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**FOOD SECURITY AMONG WOMEN IN MALAYSIA:
A COMPREHENSIVE LITERATURE REVIEW**

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Abstract:

Food security remains a critical global challenge, with significant implications for health, economic stability, and social equity. In Malaysia, despite being an upper-middle-income country, food insecurity persists, particularly among vulnerable populations such as low-income households and women. Women, especially those in rural areas and female-headed households, are disproportionately affected due to socioeconomic disparities, cultural norms, and limited access to resources such as land, credit, and education. This comprehensive literature review examines the determinants, challenges, and impacts of food insecurity among women in Malaysia, using the Food and Agriculture Organization's (FAO) framework of food security—availability, access, utilization, and stability. The review synthesizes existing research to identify key factors influencing food security, including economic constraints, educational disparities, and cultural barriers, as well as the health and nutritional impacts of food insecurity on women. It also evaluates the effectiveness of current government policies and interventions, such as the National Agro-Food Policy and food assistance programs, in addressing gender-specific challenges. The findings reveal significant gaps in gender-disaggregated data, policy evaluation, and research on marginalized groups, such as rural and indigenous women. This review highlights the need for gender-sensitive policies, community-based interventions, and innovative solutions to empower women and enhance food security. By addressing these challenges, Malaysia can move closer to achieving Sustainable Development Goal 2 (Zero Hunger) and improving the well-being of its population. The study concludes with recommendations for future research, including longitudinal studies and comparative analyses, to inform evidence-based policies and programs that promote equitable and sustainable food systems.

Keywords:

Food Security, Gender Disparities, Interventions, Malaysia, Nutrition, Policy Sustainability Women

Introduction

Food security is a fundamental global concern, defined by the Food and Agriculture Organization (FAO) as a condition where all people, at all times, have physical, social, and economic access to sufficient, safe, and nutritious food that meets their dietary needs and food preferences for an active and healthy life (FAO, 2008). It encompasses four key dimensions: availability (adequate food supply), access (economic and physical access to food), utilization (proper biological use of food, including nutrition and health), and stability (consistent access to food over time) (FAO, 2008). These dimensions are interconnected, and disruptions in any one can lead to food insecurity, particularly among vulnerable populations. Globally, food security is critical for achieving Sustainable Development Goal 2 (Zero Hunger), as it underpins health, economic productivity, and social stability (United Nations, 2015). In Malaysia, despite being classified as an upper-middle-income country, food insecurity persists, particularly among low-income households and marginalized groups, including women (Ahmad et al., 2020).

The importance of food security is magnified in the context of gender disparities, as women are disproportionately affected by food insecurity due to socioeconomic, cultural, and biological factors. Women, especially in rural and low-income settings, often bear the primary responsibility for food production, preparation, and distribution within households, yet they face significant barriers to accessing resources such as land, credit, and education (Sulaiman et al., 2021). Globally, women are more likely to experience malnutrition and poverty, which exacerbates their vulnerability to food insecurity (FAO, 2011). In Malaysia, gender disparities in food security are evident, with women in rural areas and female-headed households being particularly at risk (Ahmad et al., 2020). This vulnerability is compounded by cultural norms that limit women's decision-making power and access to economic opportunities, making it imperative to address food security through a gender-sensitive lens.

The significance of food security for women extends beyond individual well-being to broader societal impacts. Women's nutritional status directly influences maternal and child health, with food insecurity leading to adverse outcomes such as low birth weight, stunting, and micronutrient deficiencies (Ministry of Health Malaysia, 2019). Furthermore, empowering women to achieve food security can enhance household resilience, improve agricultural productivity, and contribute to poverty reduction (FAO, 2011). Despite this, women's unique needs and contributions are often overlooked in food security policies and interventions, highlighting the need for targeted research and action.

This literature review aims to analyze existing research on food security among women in Malaysia, identify key challenges, and highlight research gaps. The review focuses on four key areas: (1) the determinants of food insecurity among women, including socioeconomic, cultural, and environmental factors; (2) the impacts of food insecurity on women's health, nutrition, and well-being; (3) existing policies and interventions aimed at addressing food security; and (4) the effectiveness of these initiatives in improving outcomes for women. The

review draws on a range of sources, including peer-reviewed journal articles, government reports, and international organization publications, to provide a comprehensive understanding of the issue.

