
	20,000-30,000	30	25
	30,000 or above	4	3.33
11	**Maternal education**		
	12^{th} pass	76	63.4
	10^{th} pass	38	31.6
	Graduate	6	5
	Illiterate	0	0

GRAPHICAL PRESENTATION OF DEMOGRAPHIC VARIABLES

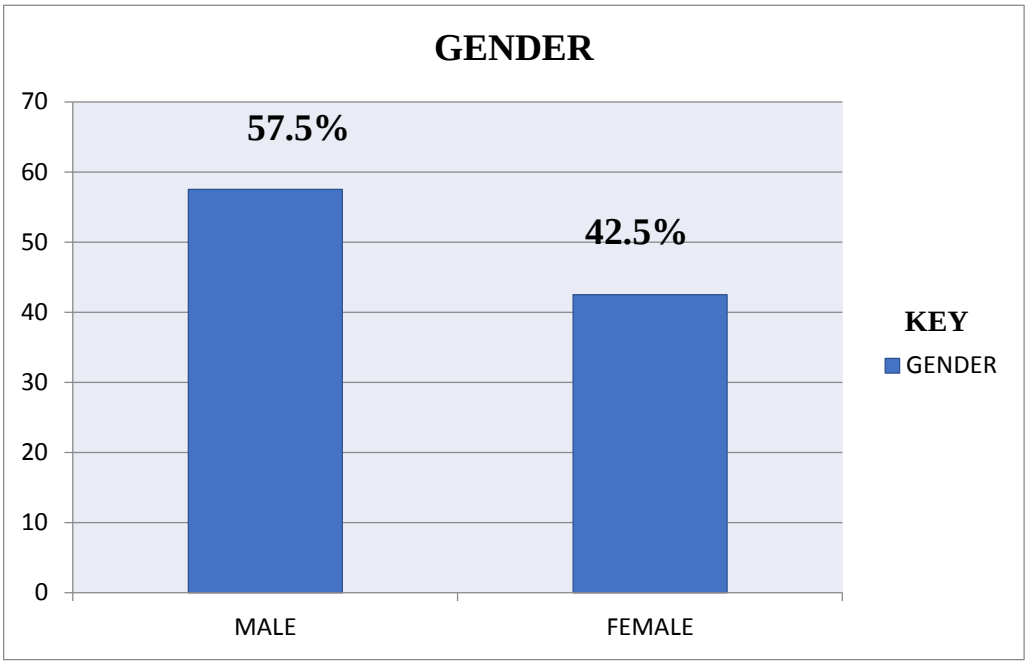


Figure 4: Bar graph showing Gender

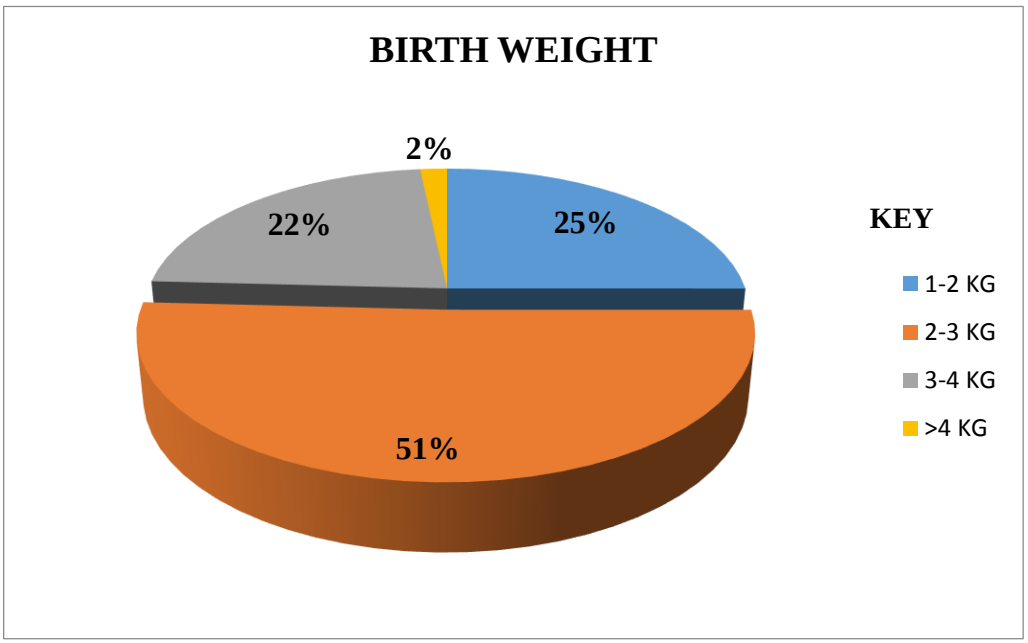


Figure 5: Pie graph showing Birth Weight

