1. **AREA OF THE STUDY** :

The area selected for the present study is known as Azamgarh. It is one of the important district of Eastern Uttar Pradesh that covers an area of 4234 km\(^2\) and lies in between 25\(^\circ\) 38’ and 26\(^\circ\) 27’ North latitude and 82\(^\circ\) 40’ and 83\(^\circ\) 53’ East longitude (See Map). The district bounded in North by Ghaghara River and in South by Jaunpur and Ghazipur districts. The Climate of the district is moderate. The average rainfall of the district is 1021 mm and western part receives more rainfall than eastern. The highest temperature reaches up to 45\(^\circ\) C and lowest up to 9\(^\circ\) C average normal temperature. The net cultivated area of the district is 3078 km\(^2\) (2000). Out of this 2,720 km\(^2\) is net irrigated area, which is 88.31% of the net cultivated area. It has a total population of 39,39920 comprised of 19,50420 male and 19,89500 female as per 2001 Census with population density of 745/km\(^2\) and a
population growth rate of about 24.9%. Around 10,95250 among male and 6,95100 among females are found to be literate. It forms the total literacy percentage of about 57% comprising 71% among male and 43.4% among females.

It is one of the most tradition bond economically backward area that has not yet much influenced by western beliefs and way of life. It is famous for its art and predominantly an agricultural society having a deep-rooted culture and rich traditional wisdom and practices related to different aspects of life.

MAP OF AZAMGARH DISTRICT
2. **SELECTION OF AREA FOR THE STUDY :-**

Since present study intended to document and analyze the pattern of feeding practices prevalent in urban, rural & industrial areas of Azamgarh district and its impact on infants physical growth & development, the area of **Sathiyav Sugar Mill** has been selected as *industrial area*, **Mukeriganj city area** of the Azamgarh city as *urban area* whereas some of the villages at one of the important block of **Sathiyav** are selected as *rural area* for the present study.

But while collecting basic information from these areas it has been disclosed that the Sugar mill area of the district is not in existence and all the residents of factory area have been totally migrated to other places. Therefore the idea to study Industrial population has been completely dropped.

Most of the Azamgarh area is rural except a small area of district headquarter, which is a developing city area. The urban area of **Mukeriganj** forms a part of the block **Palani** that has a total population of about 169458 comprising 86,815 male and 82,643 female population. It has 50,731 male and 29,237 female who are literate with a total literacy percentage of about 72.65% among male and 43.72% among female. Whereas the urban area of **Mukeriganj** is extended in one ward having a total population of 6725 comprised of 3786 male and 2939 female. Among them 4840 are literate and 1885 are illiterates. The area has been selected to know the followings:

- *The Impact of Urban living on infant feeding practices.*
- *The concept, perception, level of knowledge & information of Urban mothers regarding breast-feeding, use of semisolid and solid foods.*
Research Methodology & Data Collection

- Different infant feeding practices prevalent among urban lactating mothers.

- The Impact of existing knowledge on prevalent practices of feeding as well as on infants’ growth and development.

- The shortcomings in prevalent feeding practices and their impact on infants growth & development.

The selected rural area of Sathiyav block is extended in 146 villages. Out of these villages only 132 are inhabited with a total population of about 1,85,660 comprised of 90593 female and 95067 male. The literacy percentage among male is 63.30% whereas among female it is only 39.30%. The Bamhaur, Basautha Bhitri, Jamin Majharia and Salarpur village area of the development block of Sathiyav have been selected for the present study considering over their comparatively easy accessibility and proximity (around 12 km) to the district headquarter. Bamhaur has a total population of about 5576; Basautha Bhitri -1166 while Jamin Majharia has 2865 and Salarpur has a total population of about 2201. The population living in rural areas is comparatively more tradition bound and in most of the cases dependent to locally available resources and means to meet out their needs. The above villages are selected to know the followings:

- To know the concept, perception and level of knowledge regarding infant feeding.

- To document the various infant feeding practices, materials, means and methods of use of different semisolid & solid foodstuffs.

