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Pooja Tiwadi
M.Sc. Student, Department of Home Science, Jai Narain Vyas University, Jodhpur, Rajasthan, India

Dr. Rashmi Kandare
Assistant Professor (Guest Faculty), Department of Home Science, Jai Narain Vyas University, Jodhpur, Rajasthan, India

Corresponding Author:
Pooja Tiwadi
M.Sc. Student, Department of Home Science, Jai Narain Vyas University, Jodhpur, Rajasthan, India

Effects of food insecurity on the health of poor children of Jodhpur city

Pooja Tiwadi and Rashmi Kandare

Abstract
This research paper is an attempt to investigate the effects of food insecurity on the health of poor children of Jodhpur city. The main aim of this paper is to evaluate the association between poverty and food insecurity on the health of poor girls and boys of Jodhpur city. Total 40 children including (20 boys and 20 girls) in the age range of 6-12 years were selected for conducting the study. One self-constructed tool was used to collect the data. Findings show the significant level of food insecurity amongst poor children in Jodhpur city, with girls appearing to experience certain aspects of food insecurity more frequently than boys. Children face anxiety and depression due to the food insecurity, although their parents are satisfied with their children's overall health but in reality they are facing some minor health issues due to the unavailability of proper food and nutrition.

Keywords: Food insecurity, health, poor children, and Jodhpur

Introduction
India is a country of its people, being the world's largest democracy. Indians have had freedom of speech, religion and the press ever since their constitution was adopted on January 26, 1950. Within this democracy people still live everyday being food insecure. "Food insecurity exists when all people, at all times, do not have physical and economic access to the sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life". "Poverty easily coexists with food insecurity and is the main cause of hunger and malnutrition. Poverty exists when there is lack of income, productive malnutrition, illiteracy, homelessness, inadequate housing, unsafe environment, social discrimination, and many more factors. More than 850 million people all over the world live everyday being food insecure.

Concept of Food Insecurity
The concept of food insecurity is multidimensional in nature and is determined by a whole range of factors such as domestic production of food, import and export of food, the purchasing power of people to access food as well as factors that influence the absorption of food in the body. Food insecurity exists when people do not have consistent physical, social and economic access to enough safe and nutritious food to support a healthy life. It is a critical public health issue due to its strong association with negative health outcomes, independent of other social determination of health. Maintaining good health, consuming a nutritious diet, managing an existing chronic disease, or a combination of these can be a challenge for those struggling with poverty or food insecurity for a variety of reasons, including limited finances and resources, and competing priorities etc.
Individuals need an adequate amount of a variety of quality and safe food to be healthy and well-nourished, under nutrition results from an insufficient intake of protein, energy and macro-micronutrients. Food insecurity and malnutrition result in catastrophic amounts of human suffering. In developing countries, continual malnutrition survives, children weak, vulnerable and less able to fight such common childhood illnesses, as diarrhea, acute respiratory, infections, malaria and measles.

Food Insecurity in India
The estimation of malnourished children living in the developing world is 80% and ironically these developing countries are producing food surpluses. The existence of malnutrition in perhaps the problem of two factors broadly classified in to Distribution and Accessibility

(Kattumuri, 2011). Besides this The United States Agency for International Development (USAID) identifies more issues (direct) that are responsible for food insecurity of households and individuals in the developing world. These are poverty, population growth, no agricultural break through innovations (BTIs), ecological imbalances, limited cultivable land, health and hygiene, poor water and sanitation, poor nutritional knowledge, and ethnic conflicts (USAID, 1995). However the Global Hunger Index (GHI) record of India (Kattumuri, 2011) goes down from 41.23 in 1981 to 23.90 in 2009. India ranked 55 last year as compared to its ranking which was 63.

Impact of Poverty and Food Insecurity in India

In India, where a third of the population is probably living in extreme poverty, ensuring food security is a crucial issue. Food insecurity is an indicator of poverty. It has been after humans for all of recorded history. Everyone on the planet suffers from the effects of poverty. Food security is perceived in a variety of ways.

Hunger remains a persistent global issue impacting billons of people worldwide, especially those in poverty and developing nations. Experimental research focuses on investigating the causes and consequences of hunger and suggests possible solutions to tacle the issue. Key contributors to hunger include poverty, conflict, natural disasters, climate change, and gender inequality. Hunger results in malnutrition, which hampers physical and mental development, decreases economic output, and weakens social stability.