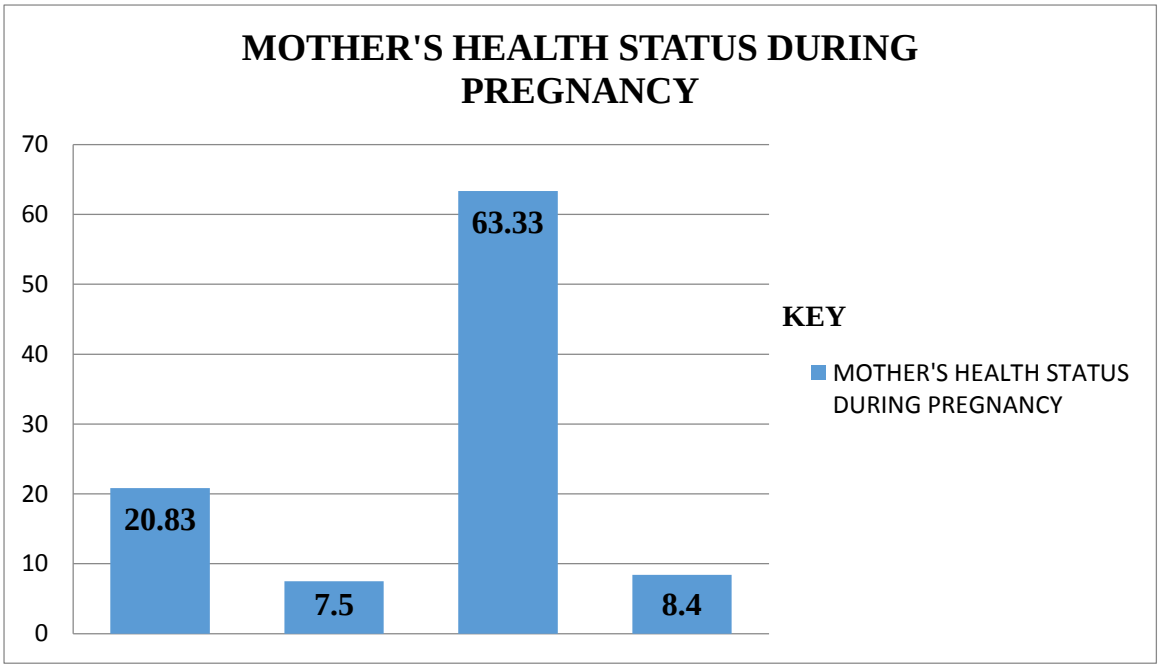


Figure 6: Bar graph showing Mother's Health status during Pregnancy

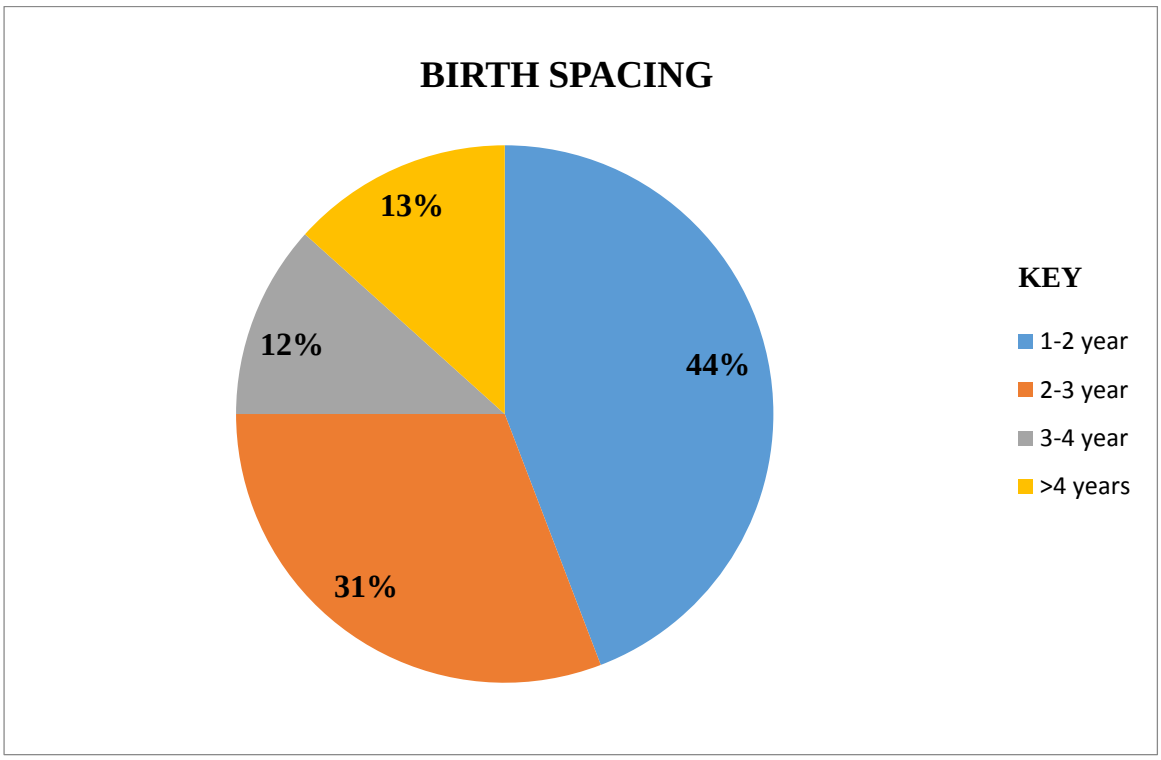


Figure 7: Pie chart showing birth spacing

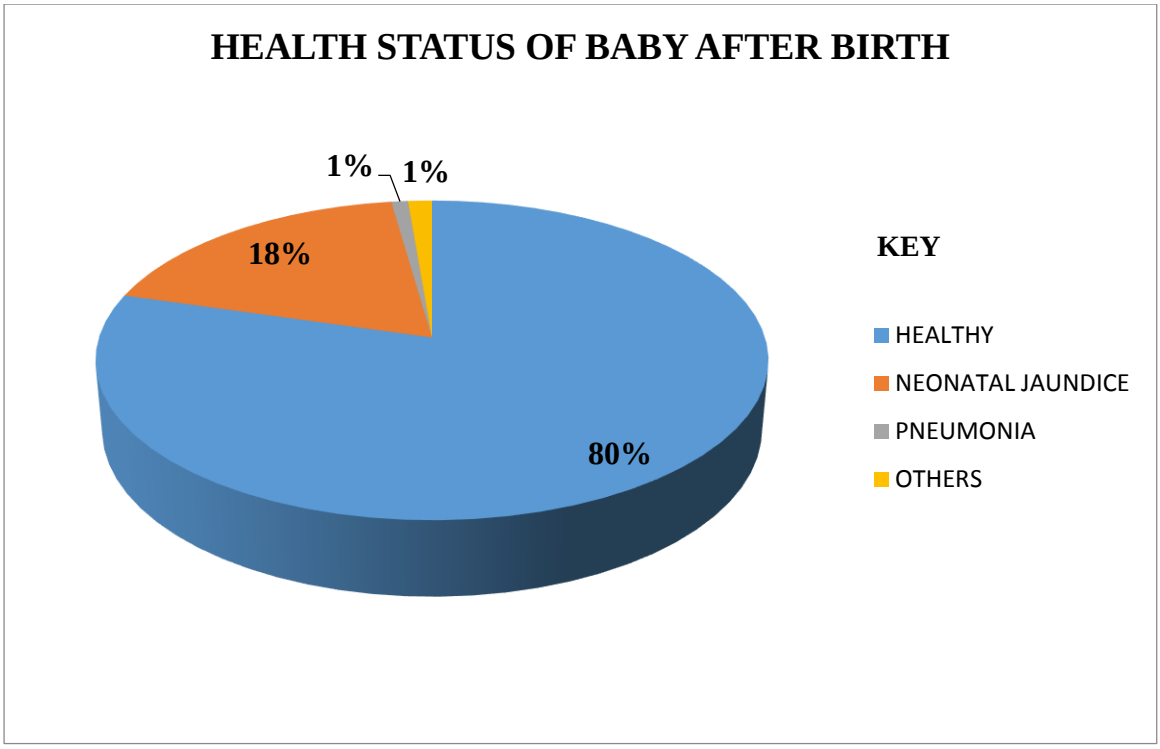


Figure 8: Pie chart showing Health status of Baby after Birth

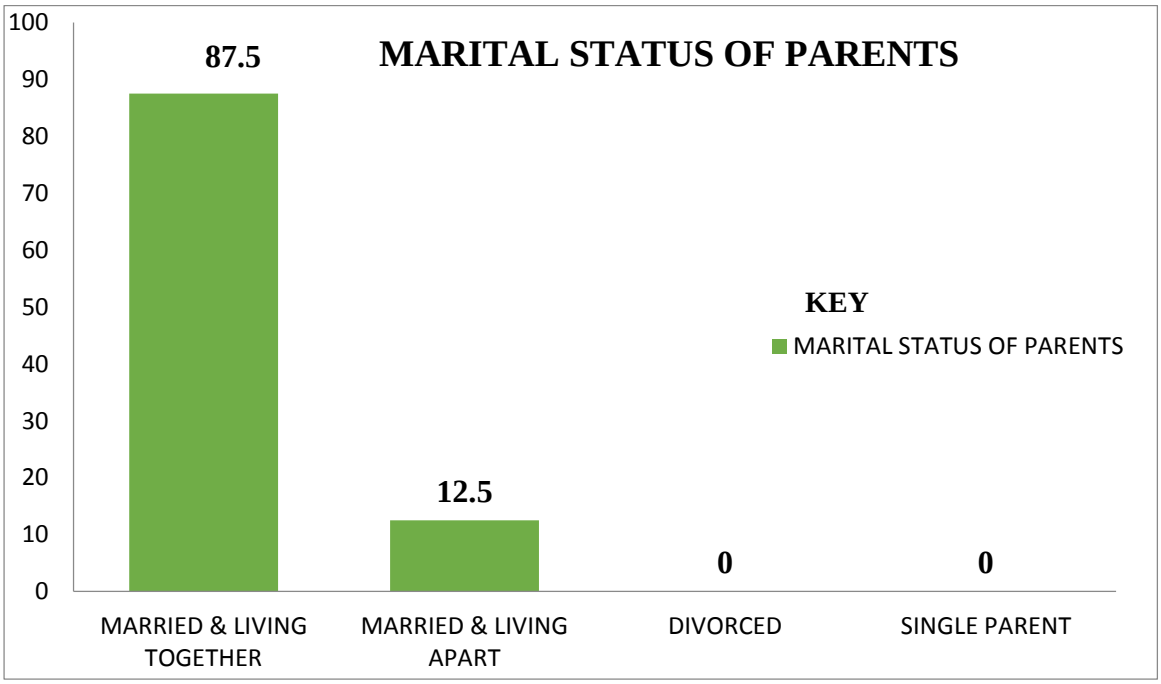