- To assess the impact of existing knowledge and prevalent practices on infants growth and development.
3. **SELECTION OF THE SAMPLE UNITS :-**

The selection of the sample for the present study is performed on the basis of following considerations:-

- Only those infants are taken into account who have been born within 1-4 months
- Only those infants were selected for the study whose parents have been residing in the area for a long (those who were visitor and those who expected to move somewhere else within or during next year are also excluded from the study)
- To facilitate the proper recording of the data the criteria of easy accessibility and approachability have been also given due importance.

Accordingly, to know the exact status of newborn we procure their list from Anganwadi centers of the selected areas. Under ICDS programme these Anganwadi centers are functional in almost all the areas of the present study. The list procured for the urban area of Mukeriganj revealed that there are only 162 numbers of Infants who belongs to the age group of 0-6 months and among them only 115 were found suitable as per our above criteria of selection.

Similarly, at selected villages of **Bamhaur**, **Basautha Bhitri**, **Jamin Majharia** and **Salarpur** village area of **Sathiyav block** the list procured from Anganwadi centers revealed that there are only 176 infants were available who fall between age group of 0-6 months. Considering over the suitability of the sample we finally, selected 115 samples from the area.
4. **TYPE OF STUDY** :- The present study is a cross sectional study.

5. **DATA COLLECTION TECHNIQUES AND SOURCES**

The basic information and data is collected through following sources:-

5.1. **Secondary Sources**

5.2. **Primary Sources**

5.1. **Secondary Sources** :-

Generally all the published and non-published Research, Compilations, Analytical studies, Survey and reports on the subject have been treated as secondary source. Accordingly, for the present study we reviewed a number of relevant works available at the following libraries:

- Institute of Medical Science, Banaras Hindu University, Varanasi
- Central Library, Banaras Hindu University, Varanasi.
- Voluntary Health Association of India Library, New Delhi.
- Indian Council of Medical Research Library, New Delhi.

5.2. **Primary Sources**-

The basic information pertaining to Azamgarh city area and Sathiyav Block was collected through personal visit and contact to Nagar Palika, block headquarter and Anganwadi centers of the concerned area.
5.2.1 Through Schedule:-

To obtain detail information from the target group a sincere effort has been made to develop an appropriate tool in form of schedule. To make it effective & meaningful special care has been taken for its language and the terminologies used. The schedule was designed and organized in such a manner that it could facilitate the proper management of collected data, analysis, tabulation and its presentation in an effective manner. While framing the questions due attention have been paid to make it more viable so that it could generate more comparative and reliable data & information. To make the process of data collection more comfortable and effective the entire schedule has been divided in parts-

PART-I:-

A variety of questions related to family, mother and child were included in this part of the schedule. Questions related to caste, level of education of mother, family members, type of family, sources of family income, total monthly income, along with information pertaining to practices adopted during previous delivery (in case if, present child is not the first one) were queried and documented properly to know the social and economic status of the family concerned.

An attempt was also made through this part to know the level of mother’s knowledge & awareness regarding cholostrum use, benefits of proper breast feeding and harms related to wrong feeding postures.
PART-II:-

The second part of the schedule was designed to collect information and data related to birth of the child prelacteal feed, initiation of breast feeding, use of colostrums and reasons for its rejection, exclusive breast feeding & Total breast feeding, supplementary feeding pattern, semi solid and solid feed pattern etc.

Besides, for the proper assessment of the growth & development of the infants, anthropometric measurements such as standing height, weight, chest circumference and mid-arm circumference have been also properly recorded through 2nd part of the schedule.

5.2.2 **Pre-Testing Of Tool In The Field Level Situation :-**

The provisional schedule thus, prepared pre–tested in the field situation to give it an appropriate and effective shape as well as to avoid the ambiguity and unnecessary repetition and to evaluate the responses of the subjects of the study. The pre-testing reveals the need for some modifications & additions in relation to certain terms used and for the few dimensions pertaining to the existing level of knowledge & awareness of the mothers as some of the mothers has already gained experience through earlier pregnancy.