The causes of hunger are intricate and involve multiple factors. Poverty is a primary contributor, as individuals living in poverty often lack the means to afford sufficient food and have limited access to healthcare, education, and clean water. Additionally, conflicts, natural disasters, and climate change play a major role in driving hunger by disrupting food production and supply chains.

Hunger has serious impacts on individuals, communities, and entire nations. It results in malnutrition, which hinders both physical and mental development and makes people more vulnerable to illnesses. Children who are malnourished often experience stuned growth, weakened immunity, and cognitive delays, which negatively affect their education and future earning potential. Moreover, hunger weakens social cohesion, contributes to conflict, and deepens the cycle of poverty.

Objective

To study the association between poverty and food insecurity on the health of poor girls and boys of Jodhpur city.

Research Methodology

1. **Locale of the study:** The present study will be conducted in the Jodhpur city.
2. **Selection of sample:** 40 children including (20 boys and 20 girls) in the age range of 6-12 years will be purposively selected for conducting the study.

The distribution of the sample is presented in table No.1.

Table 1: Distribution of Sample

City	Size of the Sample		Total
	Boys	Girls	
Jodhpur	20	20	40

Hence the total sample from which the data will be collected 40.

3. Procedure for data collection and tools used: In the light of the objectives framed for the present research, one self-constructed data gathering tool will be used.

4. Statistical analysis: Results will obtained by calculating Percentage, Mean, SD and Coefficient Correlation.

Result and Findings

Food Insecurity

The next consecutive section indicates the analysis of food insecurity among poor girls and boys of Jodhpur city. The tables were described statistically by using percentage values.

Table 2: Shows the Percentage of the Food Insecurity among Poor Girls and Boys of Jodhpur City

Criterion	Group	Yes		No	
		N	%	N	%
i. Food would run out before you got money in last 12 months	Girls	13	65.0	07	35.0
	Boys	11	55.0	09	45.0
ii. Unable to eat healthy food	Girls	15	75.0	05	25.0
	Boys	13	65.0	07	35.0
iii. Have three meals a day	Girls	10	50.0	10	50.0
	Boys	09	45.0	11	55.0
iv. Consume pure, clean and healthy food	Girls	11	55.0	09	45.0
	Boys	14	70.0	06	30.0
v. Drink clean and Fresh water	Girls	18	90.0	02	10.0
	Boys	19	95.0	01	5.0
vi. Ever gone to bed hungry	Girls	09	45.0	11	55.0
	Boys	09	45.0	11	55.0
vii. Health issues due to the poor nutrition	Girls	12	60.0	08	40.0
	Boys	13	65.0	07	35.0
viii. Eat food to satisfy hunger or also pay attention to the proper nutrition	Girls	12	60.0	08	40.0
	Boys	14	70.0	06	30.0
ix. Have you eaten stale food	Girls	15	75.0	05	25.0
	Boys	14	70.0	06	30.0
Total		40	100.0	40	100.0