Figure 9: Bar graph showing marital status of parents

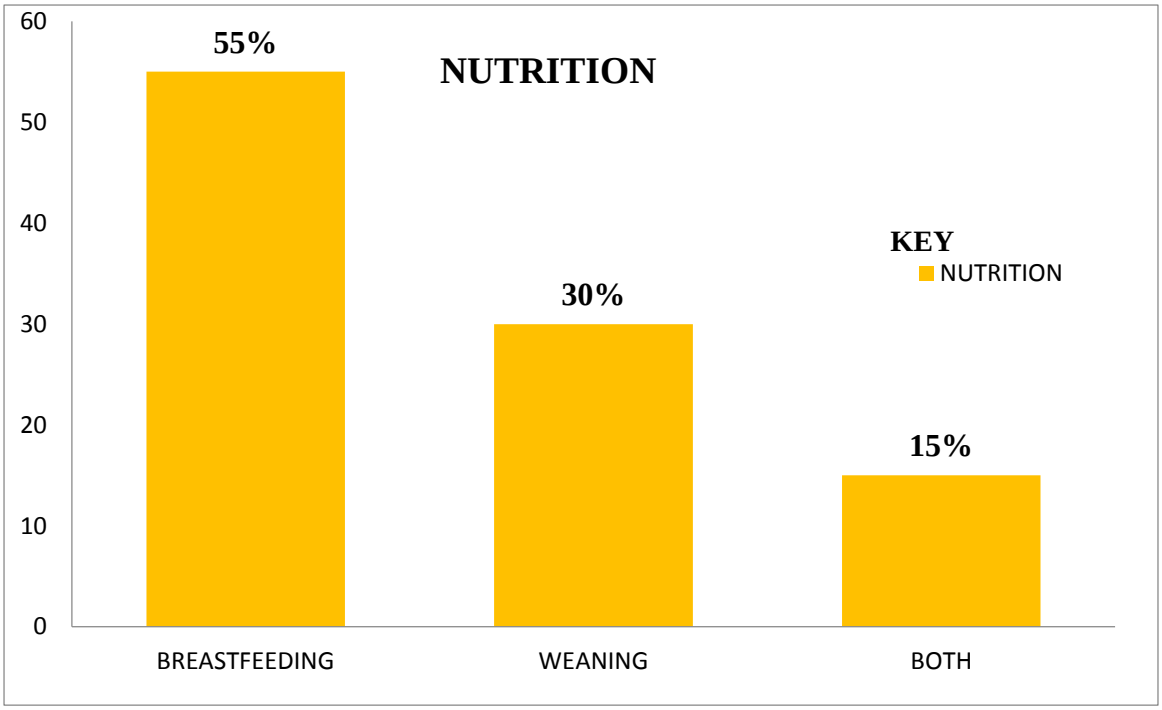


Figure 10: Cone graph showing Nutritional Status

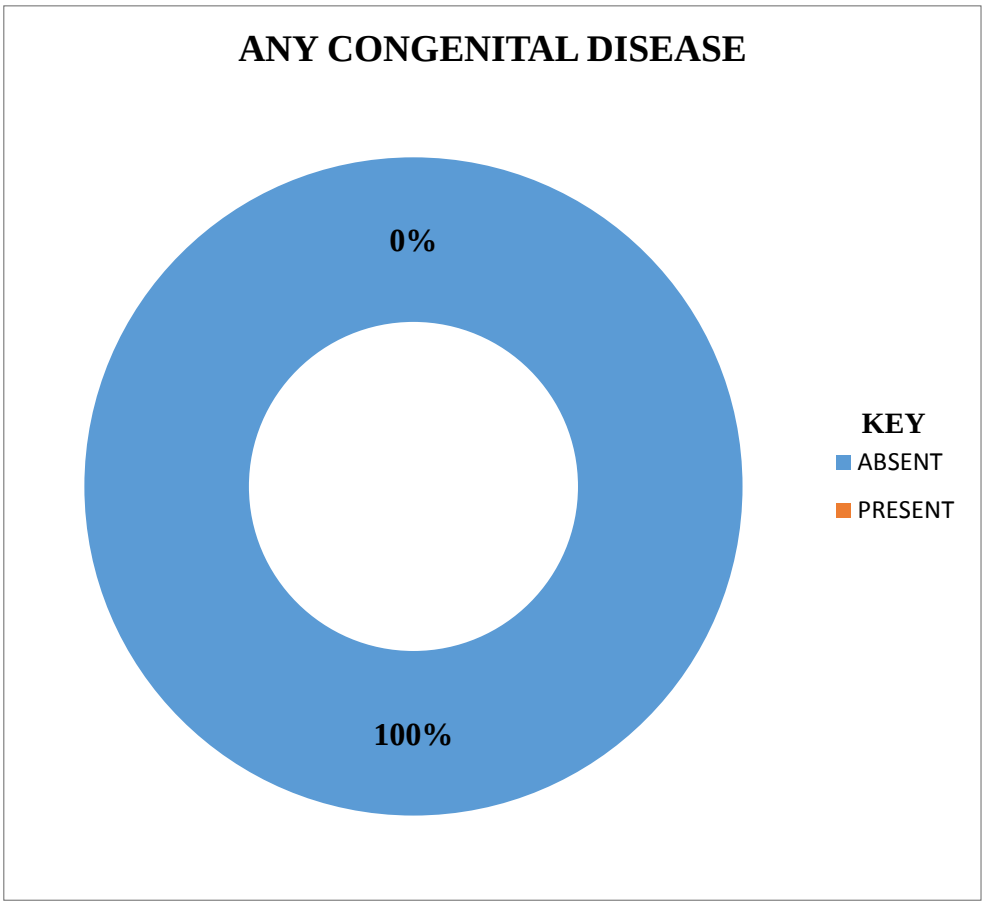


Figure 11: Doughnut graph showing congenital disease

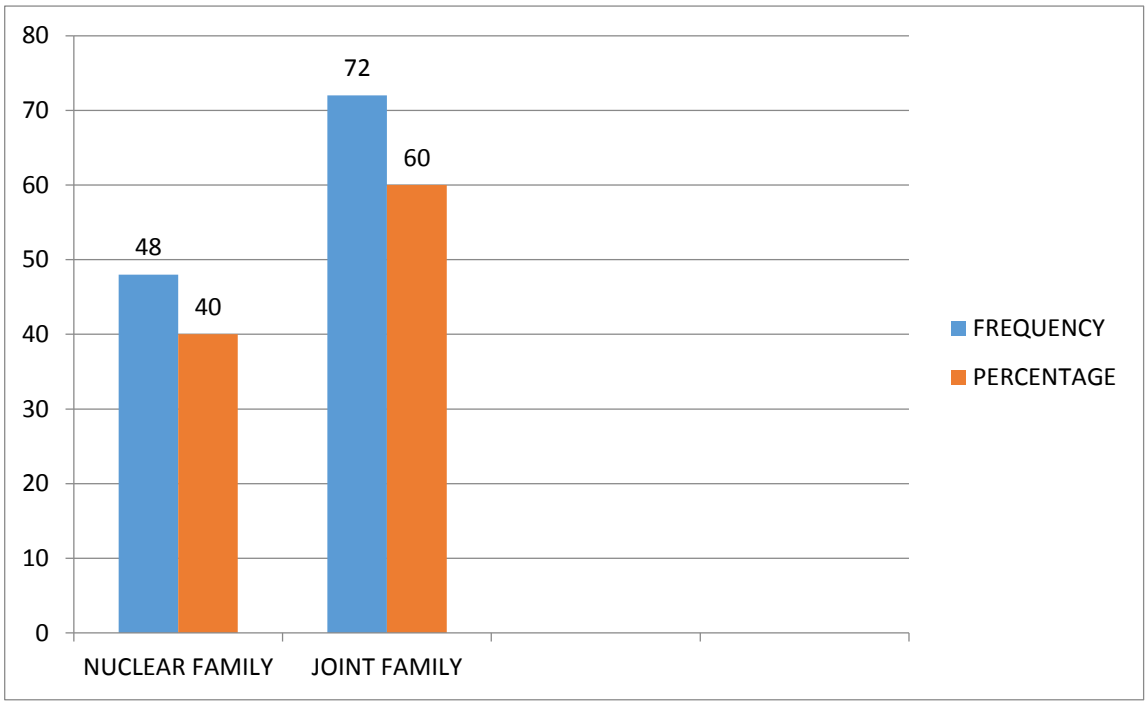


Figure 12: Bar Graph showing Type of Family