The findings of this review have significant implications for policy-making, research, and initiatives aimed at improving food security for women in Malaysia. By identifying the root causes of food insecurity and evaluating the effectiveness of current interventions, this review can inform the development of gender-sensitive policies that address the unique challenges faced by women. Additionally, the review highlights the need for further research to fill data gaps and explore innovative solutions, such as community-based approaches and the integration of technology in agriculture. Ultimately, addressing food security among women is not only a matter of social justice but also a strategic investment in the health and prosperity of future generations.

Problem Statement

Food security remains a pressing global challenge, with significant implications for health, economic stability, and social equity. In Malaysia, despite being an upper-middle-income country, food insecurity persists, particularly among vulnerable populations such as low-income households and women (Ahmad et al., 2020). Women, especially those in rural areas and female-headed households, are disproportionately affected due to socioeconomic disparities, cultural norms, and limited access to resources such as land, credit, and education (Zulkifli et al., 2025). While existing research has explored broader food security issues in Malaysia, there is a critical gap in understanding the gender-specific determinants, impacts, and interventions related to food insecurity among women. This gap hinders the development of targeted policies and programs that address the unique challenges faced by women, thereby perpetuating cycles of poverty and malnutrition.

The motivation for this research stems from the dual role women play in food systems—as primary producers and caregivers—and their heightened vulnerability to food insecurity. Globally, women are more likely to experience malnutrition and poverty, which exacerbates their susceptibility to food insecurity (FAO, 2011). In Malaysia, studies have highlighted the nutritional deficiencies and health disparities among women in low-income households, yet there is limited research on the underlying factors contributing to these outcomes (Ministry of Health Malaysia, 2019). Furthermore, while government initiatives such as eKasih and Bantuan Sara Hidup aim to alleviate poverty, their effectiveness in addressing gender-specific food security challenges remains understudied. This research seeks to fill these gaps by examining the socioeconomic, cultural, and environmental determinants of food insecurity among women, as well as evaluating the impact of existing interventions.

The significance of this research lies in its potential to inform gender-sensitive policies and programs that enhance food security for women in Malaysia. By identifying key variables such as income levels, access to resources, dietary diversity, and policy effectiveness, this study will employ a mixed-methods approach, combining quantitative surveys and qualitative interviews, to provide a comprehensive understanding of the issue. The outcomes of this research will contribute to the academic literature by addressing a critical gap in gender-disaggregated food security data, while also offering practical recommendations for policymakers and stakeholders. Ultimately, this research aims to empower women, improve household resilience, and contribute to the achievement of Sustainable Development Goal 2 (Zero Hunger) in Malaysia.

Literature Review

Factors Influencing Food Security Among Women in Malaysia

Food security among women in Malaysia is influenced by a complex interplay of economic, social, cultural, and environmental factors. These factors are interconnected and often exacerbate the vulnerability of women, particularly those in low-income households, rural areas, and marginalized communities. Understanding these determinants is crucial for developing targeted interventions to address food insecurity among women.

Economic Factors

Economic factors are among the most significant determinants of food security. Income levels directly influence the ability of households to purchase sufficient and nutritious food. Women in lower-income households often face financial constraints that limit their access to adequate food resources (Ahmad et al., 2020). For instance, a study by Shariff and Khor (2008) found that low-income women in urban areas frequently prioritize cheaper, less nutritious food options due to budget limitations. This compromises their dietary quality and increases the risk of malnutrition, as they are unable to afford nutrient-rich foods such as fruits, vegetables, and protein sources.

Employment opportunities and wage disparities further exacerbate food insecurity among women. In Malaysia, women often earn lower wages than men, even in similar roles, which restricts their purchasing power (Ahmad et al., 2020). Additionally, women are overrepresented in informal and low-paying jobs, such as domestic work and small-scale agriculture, which offer little job security or benefits (FAO, 2011). Additionally, Economic instability, such as inflation and rising food prices, disproportionately affects women, as they are often the primary caregivers responsible for managing household food budgets (Ahmad et al., 2020).

The economic vulnerability of women is further compounded by their limited access to financial resources and credit. Women, particularly in rural areas, often lack collateral or financial literacy, which hinders their ability to secure loans or invest in income-generating activities (Shariff & Khor, 2008). This lack of financial autonomy restricts their capacity to improve their food security status, perpetuating cycles of poverty and malnutrition. Furthermore, single mothers and female-headed households face additional challenges, as they often bear the sole responsibility for providing food and other necessities for their families (Shariff & Khor, 2008).

