

# Household Nutrition Practices by the Women in the Selected Area of Barishal District

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**Household Nutrition Practices by the Women in the Selected  
Area of Barishal District**

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**CERTIFICATE**

This is to certify that the thesis entitled “**Household Nutrition Practices by the Women in the Selected Area of Barishal District**” submitted to the Faculty of Agriculture, Sher-e-Bangla Agricultural University, Dhaka, in partial fulfillment of the requirements for the degree of **Master of Science in Agricultural Extension and Information System**, embodies the result of a piece of bonafide research work carried out by **Marjan Akter, Registration No. 19-10064** under my supervision and guidance. To the best of my knowledge, no part of the thesis has been submitted for any other degree or diploma.

I further certify that any help or source of information, received during the course of this investigation has been duly acknowledged.

**Dated: June, 2021**  
**Dhaka, Bangladesh**

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**“Dedicated to My  
Respected Parents”**

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## **ABBREVIATIONS AND ACRONYMS**

KAP	: Knowledge, Attitude, Practice
BMI	: Body Mass Index
NIPORT	: National Institute of Population Research and Training
LAMCs	: Low and Middle Income Countries
BDHS	: Bangladesh Demographic and Health Survey
ICF	: International Classification of Functioning
Kg	: kilogram
GOs	: Governmental Organizations
NGO	: Non-governmental Organization

# **Household Nutrition Practices by the Women in the Selected Area of Barishal District**

**Marjan Akter**

## **Abstract**

Household nutrient security is one of the emerging issues in Bangladesh. Household nutrition security in rural Bangladesh is expected to largely depend on women household heads and their decision making ability in various household activities. Concerning this, this study sought to understand the dynamics between household nutrition practices by women and their decision making ability in their households. Thus, a field survey was conducted using the KAP model questionnaire administered to 122 women (age 21–62 Years) in rural areas of Barishal. Data were collected using a random sampling method. Results indicated that around one-third (32%) of the respondents had low and an equal proportion (32%) had high nutrition practices in their households. A multiple regression analysis indicated that family's monthly food expenditure, attitude, women's household decision making, and nutrition-related decision making had significant positive influences on their household nutrition practices while age, education, family member, BMI level, knowledge, personal autonomy had no significant contribution to their households nutrition practice. Therefore, the findings conclude that women's ability to make decisions will lead to better management of nutrition practices in households.

# CHAPTER I

## INTRODUCTION

### 1.1 General Background

Food insecurity is a global problem that contributes to poor health and nutritional deficiencies. It affects health directly or indirectly through nutritional status as indicated by undernutrition or overnutrition. Women's nutritional status has been identified as an indicator of the overall well-being of society and the nutritional security of children. Unhealthy eating habits, such as consuming nutrient-deficient food, skipping meals, and lacking proper eating patterns, are understood to cause various health problems and nutritional deficiencies. Therefore, knowledge about healthy food choices is a factor in maintaining a healthy diet.

Women's empowerment is the key indicator of their household decision making. And it is one such underlying determinant of household nutrition, with substantial evidence that it positively influences child nutrition and growth (Carlson, Kordas, & Murray-Kolb, 2015; van den Bold, Quisumbing, & Gillespie, 2013). Scholars define women empowerment as the ability of a woman to claim to enable resources, exercise voice and agency, and act on desires to transform her own life in contexts where this ability has been denied (Kabeer, 1999). In many societies, women are responsible for the procurement, preparation, and allocation of food and ultimately preserving food culture (Hodgson, 1999; Holtzman, 2002). As Holtzman describes, among the Samburu pastoralists of northern Kenya, "women are foremost constituted as food givers, responsible for providing sustenance to children and elders" (Holtzman p.1045). Thus, it is unsurprising that women empowerment is associated with improved household and own dietary diversity (Amugsi, Lartey, Kimani, & Mberu, 2016; Galie et al., 2019; Malapit, Kadiyala, Quisumbing, Cunningham, & Tyagi, 2015; Yimer & Tadesse, 2015) and improved optimal infant and young child feeding practices (Bose, 2011; Ickes, Heymsfield, Wright, & Baguma, 2017; Na, Jennings, Telegawker, & Ahmed, 2015; Shroff et al., 2011; Smith et al., 2002). Relative to disempowered women, more empowered women may have a greater influence on budgets allocated to household food procurement and how food is allocated in the household and greater agency in how they choose to feed their infants, contributing to improved diets and nutritional status. Integrating women's empowerment into social

and behavioral strategies for improving nutrition may shift societal and household norms away from women's role as “last and least” in food prioritization (Carlson et al., 2015; Gittelsohn, Thapa, & Landman, 1997; Ruel & Alderman, 2013; Smith et al., 2002). Women’s economic participation and empowerment are fundamental to strengthening women’s rights and enabling women to have control over their lives and exert influence in society.

The role of women as smallholder farmers and food producers is also critical. Women make important contributions to the agricultural and rural economies of all regions. Rural women often manage complex households and pursue multiple livelihood strategies. Their activities include producing agricultural crops, tending animals, processing and preparing food, working for wages in agricultural or other rural enterprises, collecting fuel and water, engaging in trade and marketing, caring for family members and maintaining their homes. When women have more control over household resources, families are healthier, better educated, and have more access to more nutritious foods.

Bangladesh is the most densely populated country in the world, with about 163 million people living. Despite significant economic progress and poverty reduction, about 35 percent of Bangladesh’s population remains food insecure, with around 10 percent of ever-married women reported as moderately or severely food insecure (NIPORT et al. 2013). With other factors gender inequality in decision making related to household production and consumption also factors into the subsequent poor nutritional status of women and young children. Despite the challenges, Bangladesh has made strides in reducing the prevalence of stunting nationally, falling from 41% in 2011 to 28% in 2019 (NIPORT et al., 2013; BBS and UNICEF Bangladesh, 2019). Stunting is highest in the Sylhet division at 38% and lowest in Khulna at 21%. In addition, 4% of ever-married women and 8% of unmarried women ages 15–19 years are underweight (BMI <18.5). Although undernutrition remains a significant issue in Bangladesh, overweight and obesity are also becoming concerns, with 16 percent of ever-married women and 10 percent of unmarried women ages 15–19 years are overweight or obese<sup>2</sup> (NIPORT 2021). These nutrition statistics indicate problems associated with low-quality food intake and unhealthy eating patterns in Bangladesh. If women are aware of healthy nutrition, they can help minimize many nutritional problems.

Across the world, women play important roles in the development of human nutrition as food producers and caregivers at household levels. Many researchers have acknowledged that women's empowerment is positively associated with food security and improved nutritional outcomes of family members, in particular, children's nutrition and growth (Essilfie et al., 2020; Galiè et al., 2019; Hossain et al., 2021; Kalansooriya & Chandrakumara, 2016; Wei et al., 2021). It needs to be noted that food security can be assured when all people have access to sufficient, safe, and nutritious food that meets their dietary needs for active and healthy lives (World Food Summit, 1996). In addition, human nutrition is a scientific discipline concerned with the utilization of food and nutrients for life, health, growth, and wellbeing. Likewise, nutritional management may reflect practices that impact one's food consumption. At the household level, these practices include intra-household food distribution and nutrition education, etc. (World Health Organization, 2000). Women play a significant role in family care. Women's awareness of food and nutrition and their decision making abilities in households are expected to be important determinants of household nutrition practice. Therefore, studying women's decision making abilities in the households and its implications on household nutrition practice is worthwhile.

## **1.2. Research Question**

To form a research question, it is very much important to determine what type of research will be conducted such as qualitative, quantitative or mixed study. Answering the research questions may help to address a research problem. It determines where and what kind of research the writer will be looking for along with the specific objectives of the research paper. This research has been conducted on women's decision making and the impacts of household nutrition practice in Barishal district. From the above discussion, some questions are raised to complete the research. The purposes of the study were to answer the following research questions:

- i. What are the factors that influence women's household nutrition practices?
- ii. To what extent do women practices nutrition-related activities in the household?
- iii. To what extent do the selected factors influence women's household nutrition-related practices?

### **1.3. Objectives of the Study**

Research is an organized investigation of a problem in which there is an attempt to gain a solution to a problem. In order to get an accurate solution to a given problem, clearly defined objectives are very important. The final part of clarifying a research project involves thinking in more detail about research objectives that enlighten how the researcher has to proceed. The accompanying research goals were detailed to direct the research based on the research questions. The following specific objectives were set forth in order to proper direction to the study;

- To describe the selected socio-economic characteristics of women,
- To determine women's extent of practices of nutrition in the households,
- To explore the contribution of women's selected characteristics to their household nutrition practices.