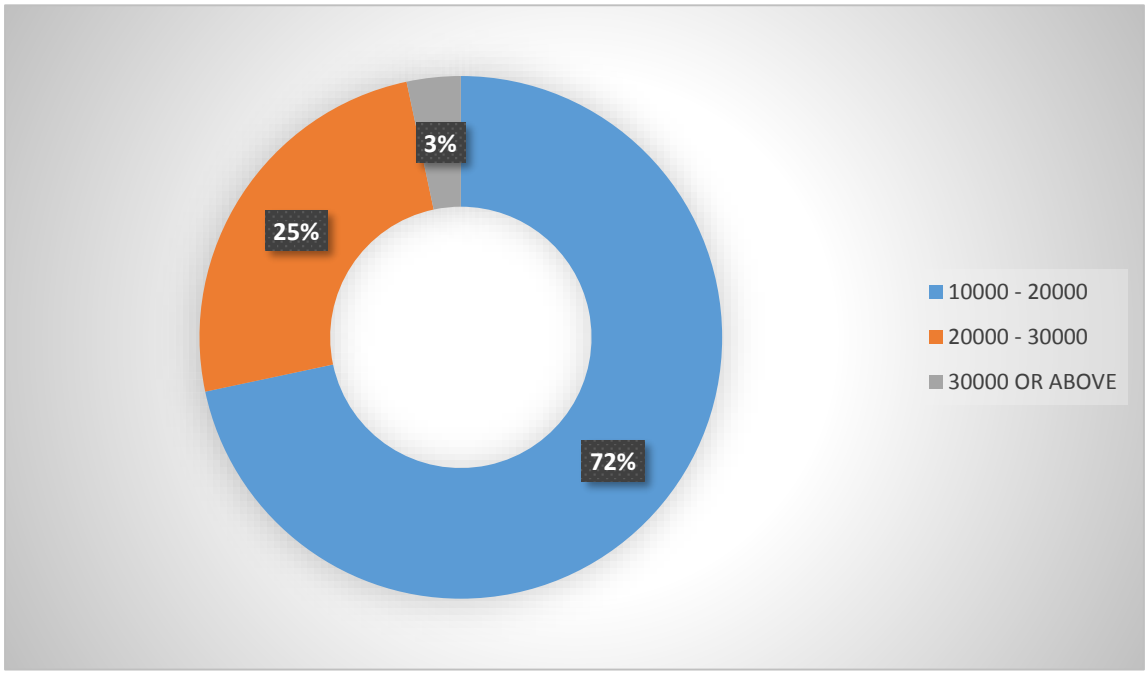


Figure:13 Doughnut showing socioeconomic status

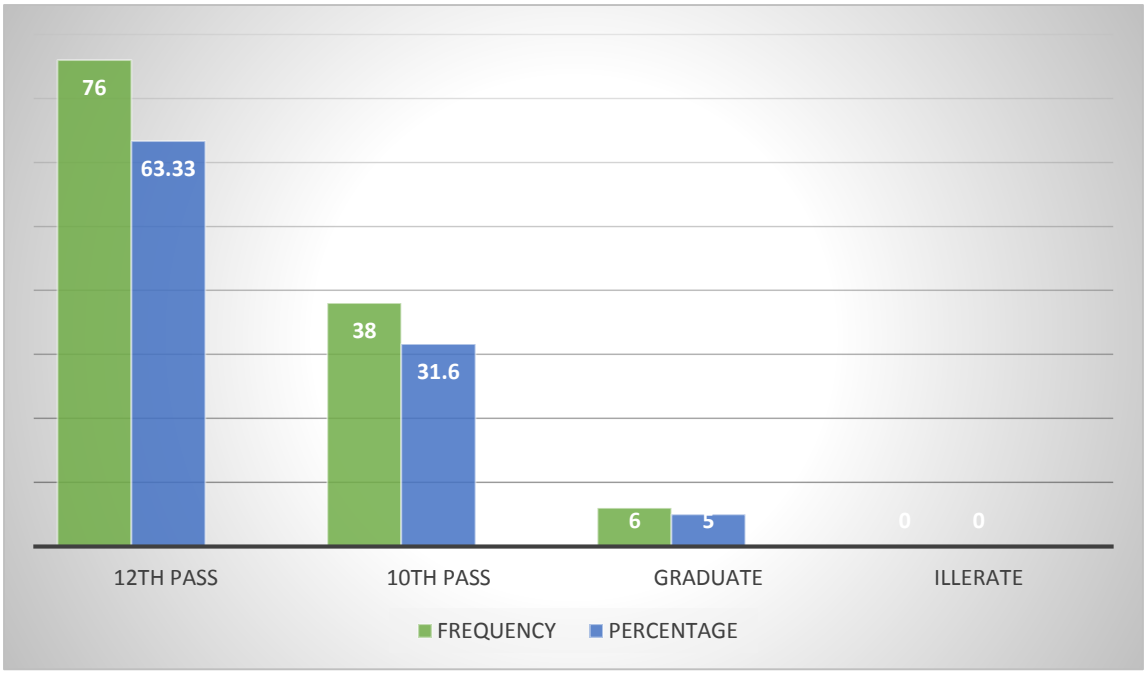


Figure:14 Bar graph showing Maternal Education

SECTION 2

Assess the developmental milestones of children 1-5 years of age

Table 2: This section deals with assessment of developmental milestones of children 1-5 years of age