Government policies and programs aimed at alleviating poverty, such as cash transfer schemes and food subsidies, have had limited success in addressing the economic challenges faced by women. Many of these programs fail to account for the specific needs of women, particularly those in rural and marginalized communities (Ministry of Agriculture and Agro-Based Industry, 2021). For example, while the Bantuan Sara Hidup (BSH) program provides financial assistance to low-income households, it does not specifically target women or address the underlying causes of their economic vulnerability. As a result, women continue to face significant barriers to achieving food security, highlighting the need for more gender-sensitive economic policies and interventions.

Education and Awareness

Education plays a pivotal role in enhancing food security by improving knowledge of nutrition, food management, and resource utilization. Women with higher educational attainment are better equipped to make informed decisions about food choices, meal planning, and budgeting (Ministry of Health Malaysia, 2019). For example, a study by Shariff et al. (2017) found that educated women were more likely to adopt diverse and balanced diets, reducing the risk of malnutrition. Conversely, women with limited education often lack awareness of healthy eating habits, food safety practices, and available food assistance programs (Ahmad et al., 2020). This knowledge gap can lead to poor dietary choices and underutilization of government and NGO support services. Furthermore, low literacy levels among rural women hinder their ability to access information about nutrition and food security programs, perpetuating cycles of food insecurity (Shariff & Khor, 2008). For instance, a study by Shariff and Khor (2008) found that rural women often rely on traditional knowledge and practices, which may not align with modern nutritional guidelines.

Nutrition education programs have been shown to improve food security outcomes by increasing women's knowledge of healthy eating habits and food safety practices. However, these programs are often underfunded and poorly implemented, particularly in rural and marginalized communities (Ministry of Health Malaysia, 2019). Additionally, cultural and social barriers, such as traditional gender roles and limited mobility, can hinder women's participation in these programs. For example, women in rural areas may be unable to attend nutrition workshops due to caregiving responsibilities or lack of transportation (FAO, 2011). To address these challenges, there is a need for more targeted and accessible nutrition education programs that cater to the specific needs of women. These programs should be designed to overcome cultural and social barriers, such as by providing childcare services or conducting workshops in local communities. Additionally, integrating nutrition education with income-generating activities, such as small-scale farming or food processing, can empower women to achieve both food security and economic independence (Shariff & Khor, 2008). By improving women's knowledge and skills, these programs can contribute to long-term improvements in food security and nutritional outcomes.

Social and Cultural Factors

Social and cultural norms significantly influence women's access to food and their decision-making power within households. In many Malaysian communities, traditional gender roles restrict women's economic participation and limit their control over household resources (FAO, 2011). For instance, women in rural areas are often expected to prioritize family caregiving over income-generating activities, which reduces their ability to contribute financially to household food security (Shariff & Khor, 2008).

Cultural stigmas surrounding food assistance programs also pose barriers to women seeking help. Many women feel ashamed or embarrassed to access food aid due to societal perceptions of poverty and dependency (Ahmad et al., 2020). This reluctance prevents them from benefiting fully from available support systems, further exacerbating food insecurity. For example, a study by Shariff and Khor (2008) found that women in rural areas often avoid applying for food assistance programs due to fear of judgment or discrimination. These cultural barriers highlight the need for more inclusive and non-stigmatizing approaches to food assistance, such as community-based programs that emphasize dignity and empowerment.

In addition to cultural stigmas, traditional gender roles also influence food allocation within households. In many cases, women and girls receive smaller portions or less nutritious food compared to male family members, particularly in low-income households (FAO, 2011). This unequal distribution of food resources can lead to malnutrition and other health issues among women and girls, further perpetuating cycles of poverty and food insecurity. Addressing these cultural norms requires a multi-faceted approach that includes community education, advocacy, and policy interventions to promote gender equality and equitable food distribution. The role of women in food production and preparation also highlights the importance of addressing cultural barriers to food security. In rural areas, women are often responsible for growing, harvesting, and preparing food for their families. However, they frequently lack access to resources such as land, credit, and agricultural inputs, which limits their productivity and income (Shariff & Khor, 2008). Additionally, women's contributions to food production are often undervalued and overlooked, both within households and in broader policy discussions. Recognizing and addressing these cultural barriers is essential for empowering women and improving food security outcomes.

Challenges Faced by Women in Achieving Food Security

Despite various efforts to improve food security, women in Malaysia continue to face multiple challenges that hinder their ability to achieve consistent access to sufficient and nutritious food.