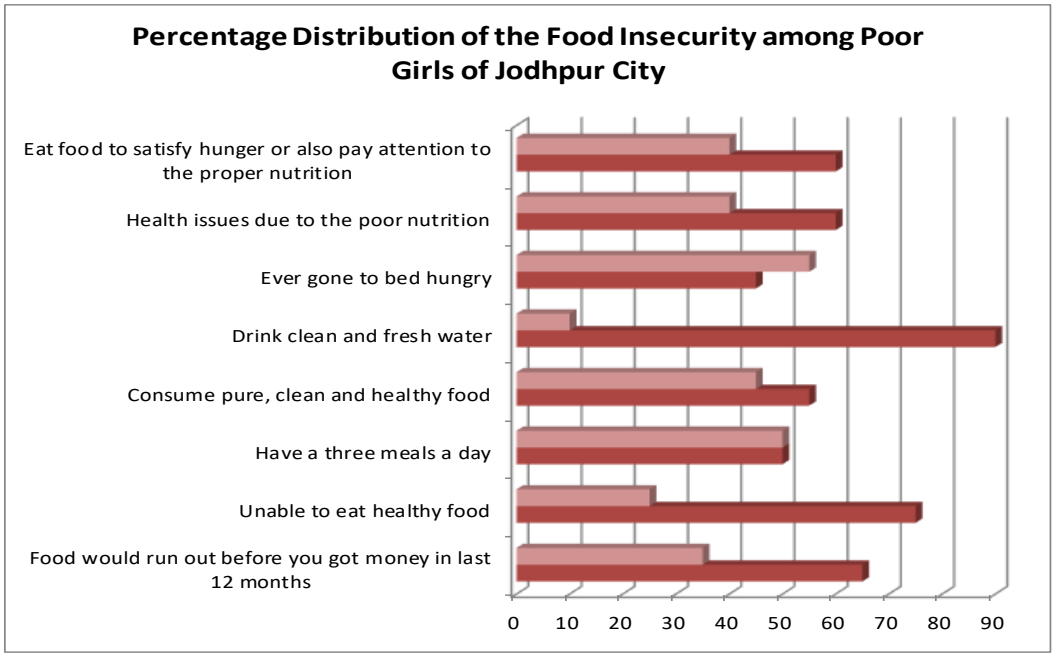

Fig 1(a): shows the Percentage of the Food Insecurity among Poor Girls of Jodhpur City

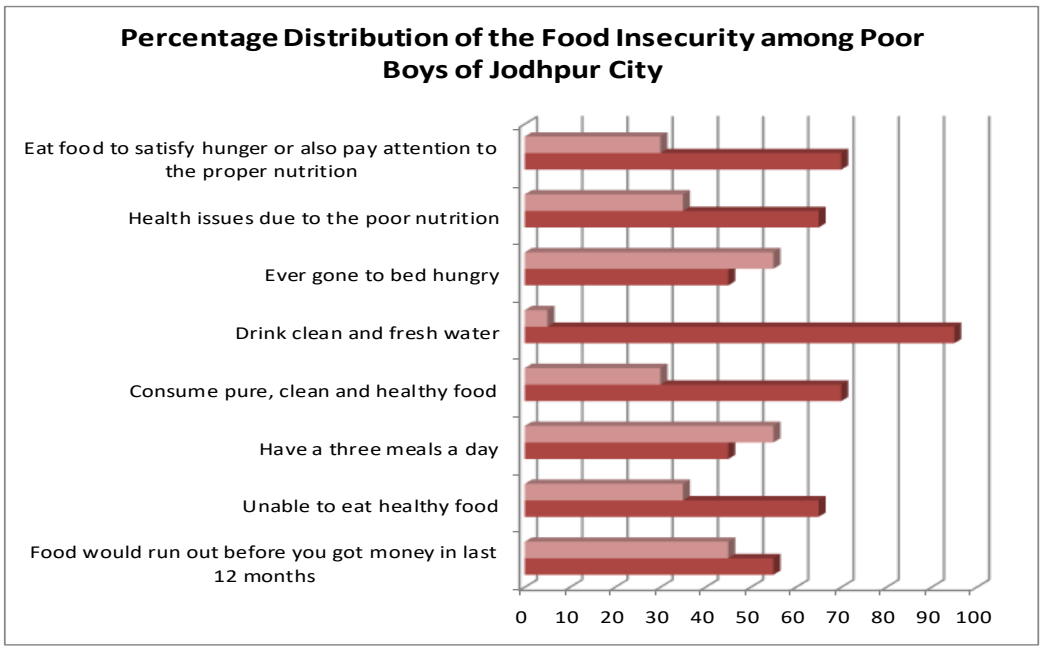

Fig 1(b): shows the Percentage of the Food Insecurity among Poor Boys of Jodhpur City

Table-1 and figure-1(a) & 1(b) illustrate the percentage of the food insecurity among poor girls and boys of Jodhpur city. Initially question was asked about the food storage. Majority of the children (65% girls & 35% boys) reported that their food ran out before they got money.

With regards to the healthy diet, large no. of children (75% girls & 65% boys) reported being unable to eat healthy food in their day to day life. Further, data shows that maximum numbers of children (50% girls & 55% boys) are unable to have three meals a day. It is because of their poor financial conditions.

It is evident from the data that majority of the children (55% girls & 70% boys) consume pure, clean and healthy food. Similarly, large no. of children (90% girls and 95% boys) reported having access to clean drinking water.

Majority of the children (55% girls and 55% boys) didn't ever gone to bed hungry but almost (45% girls and 45% boys) reported that most of the time they sleep without eating because their parent bring money home from their daily wages.

Due to poor nutrition, majority of children (60% girls and 65% boys) reported health issues. Large no. of children (60% girls and 70% boys) has their meal just to satisfy their hunger. They are least bother of the nutritional level of the food. They focus more on quantity over quality.

Majority of children (75% girls and 70% boys) reported eating stale food, highlighting another aspect of food insecurity. Overall, the data shows the significant level of food insecurity amongst poor children in Jodhpur city, with girls appearing to experience certain aspects of food insecurity more frequently than boys.