INFERENCE	SCORE	FREQUENCY	PERCENTAGE
DEVELOPMENTAL DELAY	0 -6	1	0.83
SLOW AT DEVELOPMENT	7-13	15	12.5
MILESTONE ACHIEVED	14-20	104	86.6

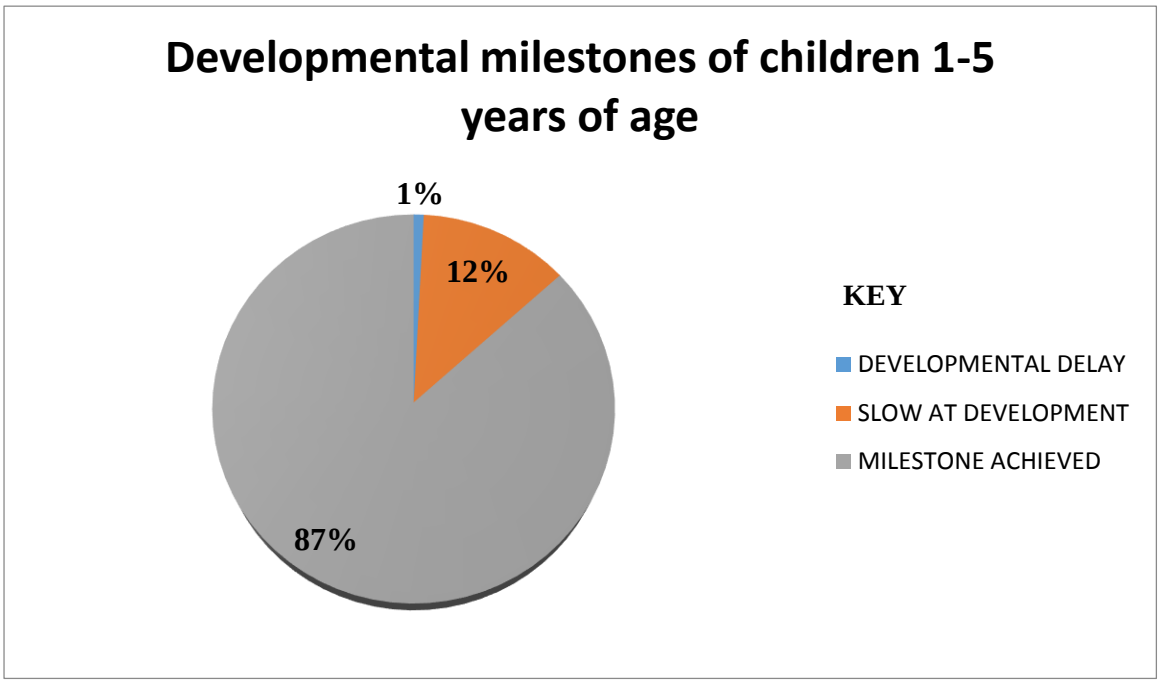


Figure 15: Pie chart depicts the developmental milestones of 1–5-year children

SECTION 3

Association between the developmental milestones in relation to selected Socio-Demographic variables.

Table 3: Showing association of developmental milestones with Socio-demographic variables

Socio-demographic variable	Scores which fall at median and above	Score which falls below the median	Total	x2	df	Tabulated value	Level of significance
Gender							
a. Male	36	33	69	3.096	1	3.84	NS
b. Female	35	16	51				
TOTAL	71	49	120				
Birth Weight							
a. 1-2 kg	14	16	30	1.3	3	7.82	NS
b. 2-3 kg	35	26	61				
c. 3-4 kg	20	7	27				
d. >4 kg	1	1	2				
TOTAL	70	50	120				
Mother's Health Status During Pregnancy							
a. Hypertension	17	8	25	6.018	3	7.82	NS
b. Anemia	3	6	9				
c. Healthy	45	31	76				
d.Gestational diabetes	4	6	10				
e. Others	0	0	0				
TOTAL	69	51	120				
Birth Spacing							
a. 1-2 years	28	25	53	0.395	3	7.82	NS
b. 2-3 years	21	16	37				
c. 3-4 years	10	4	14				
d. >4 years	10	6	16				
TOTAL	69	51	12				
Health status of Baby							
a.healthy	53	34	87	1.043	3	7.82	NS
b. neonatal jaundice	13	7	20				
c.Others	0	1	1				
d.pneumonia	6	6	12				
TOTAL	72	48	120				

Marital status of Parents							
a. married and living together	67	38	105	10.36	1	3.84	S
b. married and living apart	3	12	15				
c. divorced	0	0	0				
d. single parent	0	0	0				
TOTAL	70	50	120				
Nutrition							
a. breast feeding	36	30	66	1.41	2	5.99	NS
b. weaning	24	12	36				
c. botH	10	8	18				
TOTAL	70	50	120				
Any Congenital Disease							
a. absent	70	50	120			0	NS
b. if any	0	0	0	0	0		
1. Down syndrome							
2. Muscular dystrophy							
3. others							
Socio-economic status							
1. 10000-20000	53	34	87	1.043	3	7.82	NS
2. 20000-30000	13	7	20				
3. 30000 or above	6	7	13				
TOTAL	72	48	120				
Type of Family							
Nuclear	46	33	69	3.096	1	3.84	NS
Joint	25	16	51				
TOTAL	71	49	120				
Maternal Education							
12^{th} pass	36	30	66	1.41	2	5.99	NS
10th	24	12	36				
Graduate	10	8	18				
Illiterate	0	0	0				
TOTAL	70	50	120				

INFERENCE

The obtained X^2 value in all variables are less than the table value that is 0.05 level of significance except mother's marital status of parents Hence the obtained X^2 value are significant only for the before mentioned one variable.

Formula used for association:

$$X^2 = \frac{N(ad-bc)^2}{(a+b)(c+d)(a+c)(b+d)}$$

Df = (r-1) (c-1)

DISCUSSION, SUMMARY, CONCLUSION AND RECOMMENDATION

CHAPTER 5
DISCUSSION, SUMMARY, CONCLUSION AND RECOMMENDATION

In this chapter, an attempt has been made to discuss finding of the study in accordance with the objectives of the research. The present study was undertaken to assess the developmental milestones of children under age of 1-5 years. A total of 120 children were assessed using self-structured checklist containing six parameters such as physical, gross motor, fine motor, language, play stimulation and self-care. The socio-demographic variables were gender, birth weight, mother's health status during pregnancy, birth spacing, health status of baby after birth, marital status of parents, nutrition and congenital disease, type of family, socioeconomic status, maternal education.