### **1.4. Justification of the Problem**

Women's nutritional knowledge, behavioral attitudes and practices are essential because women mostly control and oversee the food consumption of their family. By the study, the researcher will come to know about the importance of women's household decision making ability and dietary practice in the household, mainly in Barisal district. It is assumed that empowered women have more decision making power and contribute more to their household nutrition intake. Economic and social empowerment helps flatten the gender disparity and can improve women's household autonomy. This study will help find out the determinants that influence women's decision making ability and their impact on their household nutrition practices.

### **1.5. Assumptions of the Study**

Assumptions are things that are accepted as true or at least reliable by the researcher and peers who will read the thesis. Assumptions generally refer to the characteristics of the data, such as distributions, co-relational trend, variable type, etc.; violating these assumptions can drastically invalidate results, though this often depends on sample size and other considerations. The researcher made the accompanying suspicions while undertaking this study:

- i. The responses furnished by the respondents were reliable. They expressed the truth about their opinion and interest;

- ii. The researcher who acted as interviewer adjusted to the social and environmental conditions of the study area. Hence, the collected data by him from the respondents were free from bias;
- iii. The respondents included in the sample for the study were competent enough to furnish proper responses to the queries included in the interview schedule;
- iv. Views and options furnished by respondents included in the sample selected those of the population of the study.

### **1.6. Limitations of the Study**

Limitations of the research are potential weaknesses in a study that is mostly out of the researcher's control. Due to the time, money and other necessary resources available to the researcher and to make the study manageable and meaningful, there became necessary to impose certain limitations as noted below:

- i. The sample size is 122 that are limited for this study due to the workplace or busy schedules.
- ii. The study area is limited to the two unions of one upazila under Barishal district only.
- iii. The study depends upon primary data, which is evaluated based on the response of the respondents.

## **CHAPTER II**

### **REVIEW OF LITERATURE**

A literature review provides an overview of current knowledge, allowing the researcher to identify relevant theories, methods and gaps in the existing research. A literature review involves collecting, evaluating and analyzing publications (such as books and journal articles) that relate to research questions. This Chapter has portrayed some reviews of interlinked knowledge on this aspect that is endeavored.

Many recent studies present the linkage between women's empowerment and household livelihood outcomes. When women have control over assets and decision-making power, they favor agricultural products that support and ensure household food security (Schutter, 2013). Malhotra and Mather (1997) consider domestic decision-making one of the dimensions of empowerment along with paid work and education. Becker et al. (2006) reported and analyzed decision-making as a measure of empowerment using an analysis of husband and wife reports on household decision-making, which revealed differences in the reported participation of wives (Bhagowalia et al., 2012; Schuler et al., 1996). This study is done in Barishal, Bangladesh. Available data on health, nutrition, education, and economic performance indicated that in the 1980s, the status of women in Bangladesh remained considerably inferior to that of men. In custom and practice, women remained subordinate to men in almost all aspects of their lives; greater autonomy was the privilege of the rich or the necessity of the very poor. Most women's lives remained centered on their traditional roles, and they had limited access to markets, productive services, education, health care, and local government. This lack of opportunities contributed to high fertility patterns, which diminished family well-being and contributed to the malnourishment and generally poor health of children.

Based on the Theory of Consumer Behaviour, Cai (1998) investigated the relationship between vacation food expenditures and household socio-demographic characteristics and several determinants were identified which included earned and unearned income, age, the nature of their occupation, educational level, ethnicity, marital status, employment status, seasonality and the



number of children. Research examining the effects of women's autonomy on children's health to date has provided mixed results. Some studies suggest that women with greater control in deciding how household resources are used are more capable of maintaining and improving the nutrition and health of themselves and their children than are women with lower levels of autonomy, who must defer to the interests of their husbands or extended family members (Caldwell, 1986; Caldwell and Caldwell, 1993; Hindin, 2000; Hossian et al., 2007; Koenen et al., 2006; Morgan et al., 2002; Shen and Williamson, 1999). In low-resource settings where women invest more in the welfare of their children, women's ability in decisions is quite important for the nutritional outcome of children. A review of previous studies from LAMICs reported the effect of women empowerment on child nutritional status. Women's decision-making roles were significantly compromised in a household earning lower income and those in the lowest quartile of wealth index.

Women's empowerment, through autonomy over household purchases, is positively associated with children's nutritional status in Ethiopia (Abate & Belachew, 2017) and is associated with women's dietary diversity in Ghana (Amugsi, Lartey, Kimani, & Mberu, 2016). Their empowerment has a positive impact on the dietary status of the households (Sraboni et al., 2014). When agricultural income is in women's hands, it is more likely to be spent on health, education, and nutrition. When women have control over assets and decision-making power, they favor agricultural products that support and ensure household food security (Schutter 2013). Sraboni et al. (2014) find a positive association between women's empowerment and dietary diversity as well as calorie availability.

Considering the above-mentioned gap, we aim to contribute to the literature by focusing on one important aspect of empowerment: intra-household decision-making. The study adopts the latest methodology introduced by Sariyev et al. (2020) in building an index for women's participation in domestic decision-making and aims to investigate the linkage between dietary quality and empowerment in Bhutanese households.

This paper begins with the background information on the research country (Bangladesh) and the status of its female population; it proceeds with a literature

review on the linkages between women's status and household food and nutrition security that is followed by a review of tools for measuring participation of decision making (empowerment). In the second section, the conceptual framework of the paper is presented.

### **2.1. The Status of Women in Bangladesh**

In Bangladesh, women constitute about half the total population, of whom 45 percent are predominantly engaged in the agricultural, forestry, and fisheries sectors for their dominant occupations (Bangladesh Bureau of Statistics, 2019). Despite making a major contribution to the economy, they have limited access and control over resources, heavy domestic workloads and restricted mobility, all of which contribute to their vulnerability (Quisumbing et al., 2014). In addition, around 87 percent of Bangladeshi women face domestic violence and married women are more vulnerable to psychological and physical oppression (Bakchi et al., 2018; World Health Organization, 2013). Further, women in relatively well-off households can still be nutritionally insecure and lack adequate nutrition due to how food is shared and distributed (Brown et al., 2009; Food and Agriculture Organization of the United Nations, 2008). Consequently, women are underprivileged and discriminated against in every sphere, which potentially have negative effects on income generation, education, health, and nutritional status at the household and national levels (Sraboni et al., 2014). Before the 20th century, women in this region and Bengal experienced different levels of autonomy depending on where they lived. The literacy rate in Bangladesh is lower for females (55.1%) compared to males (62.5%) – 2012 estimates for the population aged 15 and over.

Right after its independence, Bangladesh understood that empowering women is crucial to ending poverty. During the past decades, Bangladesh has improved its education policies; and the access of girls to education has increased. In the 1990s, girls' enrolment in primary school increased rapidly. Between 2003 to 2016, Bangladesh increased the female labor participation rate by 10 percent to 36 percent, thanks to the readymade garments and livestock sectors. Even today over 70% of rural women are smallholder farmers and own poultry and other livestock. Unless we take decisive action today, future growth and productivity scars could be permanent.

Bangladesh has made remarkable progress in the last 20 years in improving the lives of women and girls. Maternal mortality rates are falling, the fertility rate is declining, and there is greater gender parity in school enrolment. At the same time, 82 percent of married women suffer gender-based violence and pervasive sexual violence prevents women from achieving their full potential. Despite efforts by the government and non-governmental organizations to reduce the rate of child marriage in Bangladesh, it remains the highest in South Asia at 59 percent of girls getting married before the age of 18. Women's participation in the workforce remains constrained to limited, low-paying sectors. Three million Bangladeshi women are employed in the lucrative readymade garment sector, which is Bangladesh's largest export industry.

## **2.2. Women's Role in Food and Nutrition Security**

Rural women are responsible for more than 55% of the food grown worldwide and for 70% in Africa. Women also comprise 67% of the agricultural labor force in developing countries (United Nations, 2017). Although it is widely cited that women produce around 60% of the world's food, empirically, it is impossible to quantify the female contribution to the food production as the production process involves both genders, and disaggregation is in most cases not possible. What is important is to highlight that women are principal in food production (Doss 2014) and homestead lands that females mostly use contribute a great deal to the dietary diversity of the households (Doss et al. 2018). Malapit et al. (2015) find positive implications for different specifications of female empowerment in dietary diversity of women and children in Nepal. Moreover, in Bangladesh, the status of women is found to be positively linked with the long-term nutritional status of children (Bhagowalia et al. 2012).