The schedule was modified and changes were incorporated accordingly, in I- part of the schedule a fresh set of questions from 26–32 have been introduced to give it a comparatively more effective shape by collecting information in relation to perception and real behavior of the mothers
5.2.3. **Collection of Field Level Information** :-

All the field level information and data was directly collected from the mother and infant through interpersonal interaction, observation and physical measurement taken individually. Prior to initiation of the process of data collection list of newborn was procured through Anganwadis of the concerned area. Anganwadis are the village and ward level women workers under Integrated Child Development Programme of the Government and they keep records and take care of all the pregnant women and newborns falling under their jurisdiction. Around one month period was spend to develop a close rapport with Anganwadis and selected new mothers to ensure their proper cooperation to be needed during long period of the study to get reliable information about the subject. Accordingly, in almost all the area, the first study visit was planned in prior consent with Anganwadis.

The first part of the schedule was completed during first visit while the 2\textsuperscript{nd} part of the schedule bearing detail information pertaining to different feeding practices and anthropometric measurements for the height, weight, and chest & arm circumference to assess the physical development of the infants have been completed in 4 visits made at 5-6 months interval. Since, entire study is based on the actual data collected through personal interaction, measurements and observations taken at individual level normally, it took 1-2 months to complete one round of visits to all the selected samples located at different places. Therefore, during first visit while infants aged 5/7 days to 1-2 months were covered, during 2\textsuperscript{nd} visit the age of the infants...
ranges from 6 – 8 months accordingly, during 3rd visit it raised to 12-13/14 months and by 4th visit they attained the age of 18/19 – 20/21 months.

5.2.4. **Detail Explanations for Certain Key Documentation** :-

- **Age**: The age of the child was recorded considering the following factors together. When any authentic documents like hospital discharge ticket or horoscope were not available the age of the infant was deciphered through-
  
i) Inquiring from parents,
  
ii) Referring to the ages of other children of the family,
  
iii) Referring to the important events like marriage, birth of other children or any local memorable events,
   
iv) Visual assessment of the stated age with the existing growth & developments of the child. To be more specific about the age the season of birth, and the month of birth were always ascertained and the auspicious days like full – moon day, new- moon day, etc, were taken into consideration.

- **Type of Family**: It refers (a) to *nuclear (Individual) & joint family*. *Nuclear family* denotes husband, wife and their children whereas a family consists of more than one such nuclear family are considered as *Joint family*.

- **Occupation**: The occupation of the head of the family usually, of male member was enquired and recorded. They are classified as follows: -

  i. **Service**: Serving in a Government or private organization as Engineer, Doctor, Teacher at College or University, Officers of
the Indian Administrative Service and Police Services Clerical services, Peons, and other allied full & part-time jobs.

ii. **Business:** Persons involved in any kind of business for their earning.

iii. **Agriculture:** Those who dependent to agriculture for their livelihood

* Educational Status:* The educational status of both father and mother was classified as Illiterate, Primary, Matriculation, Inter etc. Accordingly, ‘Illiterate’ means one who did not know either reading or writing whereas, ‘Primary’ means one who had read or passed the primary education (up to class 5\(^{th}\)). Similarly, ‘Up to high School’ means one who had studied up to 10\(^{th}\) standard or passed the High school examination whereas Graduation means one who qualified the Bachelor of Arts/Science examination (10+2+3) and ‘Post Graduate’ means who availed a degree of Master of Arts / Science/commerce after 10+2+3.

* Economic Status :* The Economic status refers to the total family income per month. In case of service holders the monthly income (salary) was documented whereas for the cultivators and businessmen the total income was considered. The analysis of data relating to total family income has been made on the basis of five income groups i.e.(i) Rs. 500—3000; (ii) Rs 3000-6000 ; (iv) Rs.6000-10000; (v) Rs.10000-15000 And (vi) Rs.15000–20000 & Above.

* Caste :-* To facilitate the study all the castes have been classified into three categories –

(i) **Upper Caste** – It denotes Brahmins & Rajput (Kshatriya)
OBC/Others - It denotes castes (other than upper caste) except scheduled castes and scheduled Tribes

Scheduled castes and Scheduled Tribes (SC/ST) - As per the specification of Government of India.