OBJECTIVE 1- To assess the developmental milestones of children 1-5 year of age in selected community areas of Dankaur Village, Greater Noida, Uttar Pradesh.

- The findings of the present study depict that total sample 120 classified into the developmental delay, slow at developmental and milestones achieved. The results of assessment reveal that 1 out of 120(0.83%) have developmental delay, 15(12.5%) are slow at development and 104(86.6%) have their milestones achieved.

Gupta Arti, mani kalvaini (2016) conducted a cross sectional study on achievement of motor milestones and associated factors among children in rural North India. A pretested questionnaire was used to collect the data. The median age at the time of the highest observed milestone was calculated and compared with the WHO windows of achievement. Overall, 221 children aged 4–18 months were included in the study. The median age of motor development exhibited a 0.1–2.1-month delay compared to the WHO median age of motor milestone achievement. The prevalence of the gross motor milestone achievements for each of the six milestones ranged from 91.6% to 98.4%. Developmental delay was observed in 6.3% of the children. After adjusting for different variables, children with birth order of second or more were found to be significantly associated with the timely achievement of gross motor milestones.

Conclusion of the study was that the apparently healthy children of the rural area of Haryana achieved gross motor milestones with some delay with respect to the WHO windows of achievement. the median value of this delay was low.

Ms Puhan Mamata, Mrs. Panda Anuradh, (2017) conducted A pre-experimental Study to assess the Effectiveness of Planned Teaching Programme on Knowledge Regarding Developmental Milestones of Children between 0–2 Years among Mothers at Chirvaltola Basti, BBSR, Odisha. A Pre experimental research design where one group pretest posttest was undertaken on 50 mothers of chrivaltola basti, Bhubaneswar, Odisha selected by convenient sampling technique. Data was collected through closed ended multiple-choice questionnaires with selected variables age, religion, education, occupation, type of family, age of children in the family and sources knowledge. The data collected were analyzed by using descriptive and inferential statistics. Area wise posttest highest mean percentage (93.45%) with mean (10.28) f. The lowest mean percentage in posttest is (89.38%) with mean score (11.62) for area. Area wise posttest highest mean score is (10.28±0.93) with mean percentage 93.45% for the area "developmental milestones of 0–6 months children''. The lowest posttests mean score is (11.62±1.01) with mean percentage 89.38% for the area "developmental milestones of 13–24 months of children''. A significant difference between pretest and post knowledge was found. (t-45.6, $p \leq 0.05$). It shows that chi square is calculated to find out the association between posttest knowledge scores of the mothers with their selected demographic variables. It was found that there was significant association between posttest knowledge scores among mothers regarding developmental milestones of 0–2 years children when compared to area type of family of the mother at 5% level of significance.

OBJECTIVE 2-To find the association of developmental milestones with selected socio- demographic variables.

- Study conducted for assessment of developmental milestones among 120 children's to check the association between the developmental milestones in relation to selected socio- demographic variables reveal that only marital status of parents(x^2-10.36 ,$p>0.05$) show significant association with developmental milestones while gender (X^2-3.096) ,birth weight (X^2-1.3) ,mother's heath status during pregnancy(X^2-6.018) ,birth spacing(X^2-0.395

)health status of the baby (X^2-1.043) ,nutritional (X^2-1.41) any congenital disease (X^2-0) ,type of family (X^2-3.096), socioeconomic status (X^2-1.043), maternal education (X^2-1.41) had no significant relationship with developmental milestones.

Meshram Khushbu, Archana Maurya, conducted a experimental study Effectiveness of Planned Teaching on Knowledge Regarding Developmental Milestones among the Mothers of infant in selected Rural area of Wardha District 60 subjects recruited based on inclusion criteria, and utilized the technique of Non probability convenience sampling. Pre experimental one group pretest posttest without control group used, the instruments were structured questionnaires and the planned teaching was given after the pretest. Results: The study findings were in pretest knowledge score were seen into 4 categories, poor, average, good, and excellent. 8.33% of the mothers of infant had poor, 71.67% had average and 20% of them had good level of pretest knowledge score. Mean knowledge score was 6.93±1.83. in posttest knowledge score were 26.67% of the mothers of infants had good and 73.33% had excellent level of posttest knowledge score. Mean knowledge score was 13.35±1.41. Hence it is interpreted most of the parents understood about developmental milestones and its importance to find out the growth and developmental abnormalities easily.

Trine Flensborg-Madsen ,ErikL. Mortensen (2017) descriptive study to assess the Associations of Early Developmental Milestones with Adult Intelligence. The study investigated whether age at attainment of 20 developmental milestones within the areas of language, walking, eating, dressing, social interaction, and toilet training was associated with adult intelligence. Mothers of 821 children of the Copenhagen Perinatal Cohort recorded 20 developmental milestones at a 3-year examination, and all children were administered the Wechsler Adult Intelligence Scale when they were 20–34 years old. Later attainment of a number of milestones was associated with lower adult IQ with the strongest associations found for those related to language and social interaction.

SUMMARY

The present study was conducted to assess the developmental milestones among children 1-5 years of age. Conceptual framework was based on "Maturational developmental theory" by Gessel(1925).

Literature related to developmental milestones in children was done. A descriptive research approach and non-experimental research design was used. The study Centre's were selected area of community of Dankaur Uttar Pradesh. Target population was selected using non probability purposive sampling technique. The study was limited to children of 1-5years of age. Self-structured knowledge checklist was used for data collection. Content validity and reliability was checked. Pilot study was conducted on one tenth of the sample. Final study was conducted on 120 children. Descriptive and inferential statistics were applied to analyses the data. Bar graphs, pie charts, doughnut and cone graph were used.

CONCLUSION

Developmental milestones are set of functional skills that most children perform within certain age range in parameters pertaining to physical, gross motor, fine motor, language, play stimulation and self-care. In developing countries like India due to lack of proper nutrition and care, suboptimal development of children persists and goes unidentified. As per WHO, about 5% of world's children 14 years of age and under have moderate and severe level of disability due to lack of timely assessment and measures. Therefore, regular assessment of developmental milestones need to be done to assess for any developmental delay.

IMPLICATION

The implication of the present study can be implicated in the area of nursing education, nursing services, nursing administration, nursing research, community health nursing and general education.

NURSING EDUCATION

Nursing education should prepare nurses with the potential for preventing development delay in the community area. It should emphasize more on prospective nurses to impart education regarding developmental milestones and developmental delay.

NURSING SERVICE

It includes preventive, promotive, and rehabilitative services. The findings of this study can be used by the nurses themselves to become more knowledgeable in providing effective information. Nurses play an important role in giving supportive educative care to the people in community area. They should also participate in giving health education to people living in community area.

NURSING ADMINISTRATION

Nursing has a direct impact on the society and the health of the children. The findings of the study could be used by the nurse administrators to take steps in formulating policies to sensitize people through awareness programme in the community and hospital settings. Nurse administrators can involve nursing students as change agents to create awareness programmes in the community. Policies can be formulated that will include all staffs to be actively involved in health education programme in their respective hospital and colleges.