Since women tend to spend income directly on purchasing goods and services that promote their families' nutrition, health, and general well-being, increasing women's income has had a greater effect on those outcomes than increasing men's income. For example, data from Brazil suggested that additional income managed by women was associated with a 3% increase in food expenditures, significantly greater than the 0.6% from income in the hands of men

(Thomas D et.al., 1997). These results showed that women also tended to invest in foods associated with the better health of their family members.

The large pool of literature on food security and gender interaction shows that investing in rural women is a proven method to contribute to household-level food and nutrition security. Among many analyses regarding food security, empowerment and their interaction in South Asia, the authors here fail to find any such studies in Barishal, Bangladesh or in any similar context. If the status of women were improved, agricultural productivity would increase, which would increase household income and food availability, ultimately improving the nutritional status (Kassie et al., 2015). The study aims to contribute much to the literature on women's participation in intra-household decision-making.

### **2.3. Factors Influence Household Nutrition Practice**

Kabeer (2001) finds that empowerment should be seen as a process of expanding one's freedom to make choices that affect one's life. It aims to grant one's deserved control over resources and decisions (Malhotra and Schuler 2005). In this study, the researcher looks at the decision aspect. The particular aspects or dimensions taken are:

- Women's economic decision making power;
- Their household decision making power; and
- Their personal autonomy

### **2.4. Women's Selected Characteristics and their Relationship to Household Nutrition Practices**

#### **2.4.1 Age**

According to the Bangladesh Demographic and Health Survey (BDHS) in 2011, more than half of the women aged between 15 and 49 years were unable to decide about their health or their child's health on their own (Magnani et al., 2015, p. 12).

As of 2017, about 26% and 32% of adolescents age 15–19 years had begun childbearing in Dhaka and Rangpur divisions, respectively (National Institute of Population Research and Training (NIPORT) & ICF, 2019).

Webb and Lewis (2013) stated that during a child's development phase, negative dietary practices such as low intakes of fruits and vegetables can be transferred to adulthood and they have recommended increasing fruits and vegetable intake at a primary school level.

#### **2.4.2 Education**

Women are more likely to invest in health and education (Schmidt 2012). Women are more prone to nutritional deficiencies as compared to men. The main causes for this are reproductive biology, low social status, destitute conditions and lack of education. Lack of proper diet and nutrition impedes the growth and development of girls. It may lead to stunted growth; at a later stage, they experience a higher risk of complications, particularly during and after childbirth (Kowsalya, &Manoharan, 2017).

A higher level of educational attainment amongst the household heads, especially women, influences proper food preparation and good nutrition practices. These improve adequate feeding practices to prevent malnutrition among children (Titus B., Adetokunbo G., 2007, Belachew T. et al., 2011; Moyi P. 2013).

Data from various studies revealed that problems associated with health and nutrition affect access to quality education and good academic performance in low- and middle-income countries, especially Sub-Saharan Africa.

#### **2.4.3 Family size**

A large family size puts an extra burden on food consumption and is more likely to experience food insecurity than households with small family size (Oluwatayo I. B.).

Members of large families compete for the limited resources available in the household. As a strategy, large households tend to consume a limited volume or frequency of meals without considering the quality of the diet (Ihab A et al.).

#### **2.4.4 Monthly food expenditure**

Low vegetable and fruit consumption are risk factors for obesity, and increased consumption will decrease the risk of developing several chronic diseases (Ullman 2009).

Eustaquio (2014) also stated that past studies have shown that family size and composition, family income, educational expenses, highest educational attainment, age, occupation, the gender of the household head and the number of employed family members all influence the food expenditure of households.

#### **2.4.5 BMI level**

A recent national survey based on BDHS-2007 reported that 57.7% of women were of normal weight, 28.66% were underweight, 11.45% were overweight and only 2.16% were obese.

In northwest Bangladesh, more than one-third of pregnant adolescents are underweight, 28% are anemic, and 32% have vitamin A deficiency (Mridha et al., 2018).

#### **2.4.6 Knowledge about nutrition**

Women's nutrition knowledge is strongly associated with children's dietary diversity, nutritional status and micronutrient intake (Block, 2004, 2007; Cunningham et al., 2017; Debela, Demmler, Rischke, & Qaim, 2017; Fadare, Amare, Mavrotas, Akerele, & Ogunniyi, 2019; Monteban, 2017; Oduor, Boedecker, Kennedy, Mituki-Mungiria, & Termote, 2018; Ruel, Habicht, Pinstруп-Andersen, & Grohn, 1992).

Additionally, the importance of the nutrition knowledge of other family members, such as grandparents, for child outcomes has been explored extensively (Karmacharya, Cunningham, Choufani, & Kadiyala, 2017).

Numerous studies have illustrated that, in settings with low education, improving nutrition knowledge among women through programming can positively impact children's diets (Alderman & Headey, 2017; Hirvonen et al., 2017; Onyeneke et al., 2019; Webb & Block, 2004).

One of the studies suggested that women's inadequate nutrition knowledge and their food intake did not meet all the nutritional requirements of pregnancy. *J. Matern. Nurs.* (2002).

According to Miller et al., individuals will change their diets appropriately when they get accurate information about what they should eat and they should know the effects of food consumption on health.

Nutritional awareness directly affects diet quality and is related to socioeconomic factors, in particular, education and income that influence the nutritional awareness-diet quality relationship (Alkerwi A. et al., 2015).

#### **2.4.7 Household decision making**

Hashemi et al. (1996) and Garikipati (2008) use decision-making power as a proxy of empowerment and a few other proxies to investigate the effect of credit programs on women in Bangladesh and India.

Women's participation in household decision-making is widely considered a good empowerment measure (Acharya and Bennett 1983; Allendorf 2007; Bhagowalia et al. 2012; Schuler et al. 1996).

Married adolescent girls often have minimal decision-making power at the household or community level and are expected to follow the directives of male family members and in-laws (Presler-Marshall & Stavropoulou, 2017).

Women's decision-making power has been shown to be associated with child nutritional status in multiple low-income countries. Women with lower decision-making power had higher odds of having undernourished children.

According to the 2014 Bangladesh DHS, one-third of married adolescent girls report having no say in household decision-making (National Institute of Population Research and Training (NIPORT) et al., 2016).

#### **2.4.8 Personal autonomy**

In the study of women living in Jordan, for example, Miles-Doan and Bisharat (1990) found that children of women who are household heads—women who have high levels of autonomy—are healthier and die less often than other children, regardless of economic status.

Previous studies have found that while men tend to make investments in themselves or the overall worth of their households, women are more likely to invest in the basic food and health care needs of their children and to prioritize these needs above all other needs (Caldwell, 1986; Engle, 1993; Guyer, 1988; Holombøe-Ottesen and Wandel, 1991; Quisumbing and Maluccio, 2000; Roushdy, 2004).

In a study of Indian women residing in Uttar Pradesh, Bloom et al. (2001) found that women with greater levels of autonomy are more likely to get antenatal and safe delivery care compared with women with low levels of autonomy.

#### **2.4.9 Attitude towards nutrition**

Females in Bangladesh (especially married adolescents) are often expected to sacrifice their food consumption so male family members can have more (Blum et al., 2019).