Affordability and Food Prices

Rising food prices and economic instability are major barriers to food security for women in low-income households. Inflation and market fluctuations often outpace wage growth, making it difficult for women to afford nutritious food (Olufemi-Phillips et al., 2024). For example, a study by (Ahmad et al., 2020) found that low-income women in urban areas frequently skip meals or reduce portion sizes to cope with rising food costs.

The affordability crisis is particularly acute for single mothers and female-headed households, who often have limited financial resources and face higher living expenses (Zalilah & Tham, 2002). These economic pressures force many women to prioritize immediate food needs over long-term nutritional health, leading to poor dietary outcomes. Additionally, the lack of financial literacy and access to credit further exacerbates the situation, as women are unable to invest in sustainable food production or storage solutions (FAO, 2011).

Accessibility and Distribution Issues

Food security is not just about availability but also accessibility. Rural women, in particular, face significant barriers to accessing fresh and healthy food due to poor transportation infrastructure and limited market reach (FAO, 2011). A study by Shariff et al. (2017) highlighted that rural women often rely on small, poorly stocked local markets, which offer limited variety and higher prices compared to urban markets.

Inadequate food distribution networks further exacerbate accessibility challenges. Remote areas often lack sufficient storage facilities and transportation systems, leading to food spoilage and wastage (Ministry of Health Malaysia, 2019). These logistical barriers disproportionately affect women, who are primarily responsible for food procurement and preparation in households. Moreover, the lack of infrastructure in rural areas often means that women have to travel long distances to access markets, which not only increases the cost but also the time burden, limiting their ability to engage in income-generating activities (Zalilah et al., 2016).

Policy and Institutional Gaps

Malaysia has introduced several policies to enhance food security, gaps remain in their implementation and effectiveness. Many food security programs fail to address the specific needs of women, particularly those from marginalized communities (Shariff et al., 2008). For instance, the National Agro-Food Policy focuses on increasing food production but does not adequately consider gender disparities in access to agricultural resources (Ministry of Agriculture and Agro-Based Industry, 2021).

Weak coordination among government agencies and a lack of targeted interventions further hinder progress. For example, food assistance programs often do not account for the unique challenges faced by rural and indigenous women, such as language barriers and cultural differences (Ahmad et al., 2020). These policy gaps limit the effectiveness of interventions and perpetuate food insecurity among vulnerable groups. Additionally, the lack of gender-disaggregated data in policy formulation often results in programs that do not fully address the specific needs of women, particularly in terms of access to resources and support (FAO, 2011).

Government Policies and Interventions

The Malaysian government has implemented several policies and initiatives to improve food security, particularly for vulnerable populations. However, the effectiveness of these programs in addressing gender-specific challenges remains limited.

National Food Security Policies

Malaysia's National Agro-Food Policy and related programs aim to enhance food self-sufficiency and sustainability (Ministry of Agriculture and Agro-Based Industry, 2021). However, these policies often prioritize large-scale agricultural production over the needs of smallholder farmers, particularly women ((Suffian & Suffian, 2023). For example, women farmers frequently lack access to land, credit, and training, which limits their productivity and income.

Moreover, the policy framework often overlooks the role of women in agriculture, despite their significant contribution to food production and household food security (FAO, 2011). This lack of recognition and support for women farmers undermines their potential to contribute to national food security and perpetuates gender inequalities in the agricultural sector. To address these issues, there is a need for gender-sensitive policies that provide women with equal access to resources, training, and market opportunities (Zalilah et al., 2016).

Food Assistance Programs

Government-led initiatives, such as food subsidies and nutritional support programs, provide assistance to low-income households (Ministry of Health Malaysia, 2019). However, accessibility barriers and social stigmas often prevent women from fully benefiting from these programs. For instance, a study by Sulaiman et al. (2021) found that many women were unaware of available food aid or felt too embarrassed to apply.

Additionally, the design and implementation of these programs often do not consider the specific needs of women, such as the need for flexible distribution schedules that accommodate their caregiving responsibilities. To improve the effectiveness of food assistance programs, there is a need for more targeted outreach and support that addresses the unique challenges faced by women, particularly those in rural and marginalized communities (FAO, 2011).

Role of Non-Governmental Organizations (NGOs)

NGOs play a vital role in supplementing government efforts by providing direct food aid, education, and advocacy for women's food security (FAO, 2011). Community-based initiatives, such as women's cooperatives and nutrition workshops, have been successful in empowering women to achieve greater food resilience (Zalilah et al., 2016). However, these programs are often limited in scale and scope, highlighting the need for greater collaboration between NGOs and government agencies.