Health Assessment

Table 3: shows the Percentage of the Health Assessment among Poor Girls and Boys of Jodhpur City

Criterion	Group	Yes		No	
		N	%	N	%
i. Satisfied with their child overall health	Girls	11	55.0	09	45.0
	Boys	09	45.0	11	55.0
ii. Child engage in physical activity	Girls	11	55.0	09	45.0
	Boys	13	65.0	07	35.0
iii. Child shown sign of anxiety and depression in the past years	Girls	10	50.0	10	50.0
	Boys	13	65.0	07	35.0
iv. Does your child express feelings of hunger or worry about food	Girls	11	55.0	09	45.0
	Boys	07	35.0	13	65.0
v. Child feel healthy and fit	Girls	16	80.0	04	20.0
	Boys	12	60.0	08	40.0
Total		40	100.0	40	100.0

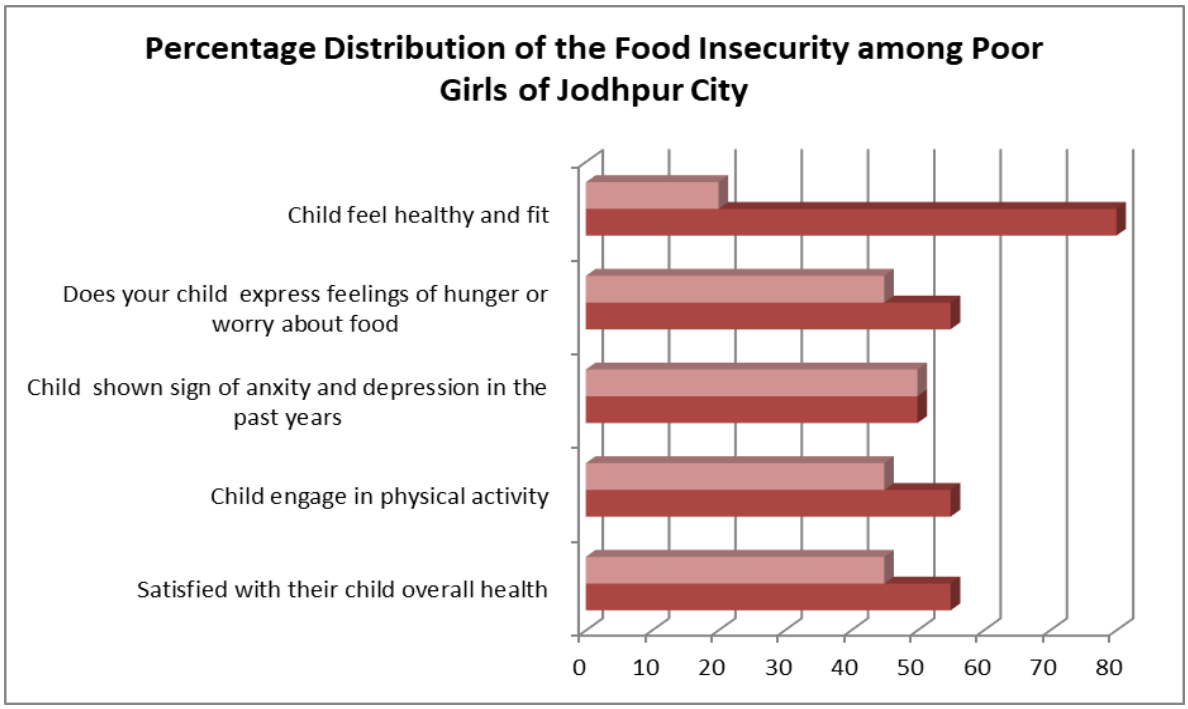

Fig 2 (a): shows the Percentage of the Health Assessment among Poor Girls of Jodhpur City