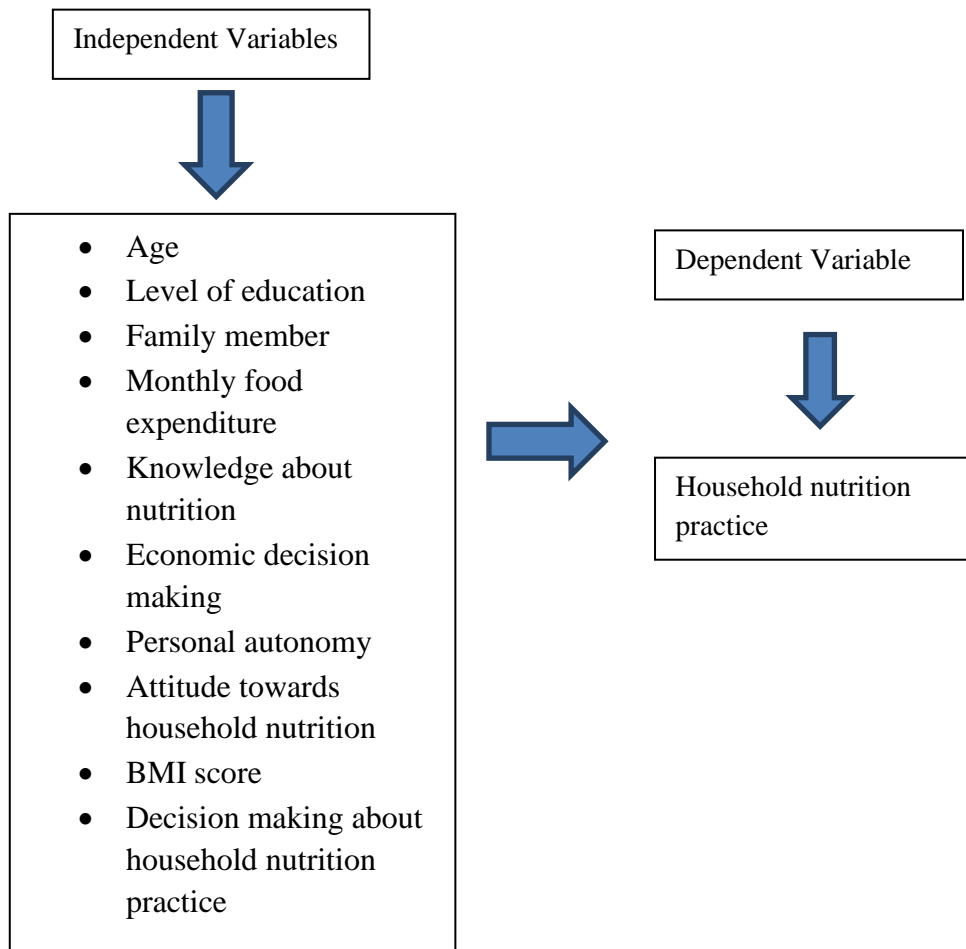
#### **2.4.10 Household decision making regarding nutrition**

In Malawi, analysis shows that if female headed households enjoy equal access to productive resources, their food security significantly improves (Kassie et al., 2015). Poor households are poor because of their limited productive resources, and it is often observed that food is assigned to higher priority household members who are often male (Miller 1997).

### **2.5. Conceptual Framework of the Study**

A conceptual framework may be defined as the framework that illustrates what one expect to find through research. It defines the relevant variables for a study and maps out how they might relate to each other. This study tried to focus on the relationship between women's decision making and household nutrition. The conceptual framework of Rosenberg and Hovland (1960) was done by framing the structural arrangement for the dependent and independent variables. This study expewomen's household nutrition practice as a dependent variable, which was influenced by selected characteristics of the women as independent variables. Such as age, level of education, family member, monthly food expenditure, knowledge, household decision making, BMI score, attitude and personal autonomy.





**Figure 2.1. The conceptual framework of the study**

# CHAPTER III

## METHODOLOGY

Research methodology is the way to solve a research problem systematically. It is the science of studying how research is done scientifically. The researcher goes about his work of describing, evaluating and predicting phenomena by the procedure. It actually gives the plan of work of research. Collection of valid information, as well as procedure of data coding and analysis of data, are the main deals of this Chapter. The methods and procedures that were followed in conducting this research are given below:

### 3.1. Study Area

Bakerganj upazila of Barishal district was purposively selected as the study area. Out of fourteen unions of this upazila, two unions were randomly selected. One village from each union, namely Sorshi and Modhukati were randomly chosen for the data collection purpose. These two different areas were selected based on varietal characteristics of the profession and nutritional, social, and health-related issues. The main income for people comes from agriculture, and the main crops are paddy.

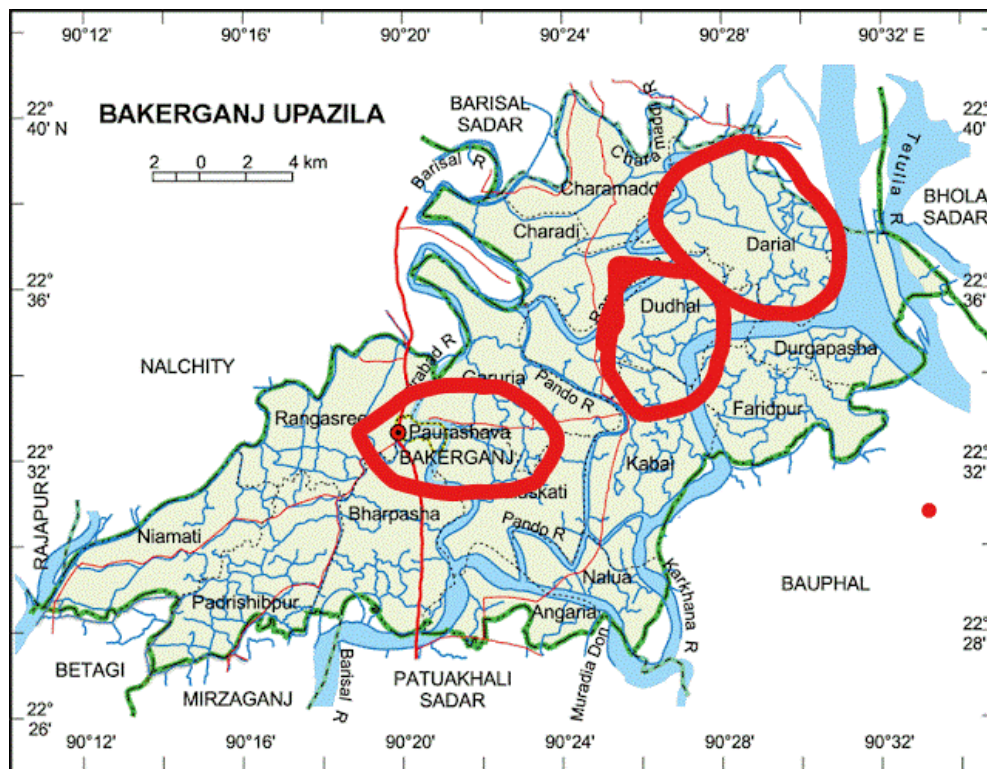


Figure 3.1 A map of Bakerganj upazila indicating two study unions

### 3.2. Population and Sampling Techniques

A total of 660 populations were found in two selected villages. Out of which 122 respondents were proportionately determined by online sample determination tools with 8% margin of error ([www.surveysystem.com](http://www.surveysystem.com)). The population and the sample of the study are presented in Table 1. Respondents were selected randomly and data collection was conducted in a face-to-face setting using a structured interview schedule from 20 January to 15 February 2021.

### 3.3. Data Collection Procedure

A cross-sectional survey methodology was used in this study. Through a pre-organized meeting plan, data was gathered. A pre-test was conducted with the previously prepared interview schedule, which was made accordance with the objectives of the study. Some correction, alterations, additions and rearrangements were taken place in the schedule wherever it is needed because of experiences of the pre-test. The self-designed questionnaire used in this study was based on the KAP model and these questions were arranged systematically so that it became very easy to understand for the women's. According to a feasibility study, women are a powerful indicator of household food security in the area, since they are main income holders but also suffer from nutritional problems. One woman per household was selected. In case a household's selected candidate refused to participate or no women were available for an interview, then the nearest house's women were interviewed. All women participated in the survey (n=122, 100%). No monetary incentive was provided for the participant. Interview data were also transferred to the datasheet before conducting quantitative statistical analysis. Appropriate scales of each construct were adopted from prior literature whenever possible and were exhibited in an English version of the interview schedule attached in the Appendix-A.

**Table 3.1. Population and sample of this study**

<b>Union</b>	<b>Villages</b>	<b>No. of Households</b>	<b>No. of Sample (n) in village</b>	<b>%</b>
Dudhal	Sorshi	325	60	49.18
Darial	Modhukati	335	62	50.82
Total		660	122	100

### 3.4. Data Management and Analysis

Data management for the household survey included editing questionnaires, computerizing data, and preparing tables. Frequencies, percentage, mean and standard deviation (SD) were calculated for the demographic characteristics and other indicators. In order to determine the contribution of selected socio-economic characteristics to their household nutrition practice and multiple regressions was computed. All tests were considered significant at  $p < 0.05$  level. Data analysis was performed using the SPSS version 23.0 windows. Qualitative data were converted into quantitative data by means of suitable scoring wherever necessary.