RECOMMENDATION

- Comparative study to assess achievements of milestones and associated factors among children in rural and urban community areas.
- A study to assess the association of early developmental milestones with adult intelligence.
- A study to assess the relationship of high risk

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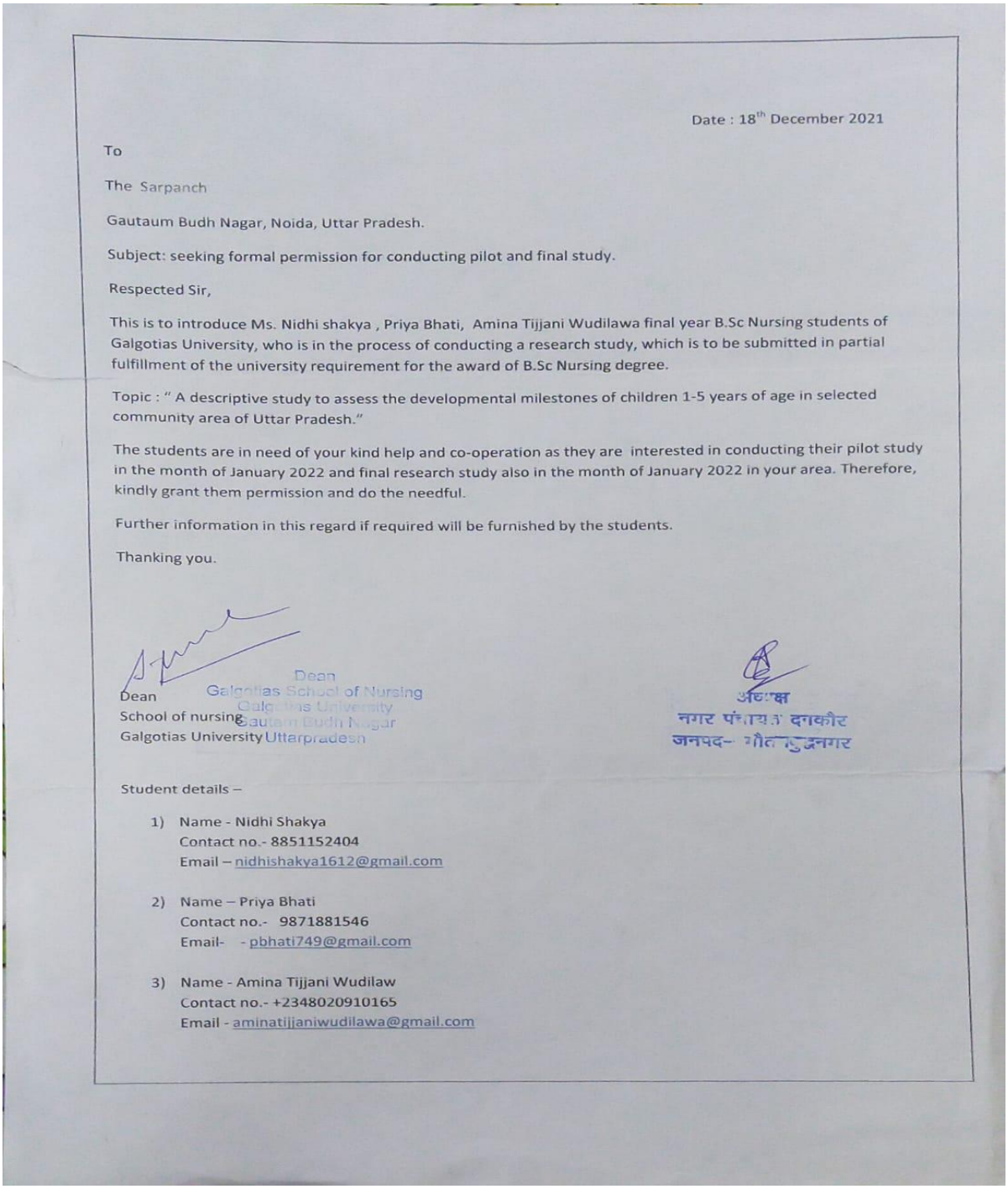
ANNEXURES

PERMISSION LETTER FOR CONDUCTING STUDY



Date : 18th December 2021

To

The Sarpanch

Gautaum Budh Nagar, Noida, Uttar Pradesh.

Subject: seeking formal permission for conducting pilot and final study.

Respected Sir,

This is to introduce Ms. Nidhi shakya , Priya Bhati, Amina Tijjani Wudilawa final year B.Sc Nursing students of Galgotias University, who is in the process of conducting a research study, which is to be submitted in partial fulfillment of the university requirement for the award of B.Sc Nursing degree.

Topic : " A descriptive study to assess the developmental milestones of children 1-5 years of age in selected community area of Uttar Pradesh."

The students are in need of your kind help and co-operation as they are interested in conducting their pilot study in the month of January 2022 and final research study also in the month of January 2022 in your area. Therefore, kindly grant them permission and do the needful.

Further information in this regard if required will be furnished by the students.

Thanking you.

Dean
School of nursing
Galgotias University

Dean
Galgotias School of Nursing
Galgotias University
Gautam Budh Nagar
Uttarpradesh

अध्यक्ष
नगर पंचायत दनकौर
जनपद- गौतमबुद्धनगर

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TOOL FOR COLLECTION OF DATA

SECTION –A

SOCIO-DEMOGRAPHIC VARIABLES

1.Gender

a) Male

b) Female

2.Birth weight

a) 1.0 -2.0 kg

b) 2.0-3.0kg

c) 3.0-4.0 kg

d) >4.0kg

3.Mothers health status during pregnancy

a) Hypertension

b) Anemia

c) Healthy

d) Others

4.Birth spacing

a) 1-2 year

b) 2-3year

c) 3-4 year

d) >4 year

5.Health status of baby after birth

a) Healthy

b) Neonatal jaundice

c) Pneumonia

d) Others

6. Marital status of parents

a) Married and living together

b) Married and living apart

c) Divorced

d) Single parent

7.Nutrition

a) Breastfeeding

b) Weaning

c) Both

8. Any congenital disease

a) Absent

b) If any-

i. Down’s syndrome

ii. Muscular dystrophy

iii. Other

9. Socio economic status

a) 10000 to 20000

b) 20000 to 30000

c) 30000 or above

10. Type of family

a) nuclear family

b) joint family

11. Maternal education

a) 12th Pass

b) 10th Pass

c) Graduated

d) illitrate

SECTION B

I YEAR

S. No.	CONTENT	YES	NO
1.	PHYSICAL DEVELOPMENT Weight: 10+/- 1.5kgs Height:74.5+/-3 cms Head circumference: 46cm increased by 1/3rd since birth Chest circumference and head circumference becomes almost equal at 1 year Mid arm circumference:12-13cms		
2.	GROSS MOTOR Stands alone for considerable length of time Can sit down from standing position Can walk few steps alone or by holding the furniture or hand. Assumes wide based gait.		
3.	FINE MOTOR Can transfer small bits of food to mouth Turns many pages of book together		
4.	LANGUAGE Responds more to gestures than complex verbal requests Follow simple commands Speaks 2 or more words besides ma-ma and da- da Imitates sounds made by animals and other persons.		
5.	PLAY STIMULATION Use large crayons for drawing Can draw a line Place objects in big containers		
6.	SELF CARE Sticks out arms and legs to help in dressing Removes sock May indicate when soaked		