Muslims: Although it denotes a separate religion but also treated as a separate caste.

Feeding Practices: Different dimensions of prevalent infant feeding practices have been recorded through proper inter-personal interrogation & observation made during four visits. Accordingly,

(i) Prelacteal Feeding: It was directly explained to the mother and asked whether, they were used anything as prelacteal feed or not. If they answered ‘Yes’ than detail enquiry was made for the products they use prior to the initiation of breast feeding.

(ii) Use of Colostrum: Through first part of the schedule the level of knowledge and awareness regarding colostrums use and its benefits was enquired whereas through 2nd part of the schedule some detail information pertaining to real adopted practice like actual time for colostrums use and reasons for its rejection was enquired and documented.

(iii) Exclusive & Total Breast Feeding, Supplementary Feeding And Introduction of Semi Solid & Solid Food: The level of awareness and knowledge regarding breast feeding & its benefits and harms causes due to wrong feeding postures was enquired and documented through part first of the schedule Whereas the details regarding initiation of breast feeding, Knowledge about duration for single breast feed, duration of exclusive breast feeding, breast feeding schedule, supplementary
feeding, type of supplement feed, age for the introduction of semi solid & solid food, winning practices and duration for total breast feeding have been enquired, observed and documented in 2nd part of the schedule for each case separately during four visits made at 4-5 months interval.

*Anthropometry Measurements:* All the measurements were obtained under standard conditions and with utmost care. While taking measurements minimal clothing was allowed wherever it was possible.

(i) **Height Measurement:** The height for the infants aged 1 day - 6 months was recorded through ‘Infant meter’ (Brand- Sahani Pvt Ltd.) The infants were laid down on the flat board of the apparatus with head positioned firmly against the fixed head board and eyes facing vertically. The knees were kept extended by applying firm pressure by the hands and feet were fixed at right angles to the leg. The upright sliding foot piece was moved to get firm contact with the heels.

The height of the infants of more than 6 months of age and who could stand easily was measured with the help of a ‘Measuring Rod Stand’. The bare foot infant was placed over one squire meter wooden platform at the base of measuring rod in upright standing posture with heels, buttocks, upper part of back and rear head in contact with the rod. Over the rod one small movable wooden piece was that shifted up to the height of the infant (up to head). The frontal side of the rod was bearing a scale both in centimeter and inches from down to upward. After placing the movable wooden piece over the head of the infant,
the point where it touched the scale was recorded as the height of the infant in centimeter (nearer to 0.1 cm).

(ii) Weight Measurement :- The weight of the infant was taken on a ‘Baby-weighing machine’ (Make-Libra Pvt. Ltd.) available at Anganwadi Kendra in almost all the areas of the study. The infants from 0-6 months were placed over machine in least clothing after correcting the weighing machine at zero. The infants who can easily stand to their own were measured through a separate portable round foot weight Machine. The infants were placed in upright stand erect position in simple undergarments over the footrest of the machine and the reading in kilograms was recorded. This exercise was performed during all the four visits separately for the each case. Generally, the weight was taken twice to avoid the error if there was any difference it was taken 3-4 times to get correct weight of the infant. The measurement was taken nearer to 0.5 kg.

(iii) Chest Circumference :- Chest circumference was measured by putting the measuring tape horizontally around the chest just across the nipples. The lowest measurement recorded during normal breathing process (not during crying, laughing or squeezing etc.) was only taken into consideration.

(iv) Arm Circumference :- The left mid upper arm circumference was measured while it is hanging relaxed at the side of the body with the help of a measuring tape nearest to 0.1 cm.

V. Creation Of Database And Feeding Of Collected Information On Computer :-

All the information and data thus recorded have been transferred to a master chart and a wide database has been
created to facilitate the feeding and the numerical analysis of the data. Primarily, all the data have been fed with the help of a specific statistical software ‘SPSS version 7.5.