### 3.5. Variables of the Study

Variables are the basic elements that are measured in any study. In social research, selecting and measuring variables are very important tasks to lead the research in the right way.

Two types of variables were used for this study:

- ✚ **Dependent variable:** Dependent variable may affect the outcome of the study or experiments that is generally known as reliant or response variables, effect, outcomes, consequences, results etc. It has a direct relation with the estimation of alternate factors. “Household nutrition practice” is the dependent variable in this study. The scale is attached in the appendix item eleven (11).
- ✚ **Independent Variable:** The alternate name of this variable is indicator variable which means that these variables indicate the way a research is going on. The independent variable choose for this study are age, family member, educational qualification, monthly food expenditure, knowledge of nutrition, BMI score, women’s decision making, women’s personal autonomy, women’s attitude towards household nutrition, and women’s decision making about household nutrition and health. All these independent variables will lead the study to achieve the dependent variable and fulfill the objectives.

### **3.6. Measurement for Variables**

Variables are measured in different parameter. The measuring processes or methods for the variables of this study are given below:

#### **3.6.1. Age**

The parameter was complete years based on their response to measure this variable. Each year of age was scored one (1) point for this variable.

#### **3.6.2. Education**

Education was measured in terms of years of schooling finished by the selected women in educational institutions. Passing each level of education in an educational institution was scored by one (1) point. But 0.5 point was assigned for women who “can’t read and write” and 1 point for those who “can sign only”. H.S.C (Higher Secondary Certificate) passed women’s were scored 12 points, for Honor’s passed women’s were scored with 16 points and M.S (Masters of Science) passed women’s were scores with 18 points.

#### **3.6.3. Monthly food expenditure**

The monthly food expenditure of the respected women’s household was measured on scale of taka. One thousand Taka got one point score for this variable.

#### **3.6.4. Knowledge about household nutrition**

Knowledge of household nutrition of women was measured by asking them eight different questions using format after consulting relevant experts and reviewing literature as exhibited in the appendix. Six questions were for 2 marks, one question mark 1 and one question mark 3. The total score for knowledge questions were 16. A knowledge score <12 refers to less knowledgeable, and a score >14 refers to highly knowledgeable.

#### **3.6.5. BMI score**

Anthropometric measurements were taken using a stadiometer and electronic weighing scale. Height was measured to the nearest inches by using a height scale following the standard anthropometric technique for weight and height measurements. Participants were asked to remove their shoes and wear light clothing. Body mass index (BMI) was calculated by dividing weight (kilograms) by height in meters

squared (kg/m<sup>2</sup>). Evaluation of nutrition status (underweight, normal weight and overweight) using BMI was based on the following WHO criteria: BMI < 18.5, underweight (malnourished); BMI = 18.5–24.99, normal weight; BMI = 25–29.99, overweight; and BMI > 30, obesity. The BMI calculation will help better understand the nutrition situation of the research areas. The BMI score was calculated for each selected woman to find out the nutritional status of that woman. BMI score was calculated by the following formula:

$$\text{BMI} = \text{kg/m}^2$$

### 3.6.6. Women’s economic decision making

A 5-points Likert scale (Likert, 1932) was used to measure women's participation in decision making. Each woman was asked to reveal her extent of participation in household decision making against 13 statements. Scores were assigned as follows:

Category	Score
Decision is taken solely by me	4
Decision is taken jointly with husband	3
Decision is taken jointly with another member of the household	2
Decision is taken by husband	1
Decision is taken by another member of the household	0

The total possible score of economic decision making could range from 0-52 where ‘0’ indicates no decision making and ‘52’ indicates the highest or self-decision making. This scale was developed from the concept in the report published by Oxfam GB.( Lombardini, Bowman and Garwood, 2017).

### 3.6.7. Women’s decision making regarding nutrition

Women’s decision making regarding nutrition was measured using a 5-point Likert scale (Likert, 1932). Each respondent was asked to reveal her extent of participation in household decision making regarding nutrition practice against seven statements. Scores were assigned as follows:

Category	Score
Decision is taken solely by me	4
Decision is taken jointly with husband	3
Decision is taken jointly with another member of the household	2
Decision is taken by husband	1
Decision is taken by another member of the household	0

The total possible score of nutrition decision making could range from 0-28 where '0' indicates no decision making and '52' indicates the highest or self-decision making regarding nutrition.

### **3.6.8. Personal autonomy & women's attitude toward nutrition**

For measuring women's attitude toward nutrition and their autonomy in the household, a 5-point of Likert scale (Likert, 1932) was used. Each woman was asked to reveal her extent of agreement or disagreement against six statements for personal autonomy and five statements for women's attitude towards nutrition. Scale range from strongly agree (5), agree (4), neither agree nor disagree (3), disagree (2) and strongly disagree (1). The total score of a woman respondent was determined by summing up the weights for responses against all statements using the following formula-

$$\text{Attitude score} = \Sigma (5*SA+4*A+3*N+2*DA+1*SDA)$$

Where,

SA= Women expressed her attitude 'strongly agree' with the statement and assigned a score of 5 points;

A= Women expressed her attitude 'agree' with the statement and assigned a score of 4 points;

N= Women expressed her attitude 'Neutral' for the statement and assigned a score of 3 points;

DA= Women expressed her attitude 'disagree' with the statement and assigned a score of 2 points;

SDA=Women expressed her attitude 'strongly disagree' with the statement and assigned a score of 1 point.

The total score could range from 6 to 30 for personal autonomy and 5 to 25 for attitude. For attitude, a score of "5" refers to the lowest attitude and "25" refers to the highest attitude towards household nutrition behavior.

### **3.7. Measurement of Dependent Variable**

Women's nutrition practice in the households" was the dependent variable of this study. It was measured to know the contribution of selected women's household dietary diversity and nutrition practice was assessed by five categories such as almost daily (5), a couple of times a week (4), once a week (3), a couple of times in a month- (2), once a month (1). The total score could range from 6 to 30 for the nutritional practice, where '6' indicates very low practice and '30' indicates practice regularly.

### **3.8. Hypothesis of the Study**

Based on the review of the literature and the conceptual framework developed, the following research hypothesis was formulated:

Each of the selected characteristics (age, family member, educational qualification, monthly food expenditure, knowledge on nutrition, BMI score, women's decision making, women's personal autonomy, women's attitude towards household nutrition, women's decision making about household nutrition and health) had a significant influence to the household nutritional practice.

### **3.9. Null Hypothesis**

The null hypothesis reflects that there will be no observed effects of research or it states that there is no contribution between the concern variables. Therefore, to conduct tests, the previously formed research hypothesis was converted into null form as given below:

"There is no contribution of the selected characteristics (age, family member, education, knowledge, household decision making, personal autonomy, attitude towards nutrition, household decision making regarding nutrition) of household nutrition practice by women.



## CHAPTER IV

### RESULTS AND DISCUSSION

This Chapter presents the results of this study: respondents' characteristics, women's extent of the nutrition-related practice, and the contribution of women's selected socio-economic characteristics to their practice in households.

#### 4.1. Socio-economic Characteristics of Women

Socio-economic characteristics of the sampled respondents are presented in Table 4.1. Various factors can influence women nutrition related practice. The descriptive statistics such as range, mean and standard deviations of these characteristics were presented and described as follows.

**Table 4.1. The salient features of the selected characteristics of the women**

Categories	Measuring unit	Range		Mean	SD
		Possible	Observed		
Age	Years	-	21-62	40.11	9.67
Education	Year of schooling	-	.5-18	8.65	4.51
Family size	Score	-	2-12	5.24	1.42
Monthly Food Expenditure	'000' TK	-	3-35	16.66	5.11
BMI level	Score	-	14-37	22.63	4.18
Household nutrition practice	Score	0-30	14-29	20.77	4.10
Knowledge	Score	0-16	10-16	13.84	1.67
Household decision Making	Score	0-52	25-51	40.17	5.80
Personal autonomy	Score	0-30	12-29	20.07	4.31
Attitude towards nutrition	Score	0-25	15-25	19.79	1.85
Household decision making regarding nutrition	Score	0-28	15-28	23.81	2.89

##### 4.1.1. Age

The range of age of the respective women was between 21 to 62 years (Table 4.1) and the average age was 40.11 years, with a standard deviation of 9.66. Based on age classification by the People's Republic of Bangladesh, the farmers were classified into three categories based on their age: young aged (up to 34 years), middle aged (35 to 50 years) and old aged (above 50 years). The categories and the distribution of the women according to their age are shown in Table 4.2. However, data also revealed

that 87.7% of the women in the study area were of middle to young aged. This study found that middle to young women are more engaged in household decision making.