II YEAR

S.No.	CRITERIA	YES	NO
1.	PHYSICAL DEVELOPMENT Weight-11.8-12.7kg Height:82.5-85cm Head circumference:47-48cms Chest circumference: exceeds head circumference (48.5-51cms) Mid arm circumference: 12-14cms		
2.	GROSS MOTOR Steady gait Walks backward Run with looking at feet		
3.	FINE MOTOR Turns pages of book at a time Imitates a circular and horizontal stroke		
4.	LANGUAGE Identifies familiar objects Refers to self by first name Speaks sentence of 2-3 words Understand more complex sentences		
5.	PLAY STIMULATION Sing songs Mimics domestic activities of parents Likes pulling games like-pulling cart, tractor etc.		
6.	SELF CARE Verbalize toilet needs Drinks well from a small glass held in one hand Can use straw		

III YEAR

S.No.	CONTENT	YES	NO
1.	PHYSICAL DEVELOPMENT Weight:13.5-19.5 kg Height :103-115 cm Head circumference: 47-48cms Chest circumference:52-58cms Mid arm Circumference:13-14.5cms		
2.	GROSS MOTOR Walks in straight line Walks backwards Runs without looking at feet		
3.	FINE MOTOR Copies a circle Opening zip lock bags or containers & lunch boxes		
4.	LANGUAGE Can obey commands Use four-word sentences Give full names & tells sex Name the figures in pictures		
5.	PLAY STIMULATION Like things that move, talk & make noise Like books about known things Play telephone music, record players		
6.	SELF CARE Can put shirt without assistance Can pull pants up & down Can go to toilet		

IV YEAR

S.No.	CONTENT	YES	NO
1.	PHYSICAL DEVELOPMENT Weight: 13.5-19.5 kg Height :109-123 cm Head circumference :48-50cms Chest circumference:56-63cms Mid arm Circumference: 14.5 -15.5cms		
2.	GROSS MOTOR Balances on one foot for 3-5 seconds Hops on foot Jumps from greater height		
3.	FINE MOTOR Copies a square Draws a face		
4.	LANGUAGE Understands directions Name one or more colours correctly Use word 'I' for self Uses 3–7-word sentences		
5.	PLAY STIMULATION Plays cooperatively with others Plays professional like dramas like 'Teacher – Teacher' Interested in world around		
6.	SELF CARE Can button the shirt Can put on socks with help Can identify front & back of dress		

V YEAR

S.NO	CRITERIA	YES	NO
1.	PHYSICAL DEVELOPMENT Weight-15.4-21.4 kg Height:115-130 cms Head circumference :50-51cm Chest circumference:60-66cms Mid arm Circumference: 15-17cms		
2.	GROSS MOTOR Jumps rope Imitates dancing steps Balance on one foot for 8-10 seconds		
3.	FINE MOTOR Copies a triangle Crosses vertical lines		
4.	LANGUAGE Carries out instructions Names primary colours Asks many 'Whys', 'How's', 'What's' Has a vocabulary of 2100 words		
5.	PLAY STIMULATION Plays competitive exercise and games Loves to transports things in trucks, cars, wagons Loves active play		
6.	SELF CARE Able to lace shoes Bathes self Combs hair with help		

LIST OF TOOL VALIDITY EXPERTS

1. Dr. S.P. Subashini
   Dean
   School of Nursing, Galgotias University

2. Mrs. Prempati Mayanglambam
   Professor
   Galgotias School of Nursing

3. Ms. Deepika Bajwan
   Associate Professor
   Galgotias School of Nursing

4. Mrs. Hema Kumari
   Nursing Tutor
   Galgotias School of Nursing

5. Mrs. Ritu
   Nursing Tutor
   Galgotias School of Nursing

LETTER SEEKING EXPERT'S OPINION AND SUGGESTIONS FOR CONTENT VALIDATION OF TOOL

To,

_____

_____

Subject: Experts opinion for content validity of tool

Respected Madam,

This is to inform that, we students of B.Sc. Nursing IVth Year of Galgotias School of Nursing, has undertaken a research study on the topic, ''A descriptive study to assess the developmental milestones of children 1-5 years of age in selected community areas of Dankaur Uttar Pradesh.''

Objectives

1. To assess the developmental milestones of children 1-5 years of age in selected community areas of Dankaur Uttar Pradesh.
2. To find the association of developmental milestones with selected socio-demographic variables.

With due respect and humble submission, we request you to give your valuable suggestions regarding appropriateness of items in terms of content, language and accuracy. Kindly oblige us with your expert opinioned comment. We humbly request you to kindly return the papers at your earliest convenience.

Thanking You

Yours Sincerely

1. Nidhi Sakya
2. Ameena Tijjani Wudilawa
3. Priya Bhati

B.Sc. Nursing IVth Year

MASTERSHEET

PARAMETER	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	SUM
1	1	1	1	1	1	1	1	1	0	0	1	1	1	1	1	1	0	0	1	1	16
2	1	1	1	1	1	0	1	0	1	1	1	1	1	0	0	1	0	0	1	1	14
3	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	0	1	1	1	18
4	1	1	1	1	1	0	1	1	1	0	1	1	1	1	0	1	1	1	1	1	17
5	1	1	1	1	1	1	1	1	1	1	0	1	1	0	0	1	0	1	1	1	16
6	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	1	1	1	0	16
7	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	1	1	1	1	18
8	1	0	1	1	1	0	1	0	1	0	1	1	1	1	0	0	1	1	0	1	13
9	1	1	1	1	1	1	1	1	1	1	1	0	1	1	0	1	0	1	1	1	17
10	0	0	0	0	0	0	1	1	1	0	1	1	1	0	0	0	1	0	0	1	8
11	1	1	1	1	1	1	1	1	1	0	1	1	1	1	0	0	0	1	0	1	15
12	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	1	0	0	0	1	15
13	1	0	0	0	0	1	1	1	1	0	0	1	1	0	1	0	1	1	0	0	10
14	1	1	1	1	1	1	1	1	1	0	1	1	1	0	1	1	1	1	0	0	16
15	1	1	1	1	1	0	1	0	0	0	1	1	1	1	0	0	1	1	0	1	13
16	1	1	1	1	1	1	1	1	0	0	1	1	1	0	0	0	0	1	0	0	12
17	1	1	1	1	1	1	1	1	1	0	1	1	1	0	1	1	0	0	0	1	15
18	1	1	1	1	1	1	1	1	1	0	1	1	1	1	0	0	0	1	0	0	14
19	1	1	1	1	1	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1	8
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PRIMARY SOURCES

1	Tabitha Roxburgh. "Psychological Perspectives - Biological Approach", The Student Room Group Publications	68 words — 1%
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4	好秀 岡崎, 知宏 東, 浩二 田中, 安広 岡本, 淳 宮城, 哲圭 井上, 誠士 松村, 勉 下野. "The Relationship between the Combined Caries Activity at 1 year-6 months and 3 years of Age with Caries Status at 6 years of Age", The Japanese Journal of Pediatric Dentistry, 2000 Publications	14 words — < 1%
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