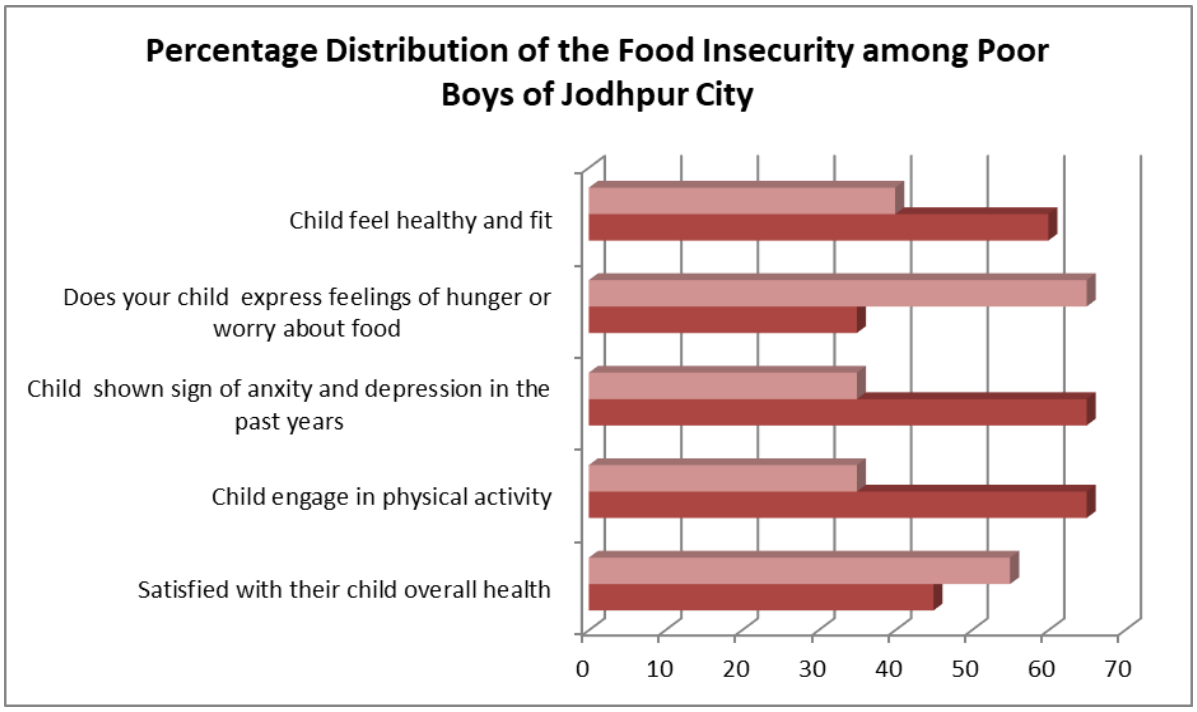

Fig 2(b): shows the Percentage of the Health Assessment among Poor Boys of Jodhpur City

Table-2 and figure-2(a) & 2(b) depict the percentage distribution of the health assessment among poor girls and boys of Jodhpur city. Data shows that large no. of children's parent (55% girls & 45% boys) are satisfied with their children overall health.

While result shows that significant no. of children (55% girls & 65% boys) are engage in physical activity. Their parents said that children often play outside with their friends. But data indicates that girls are less physically active in comparison to boys.

When parents were asked about the sign of anxiety and depression in their children. Large no. of children (50% girls & 65% boys) shown sign of anxiety and depression since they are unable to get the proper food and care. They often heard the problems of their parents and that disturb them.

Significant no. of girls expressed the feelings of hunger about food, whereas boys are less worried about the food. Majority of the children (80% girls & 60% boys) feel healthy and fit, but sometimes due to the poor nutrition their children face some minor health issues.

Correlation between Food Insecurity and Health

Table 4: Correlation between Food Insecurity with Health of the Poor Children of Jodhpur city

		Food Insecurity	Health
Food Insecurity	Pearson Correlation	1	0.171*
	Sig. (2-tailed)		.015
	N	40	40
Health	Pearson Correlation	0.171*	1
	Sig. (2-tailed)	.015	
	N	40	40
*. Correlation is significant at the 0.01 level (2-tailed).			

Table-3 shows the positive correlation between food insecurity with health of the poor children of Jodhpur city. Significant correlation between health with food insecurity was seen at (r=0.171*, p=.015) values. It means that poor children with better household condition and less food insecurity shows good health. Food insecurity increases, there is a tendency for the health of these children to also worsen, though other factors are likely also involved. This indicates the positive correlation between these two variables in the poor children. It is significant at 0.01 level of significance.

Conclusion

Food insecurity is a global public health challenge. It is a leading risk for malnutrition. Children who endure inadequate nutrition and food insecurity during childhood can experience poor health outcome with lifelong impacts. Finding shows that better household condition have positively influenced the health of the children. Children who faced food insecurity also show the sign of anxiety and depression since they are unable to get the proper food and care. Overall, the data reveals the significant level of food insecurity amongst poor children in Jodhpur city, girls appear to experience some aspects of food insecurity more often than boys.

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