**Table 4.2 Distribution of the women according to their age**

Categories	Number	%	Mean	SD
Young age (<35 years)	36	29.5	40.11	9.67
Middle age (35-50 years)	71	58.2		
Old age (>50 years)	15	12.3		
<b>Total</b>	122	100.0		

#### 4.1.2. Education

The range of education of the selected women was found 0.5 to 18 and the average of education was 8.65 years with a standard deviation of 4.52. Women's were classified into five categories based on their education: can't read and write (0), can sign only (0.5), primary level (1-5), secondary level (6-10) and above secondary level (above 10). The categories and the distribution of the women according to their education are shown in Table 4.3.

**Table 4.3 Distribution of the women according to their education**

Category	Number	Percent	Mean	SD
Can sign only (0.5)	2	1.6	8.65	4.52
Primary education (1 to 5)	37	30.3		
Secondary education (6 to 10)	49	40.2		
Higher secondary education (11-12)	18	14.8		
Above higher secondary education (>12)	16	13.1		
<b>Total</b>	122	100.0		

Table 4.3 indicates that the highest proportion (40.2%) of the women fall under the category of secondary level of education, whereas 30.3% of the women fall under the category of primary level, 27.9 fall under the above secondary category, only 1.6% fall under can sign only. None of the women fall under the can't read and write category. The findings indicate that 70.5% of the women completed either primary or secondary schooling.

### 4.1.3. Monthly food expenditure

The household monthly food expenditure range was between 3 to 35TK (in thousand TK) and the average expenditure was 16.66 TK (in thousand TK) with a standard deviation of 5.11. Women were classified into three categories based on their monthly food expenditure: low expenditure (up to 10 thousand TK), medium expenditure (11 to 21 thousand TK) and high expenditure (above 21 thousand TK). The categories and the distribution of the women according to their food expenditure are shown in Table 4.4.

**Table 4.4. Distribution of women's by their monthly household food expenditure**

Category (mean+SD)	Number	%	Mean	SD
low expenditure (<11 thousand taka)	13	10.7	16.66	5.11
medium expenditure (11-21 thousand taka)	94	77.0		
High expenditure (>21 thousand taka)	15	12.3		
Total	122	100.0		

Data presented in Table 4.4 indicates that the highest proportion (77%) of the women's had medium expenditure, whereas 12.3% of the women's had higher expenditure. There are 10.7% of the women who had lower monthly food expenditure. These data revealed those households spend more for food was found to have more dietary diversity. This positively influences the household nutritional behavior.

### 4.1.4. Knowledge on nutrition

To obtain respondents' knowledge on nutrition, each respondent was asked eight structured questions comprised of various aspects of family nutrition. Each question were weighted 2 points for the right answer, 1 point for the partial answer and 0 for the wrong answer. Thus, the expected range of the nutrition scale was 0-16. Based on the obtained score, respondents were categorized into three groups low (<12), medium (12-14) and high (>14)(Table 4.5).

**Table 4.5. Distribution of women according to their knowledge on nutrition**

Categories	Number	%	Mean	SD
Less knowledgeable (<12)	8	6.6	13.84	1.67
Medium knowledgeable (12-14)	69	56.6		
High knowledgeable (>14)	45	36.9		
<b>Total</b>	122	100.0		

Data show that an impressive number of the respondents (93.5%) had medium to high levels of nutrition with a mean of 13.84 while only 6.6% of the respondents were categorized as little knowledgeable in various aspects of family nutrition.

#### 4.1.5 Household decision making

To measure the respondents' participation in household decision making, asked them thirteen statements. The range of women's household decision making was found between a score of 25 to 51 and the average score of household decision making was 40.17 with the standard deviation of 5.80. Women were classified into three categories based on their household decision making: low decision (up to a 36), medium decision (37 to 43) and high decision (above 43).

**Table 4.6. Distribution of women according to their household decision making**

Category(Mean+0.5SD)	Number	%	Mean	SD
Low decision making (<37)	30	24.6	40.17	5.80
Medium decision making(37-43)	48	39.3		
High decision making(43)	44	36.1		
Total	122	100.0		

Data presented in Table 4.6 indicates that the highest proportion (39.3%) of the respondents had medium decision making ability, whereas 36.1% of the respondents had the highest decision making ability. About one-fourth (24.6%) of the respondents had the lowest decision making in households. Those women had less participation in household decision-making activities and perceived lower personal autonomy. So they contribute a little to household nutrition practice.

#### 4.1.6. Personal autonomy

The range of women's autonomy was found between a score of 19 to 23 and the average score of personal autonomy was 21.07 with a standard deviation of 4.31. Women's were classified into three categories based on their personal autonomy: low autonomy (less than 19), medium autonomy (19 to 23) and high autonomy (above

23). The categories and the distribution of the women according to their personal autonomy are shown in Table 4.7.

**Table 4.7. Distribution of women according to their personal autonomy**

Categories (Mean+0.5SD)	Number	%	Mean	SD
Low autonomy (<19)	40	32.8	21.07	4.31
Moderate autonomy (19-23)	35	28.7		
High autonomy (>23)	47	38.5		
<b>Total</b>	122	100.0		

Data presented in Table 4.7 indicates that the highest proportion (38.5%) of the respondents had high autonomy, whereas 32.8% had low autonomy. There were 28.7% of the respondents had medium autonomy. Respondents had less participation in household decision making and obtained less formal education and low autonomy and thus contributed little to household nutrition practice.

#### **4.1.7 Attitude towards household nutrition**

Attitude of the respondents toward household nutrition was found to range from 15 to 25 and the average score of attitudes was 19.79 with a standard deviation of 1.85. Respondents were classified into three categories based on their attitude: low attitude (up to 18), medium attitude ( 19 to 21) and high attitude (above 21). The categories and the distribution of the women according to their attitude are shown in Table 4.8.

**Table 4.8 Distribution of women according to their attitude**

Categories (Mean+0.5SD)	Frequency	%	Mean	SD
Low attitude (<19)	28	23.0	19.79	1.85
Medium attitude (19-21)	75	61.5		
High attitude (>21)	19	15.6		
<b>Total</b>	122	100.0		

Data presented in Table 4.8 indicates that the highest proportion (61.5%) of the respondents had a medium attitude, whereas 15.6% had a high attitude. There are 23.0% of the respondents had low attitude toward household nutrition. From above, their attitude towards household nutrition practice was moderate.

#### 4.1.8. Household decision making regarding nutrition

To measure the respondents' participation in household decision making regarding nutrition, asked them seven statements. The range of women's household decision making about nutrition was found from 15 to 28 and the average score of household decision making was 23.81 with a standard deviation of 2.89. Women were classified into three categories based on their household nutritional decision making: low decision (up to a 21), medium decision (22 to 24) and high decision (above 24).

**Table 4.9 Distribution of women according to their household nutritional decision making**

Category	Number	Percent	Mean	SD
Low decision making (<22)	25	20.5	23.41	2.89
Moderate decision making (22-24)	42	34.4		
High decision making (>24)	55	45.1		
<b>Total</b>	122	100.0		

Data presented in Table 4.9 indicates that the highest proportion (45.1%) of the respondents had the highest decision making ability, whereas 34.4% of the respondents had medium decision making ability. There are 20.5% of the respondents had the lowest decision making regarding household nutrition. Those women had high participation in household economic decision-making activities and had high nutritional decision-making ability. So they contribute to household nutrition practice.

#### 4.2 Household Nutrition Practice

Respondents' household nutrition practices range from 14 to 29 and the average score 20.77 with a standard deviation of 4.10. Women were classified into three categories based on their household nutrition practice: low practice (up to 17), medium practice (18 to 22) and high practice (above 22). The categories and the distribution of the women according to their food expenditure are shown in Table 4.10.

**Table 4.10 Distribution of women according to their household nutrition practice**

Category(Mean+0.5SD)	Number	%	Mean	SD
Low practice (upto 17)	39	32.0	20.77	4.10
Moderate practice (18-22)	44	36		
High practice (>22)	39	32.0		
<b>Total</b>	122	100.0		

Data presented in Table 4.10 indicates that the highest proportion (36.1%) of the respondents had medium nutritional practice, whereas 32.0% had high practices and 32.0% had low household nutrition practice.