VI. Analysis of Collected Information and Data Through Table Chart & Figures on Computer:-

The data & Information related to demographic & socio economic condition, different infants feeding practices, Knowledge level of mothers in relation to infants feeding have been analyzed & tabulated separately and in form of cross tabulation. Whereas anthropometric measurements related to height & weight have been processed and analyzed separately as well as together to assess the nutritional status of the children with the help of different well established systems of classifications & indexes. Accordingly for the present study Dugdale’s Nutritional Index, Gomez Classification & Gomez’s nutritional index; Body mass index and ICMR reference in relation to means for chest and mid arm circumference have been used to assess the nutritional status of infants.

The Dugdale’s Nutritional Index (1971) has been calculated basing on a power relationship between weight (kilogram) and height (Centimeters) -

\[
\frac{\text{Weight (Kg)}}{\text{Height (Cm)}^{1.6}} \times 10^4
\]

And the children are classified as malnourished if their nutritional index value is 88 or below. A nutritional index of >88-<110 taken as normal and >110 would signify obesity.

Similarly, nutritional index through Gomez Classification (1955 -1956) has been made on the basis of the calculation,
Weight of the child
\[ \frac{\text{Weight of the child}}{\text{Standard weight of child}} \times 100 \]

The Harvard standard of weight \(\text{Jelliffy: 1966}\) on relation to age of the child has been considered for the calculation of Gomez’s nutritional index \(\text{Ghosh:1976}\) which is as follows:

<table>
<thead>
<tr>
<th>Grade of Malnutrition</th>
<th>Body weight percent of Standard</th>
</tr>
</thead>
<tbody>
<tr>
<td>Normal</td>
<td>&gt;90%</td>
</tr>
<tr>
<td>Grade I (mild)</td>
<td>&gt;75-90%</td>
</tr>
<tr>
<td>Grade II (moderate)</td>
<td>&gt;60-75%</td>
</tr>
<tr>
<td>Grade III (severe)</td>
<td>&gt;60%</td>
</tr>
</tbody>
</table>

Another index used for the assessment of the infants nutritional status is the Body Mass Index of Keys et al. \(\text{1972}\). It has been calculated as:

\[ \frac{\text{Weight}}{\text{Height}^2} \]

And Body Mass Percentile Scale followed for the explanation of observations is as follows:

\(<15.00=\text{Normal}; >13.00-<15.00=\text{Moderate} \ & <13.00=\text{Severe}\)

The Weight & Height ratio index \(\text{R. Fisch et al,1975}\) is calculated through following equation -

\[ \frac{\text{Weight}}{\text{Height}} \]

The Mean was calculated through applying formula :-

\[ M = \frac{\sum X}{N} \]
M = Mean
\[ \Sigma \] = The Sum of
X = Score
N = No. of observations

Similarly, through Standard deviation the variability of the entire distribution was worked out. It is an established method of measurement to know the similarity and dissimilarity within a group of cases. It was calculated through applying the formula:-

\[
SD = \sqrt{\frac{\Sigma d^2}{N}}
\]

S.D = Standard Deviation
d = Deviation from mean

\[ \Sigma d^2 \] = Sum of squared deviation taken from mean

N = Number of observations

The data thus, analyzed with the help of the computer was presented in percentage, mean and standard deviation. The measure of association (chi-square test) and test of analysis of variance (F ratio) were borne as per Gupta (1982). The data were reported as significant on the basis of significance levels of 0.05 and 0.01. Accordingly all the calculated and analyzed data is presented in the form of different individual and comparative tables (Tables 1-74 & Figures 27).

VII. Interpretation and Presentation of the Data :-

The data thus analyzed was interpreted in the light of different relevant studies and findings and conclusions are derived accordingly, in relation to different prevalent feeding practices and their impact on the growth and development of the child.
Limitations of the Study :-

- Since entire study was conducted through four personal visits at certain intervals, practically it was not possible to attend all the respondents at certain fix period of age

- Lack of regular availability of the target groups (selected infants) at one place throughout the period of study caused several problems in relation to groupings of age for the infants.