#### 4.3. Contribution of Women’s Selected Socio-Economic Characteristics to Their Extent of Household Nutrition Practices in the Households

In contemplation of deciding the contribution of the selected socio-economic determinants of women to their extent of household nutrition practices, regression analysis was accomplished, presented in Table 4.11.

**Table 4.11. Linear regression coefficients of the selected factors indicating contribution to household nutrition practice**

Dependent Variable	Independent Variable	$\beta$	$P$	$R^2$	Adj. $R^2$	F
Household nutrition practice	Age	.032	.626	.678	.649	23.40
	Level of Education	.131	.120			
	Family member	-.077	.347			
	Monthly food expenditure	.257	.002**			
	Knowledge	.103	.192			
	Household decision making	.204	.036*			
	Personal autonomy	.117	.221			
	Attitude to household nutrition	.157	.025*			
	Decision making regarding nutrition	.215	.010**			
	BMI	-.074	.212			

\*\* Significant at  $p < 0.01$ ;

\* Significant at  $p < 0.05$

From the ten (10) hypothesized relationships, four (4) variables, namely, monthly food expenditure, household decision making, attitude to household nutrition, decision making regarding household nutrition, were found significant contribution to household nutrition behavior. In contrast, the rest of the variables were found to have no significant contribution (Table 4.10). All the factors cooperatively contribute 67.8% of the variance of household nutrition practice ( $R^2 = 0.678$ ). Each independent variable may explain some of the variances of respective women’s household nutrition practices.

#### **4.3.1 Contribution of monthly food expenditure to women's household nutrition practice**

The contribution of monthly food expenditure was calculated by testing the following null hypothesis, “there is no contribution of monthly food expenditure on selected women's household nutrition behavior in Barishal district”.

The p-value of the concerned variable was found 0.002 with  $\beta = 0.646$ . It had a significant contribution to household nutrition practices. The following observation was made based on the value of the concerned variable of the study under consideration.

- a. The contribution of monthly food expenditure was at 1% significance level (.002).
- b. So, the null hypothesis could be rejected.

Based on the above discussion, it is clear that monthly food expenditure positively influenced household nutrition behavior. Expanding more on diets accelerates nutritional diversity in the household. Practices like eating three times a day, consuming vitamin-rich foods, daily consumption of water, and food-preparation methods resulted in better nutritional levels for the household.

#### **4.3.2 Contribution of economic decision making to women's household nutrition practices**

The contribution of economic decision making was calculated by testing the following null hypothesis, “there is no contribution of household decision making on selected women's household nutrition behavior in Barishal district”.

The p-value of the concerned variable was found 0.036 with  $\beta = 0.204$ . It had a significant contribution to household nutrition practice. The following observation was made based on the value of the concerned variable of the study under consideration.

- a. The contribution of women's economic decision making was at 5% significance level (.036).
- b. So, the null hypothesis could be rejected.

Based on the above discussion, we found that women's decision-making positively influenced household nutrition practice. Women with high decision making ability



for economic issues like control over assets and decisions taken regarding farming matters also support and ensure household nutrition practices.

#### **4.3.3. Contribution of attitude towards nutrition to their nutrition practices**

The contribution of women's attitude towards nutrition was calculated by testing the following null hypothesis, "there is no contribution of women's attitude towards nutrition on selected women's household nutrition practice in Barishal district".

The p-value of the concerned variable was found 0.025 with  $\beta = 0.157$ . It had a significant contribution to household nutrition practice. The following observation was made based on the value of the concerned variable of the study under consideration.

- a. The contribution of women's attitude towards nutrition was at 5% significance level (.025).
- b. So, the null hypothesis could be rejected.

Based on the above discussion, we found that women's attitudes towards nutrition had a strong positive influence on household nutrition practice. A woman's increasing participation in household decision making changes their attitude positively toward better nutrition practices at the household.

#### **4.3.4. Contribution of women's household decision making to their nutrition practices**

The contribution of household decision making regarding nutrition was calculated by testing the following null hypothesis, "there is no contribution of household decision making regarding nutrition on selected women's household nutrition practice in Barishal district".

The p-value of the concerned variable was found 0.010 with  $\beta = 0.215$ . It had a significant contribution to household nutrition practice. The following observation was made based on the value of the concerned variable of the study under consideration.

- a. The contribution of women's decision making regarding nutrition was at 1% significance level (.010).
- b. So, the null hypothesis could be rejected.

Based on the above discussion, we found that women's decision-making regarding nutrition strongly influenced household nutrition practice. Empowered women are capable to take most of the important decisions of a household. She invests her income in buying nutritious food for her child. In most households, women decide what will be cooked and eaten daily. The food choice, and buying quality food mostly decided by women in the household. Thus household decision making regarding nutrition was significantly correlated with household nutrition practice.

Women contribute directly to family nutrition and health in two main ways: producing, processing, and selecting purchased foods and seeking and providing care for their family members. Nowadays, in comparison with other countries in the region, Bangladeshi women are better off in terms of equality in many social and household life fields. This study concentrated on and measured women's participation in different fields of domestic decision-making. Descriptive analyses were conducted to understand the present situation of women. An index was created to quantify their overall participation in domestic decision-making and investigate the association with household-level dietary diversity. We found that, on average, females have a higher participation rate in a number of decision-making domains. 65 to 75% of the sample households declared proximity to medium to high household decision-making. Overall, the probability of women participating in decision-making processes is higher in households where a female are getting more education, nutritional knowledge. Furthermore, we find a positive association between women's decision-making and household nutrition practice. There was a highly significant positive relation between monthly food expenditure, household decision making, nutritional knowledge, attitude score, and decision making regarding nutrition with household nutrition practice. This indicates that women's empowerment, self-awareness regarding serious dietary problems and knowledge regarding micronutrition deficiencies, the importance of including vitamin-rich foods in the diet, maintaining a balanced diet, and an understanding of good nutrition and food preparation resulted in better nutritional levels.

## CHAPTER V

### SUMMARY, CONCLUSION AND RECOMMENDATIONS

The summary of findings, conclusions and recommendations of this study are the main discussible subjects of this Chapter. Proposed hypotheses were tested by regression analysis by using SPSS v.23. The summary of the findings are presented below:

#### **5.1. Summary of the Findings**

The major findings of the study are summarized below:

##### **5.1.1. Selected factors influencing the household nutrition practices of the respondents**

###### **Age**

Middle-aged women (35-50 years) covered the highest proportion (58.2%) whereas 29.5% of women were young and the rest 12.3% were in the old age category.

###### **Education**

The highest proportion (40.2%) of the respondents fall under the secondary level of education category followed by 30.3% of the respondents under the category of primary level. On the other hand, 27.9% were above the secondary category compared to 1.6% of the can sign only category. There was no respondent in can't read and write category.

###### **Monthly food expenditure**

Findings revealed that 77% of the respondents had medium monthly food expenditure, whereas 12.3% had higher expenditure and 10.7% had lower expenditure.

###### **Knowledge**

Findings revealed that 56.6% of the respondents had medium knowledge followed 36.9% of the respondents had high knowledge and 6.6% had lower knowledge on nutrition.

### **Household decision making**

The highest proportion (39.3%) of the respondents had medium decision making ability followed by 36.1% of the respondents who had the highest decision making ability. On the other hand, 24.6% of the respondents had low decision making ability.

### **Personal Autonomy**

Majority (38.5%) of the respondents had the highest personal autonomy, followed by 28.7% of the respondents who had medium autonomy. On the other hand, 32.8% of the respondents had the lowest personal autonomy.

### **Attitude towards nutrition**

Findings revealed that 61.5% of the respondents had a medium positive attitude towards nutrition whereas 15.6% had the highest attitude and 23% had the lowest attitude towards nutrition.

### **Decision making regarding household nutrition**

The highest proportion (45.1%) of the respondents had the highest decision making ability in household nutrition behavior followed by 34.4% of the respondents who had medium decision making ability to nutrition. On the other hand, 20.5% of the respondents had the lowest decision making ability to household nutrition.

#### **5.1.2 Contribution of the selected characteristics of the respondents to household nutrition practices**

Household decision making, monthly food expenditure, attitude towards nutrition and decision making regarding household nutrition positively contributed significantly to household nutrition practice. Age, family member, education, knowledge, personal autonomy had no significant influence on household nutrition practice.

### **5.2 Conclusion**

The major findings of our study are on aspects such as women's economic decision making, their attitude towards nutrition and their monthly food expenditure. In this study, the researcher measured women's participation in different fields of domestic decision-making and household nutrition practice. The researcher found that, on average, females have a higher participation rate in a number of decision-making domains. These should have a positive impact on household nutrition practices. All of

these also indicate what future studies may consider in order to support household nutritional status.

On the basis of multiple-linear-regression analysis, education, age, BMI level, knowledge about nutrition did not show a significant relationship with household nutrition behavior. Further, women in the study area had poor diets that lacked the requisite diversity of food groups for proper health, even though many were underweight. This may affect future food insecurity and nutritional insecurity. The establishment of intra-household equality in women's decision-making and empowering them to achieve food and nutritional security is excessively urgent. Therefore, policymakers should opt for measures such as women's access to health-related information in order to ensure food security and household nutrition practices.

### **5.3 Recommendations**

From the above discussion and findings, it can be clearly said that women's decision making ability in the household and monthly food expenditure is the most important for household nutrition practice. But women's household nutrition practice face challenge due to various socio-economic factors. Therefore, in order to resolve these problems, mass education or counseling sessions should be undertaken to highlight practice-based training, nutritional education, women's rights, dignity and so on. To overcome the challenges and ensure good household nutrition practices, some approaches may need to take at the different levels:

#### **5.3.1 Recommendations for policy**

Recommendations based on the findings and conclusions of the study are presented below:

1. A majority of the respondents (57.9%) had low to medium economic decision making ability. All the sample respondents are more or less involved in household chores but cannot participate in decision making activity like men. Therefore, it may be recommended that GOs and NGOs should ensure some motivational program on women's empowerment and its impact on household food security and nutrition. Respondents should be provided with enough earning opportunities to increase their income so that their participation in decision making increases.

2. Attitude towards household nutrition also positively contributed significantly to household nutrition behavior. Most of the respondents (84.5%) had low to medium attitudes. Therefore, it may be recommended that respondents should be made aware of the importance and practice of healthy food. They should be provided with enough training and facilities to develop their attitude towards this behavior.

### **5.3.2 Recommendations for further studies**

Based on the scope and limitations of the present study and the inspection made by the researcher, the following recommendations should be developed for future further study. The main purpose of this study was to investigate women's participation in decision making and its impact on household nutrition practice in Barishal district. The study period was only six (6) months. Due to a limited area and time, this present research cannot provide much information about the present scenario. Further studies should be undertaken to gather more information in the relevant matters. Therefore, the following suggestions were put forth for further research:

1. Barishal district was the main study area which is a very small area compared to the whole country. Similar studies should be conducted in other parts of the country to get an exact scenario of the entire activities that will be helpful for effective policy formulation.
2. Due to time limitation, the present study was conducted with only one hundred and twenty-two (122) households. Therefore, it should be recommended that further studies should be conducted with a long period of time in hand and with more households.
3. The present study investigated the contribution of only eleven (11) characteristics of women's. Therefore, it is recommended that further research would be conducted with more and other dependent and independent variables.

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Interview schedule for data collection for the Research on

**“Household Nutrition Practices by the Women in a Selected Area of Barishal”**

(This interview schedule is entitled to a research study. Collection data will only be used for research purposes and will be published aggregately)

**Serial No.**

**Name:**

**Father/Spouse Name:**

**Village:**

**Union:**

**Upazila:**

**Cell:**

**1. Age:** ..... Years

**2. Education Qualification:** Please mention the following information about your education.

a. Can't read & write

b. Can sign only

d. Study upto class .....

**3. Family Members:** Please mention your number of family members

a) Male: \_\_\_\_\_ b) Female: \_\_\_\_\_ c) Total: \_\_\_\_\_

d) Working members (above 18 yrs.): \_\_\_\_\_ e) School going kids: \_\_\_\_\_

**4. BMI score:**

a. Body weight.....kg

b. Height.....m

**BMI = kg/m<sup>2</sup>**

**5. Monthly Family Income:**

Sources of income	Amount (Tk.)
<b>A. Farm Income</b> Crop Cultivation Livestock Poultry Fisheries Homestead	
<b>Sub Total A</b>	
<b>B. Non-farm Income</b> Services Business Labour Remittance Others (if any)	
<b>Sub Total B</b>	
<b>Total (A+B)</b>	

**6. Monthly Food expenditure:** On average, how much money do you spend on food expenditure in a month?.....TK

**7. Household decision making :** Please indicate your level of involvement in making following decisions.

Sl. No.	Who takes the decision regarding the following aspects?	Level of involvement				
		Decision is taken solely by me	Decision is taken jointly with husband	Decision is taken jointly with another member of the household	Decision is taken by husband	Decision is taken by another member of the household
a.	What portion of the harvested crops will be kept for consumption					
b.	Spending of money earned by selling harvested crops					
c.	What to buy for daily					

	household needs					
d.	Purchase of furniture for the house					
e.	Purchase and/ or sale of cattle, oxen and other large livestock					
f.	Purchase of plots or land					
g.	Purchase of large cooking utensils (e.g. saucepan, electric cooker, rice cooker)					
h.	Decision regarding taking loan, source, and borrow					
i.	Decision regarding children education					
j.	Decision regarding family planning					
k.	Transfer of property to a relative or any other person					
l.	Decision regarding children's marriage					
m.	Decision regarding caregiver housekeeper or at the household					

**8. Personal autonomy:** Please indicate your agreement or disagreement with the following statements.

Sl.	Statement	Strongly Agree	Agree	Disagree	Strongly Disagree
a.	I am considered more of a leader in my community				
b.	I am capable to participate in community groups, activities or meetings taking place in my community				
c.	I am able to move freely in my community				
d.	I know the difference between needs and wants				
e.	I know how to set future financial goals for myself and my family				
f.	I am capable to contribute more in social groups in my community				

**9. Knowledge about household's nutrition:**

Sl.	Questions	Marks assigned	Marks obtained
a.	Which source do you think is the safest for drinking water? (for example, Ground Water, Canal Water)	1	
b.	What are three food groups, or types of food, that contribute to a healthy diet?(potential answers: fruits; vegetables; grains and tubers; dairy; legumes, fish, meat, and eggs; oils)	2	
c.	Name at least two foods that rich in fibre.	2	
d.	Do you know the symptom of iron deficiency in the diet? If yes, could you please tell me how one can minimize iron deficiency or anemia?	2	
e.	Name the foods rich in fat? Do you think consuming foods rich in fat content is good for health? Why, or why not?	2	
f.	Name the sources of Vitamins. Name the diseases that can be caused due to vitamin deficiency.	2	
g.	For how long should an infant be fed nothing but breastmilk? answer: for the first 6 months of life)	3	
h.	When should we use soap to wash our hands?	2	
<b>Total</b>			

**10. Women's attitude questions about towards household's nutrition:** Please indicate your agreement or disagreement with the following statements.

Sl. No.	Questions	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree

a.	Following proper nutrition guidelines preparing the main meal for yourself and your family					
b.	I always maintain a healthy and balanced diet					
c.	Willing to learn more knowledge about healthy food and nutrition					
d.	Daily milk intake only for children is required					
e.	Ensuring iron-rich food to protect anemia of your children					

**11. Household nutrition practice:** Please indicate your extent of consumption of the following items.

Sl. No.	Statements	Almost daily	Couple of times a week	Once a week	Couple of times a month	Once a month
a.	Consumption of protein (e.g., fish, meat, egg)					
b.	Consumption of plant-based protein like dal, nuts, beans.					
c.	Consumption of fruits					
d.	Consumption of fresh vegetables					
d.	Consumption of milk, yogurt, butter or cheese					
e.	Physical exercise for keeping healthy					

**12. Women's decision making regarding household nutrition:** Please indicate your level of involvement with the following aspects.

Sl. No.	Items	Level of involvement				
		Decision is taken solely by me	Decision is taken jointly with husband	Decision is taken jointly with another member of the household	Decision is taken by husband	Decision is taken by another member of the household
a.	What to cook for the day at the household					
b.	What to buy from the markets for cooking and consumption					
c.	How to maintain hygiene at the household					
d.	Decide on expenditure for maintaining hygiene at the household					
e.	Decide on the hygiene practices maintained by other members of the household					
f.	When to meet doctors for treatment of any member of the household					
g.	Decide on children's participation in physical exercise or sports.					

Thank you for your kind co-operations

Respondent's contact no.:

.....  
Name and Signature of the Enumerator