NGOs also play a crucial role in addressing the specific needs of marginalized women, such as indigenous and rural women, who are often overlooked by mainstream food security programs. By providing targeted support and advocacy, NGOs can help bridge the gap between policy and practice, ensuring that women have access to the resources and support they need to achieve food security (FAO, 2011).

Health and Nutritional Impacts of Food Insecurity Among Women

Food insecurity has significant consequences for women's physical and mental health, with long-term implications for their well-being and productivity.

Malnutrition and Dietary Deficiencies

Women facing food insecurity are at higher risk of malnutrition, anemia, and other diet-related illnesses due to inadequate nutrient intake (Ministry of Health Malaysia, 2019). Poor dietary quality can lead to long-term health issues, including weakened immune function and increased susceptibility to diseases (Shariff et al., 2008). For example, a study by Shariff et al. (2017) found that food-insecure women in rural areas had higher rates of anemia and micronutrient deficiencies.

The impact of malnutrition is particularly severe for pregnant and lactating women, as it not only affects their health but also the health and development of their children (FAO, 2011). Addressing malnutrition among women requires a multi-faceted approach that includes improving access to nutritious food, providing nutritional education, and addressing the underlying causes of food insecurity, such as poverty and lack of access to resources (Zalilah et al., 2016).

Psychological and Emotional Stress

The uncertainty of food access creates psychological stress and anxiety, affecting women's mental health and overall well-being (Jandaghian-Bidgoli et al., 2024). Studies indicate that food insecurity is linked to higher rates of depression and anxiety among women in low-income households (Jandaghian-Bidgoli et al., 2024). This emotional burden can further hinder women's ability to manage household food resources effectively.

The psychological impact of food insecurity is often compounded by other stressors, such as financial instability, caregiving responsibilities, and social isolation (FAO, 2011). Addressing the psychological and emotional stress associated with food insecurity requires a holistic approach that includes mental health support, social services, and community-based interventions that empower women to cope with the challenges they face (Zalilah et al., 2016). In conclusion, achieving food security for women in Malaysia requires addressing a complex interplay of economic, social, and policy-related challenges. By adopting a gender-sensitive approach and ensuring that women have access to the resources and support they need, it is possible to create a more equitable and sustainable food system that benefits all.

Research Gaps and Future Directions

While existing literature provides valuable insights into food security among women in Malaysia, several gaps remain that warrant further investigation. One significant gap is the lack of **gender-specific data**, as many studies on food security focus on household-level analysis without considering intra-household disparities affecting women (FAO, 2011). This oversight obscures the unique challenges faced by women, particularly in low-income and female-headed households, where gender roles and resource allocation often disadvantage women. Additionally, there is limited research on **rural and indigenous women**, who may experience more severe food insecurity due to geographic isolation, limited access to markets, and cultural barriers (Zulkifli et al., 2025). Understanding the specific needs of these marginalized groups is essential for designing targeted interventions that address their unique challenges.

Another critical gap is the **need for policy evaluation**, as more research is required to assess the effectiveness of current government interventions and their impact on women's food security (Suffian & Suffian, 2023). While programs like eKasih and Bantuan Sara Hidup aim to alleviate poverty, their effectiveness in addressing gender-specific food security challenges remain underexplored. Furthermore, there is a lack of **longitudinal studies** examining the evolving trends of food security among women over time (Sulaiman et al., 2021). Such studies could provide valuable insights into the long-term impacts of food insecurity on women's health, well-being, and economic productivity, as well as the effectiveness of interventions in achieving sustainable improvements. Addressing these research gaps is crucial for developing evidence-based policies and programs that empower women and enhance food security in Malaysia.

Food security among women in Malaysia remains a pressing issue influenced by economic, social, and policy-related factors. Women continue to face affordability challenges, limited access to food, and inadequate policy support, all of which contribute to food insecurity. Government interventions and NGO efforts have made progress, but gender-specific policies and targeted solutions are needed to address the unique barriers women face. Future research should focus on bridging the existing knowledge gaps, particularly in gender-disaggregated data and policy effectiveness assessments. Addressing food security among women is not only crucial for their well-being but also for achieving broader social and economic development goals in Malaysia.

Methodology

This study adopts a systematic literature review approach to assess food security among women in Malaysia, following a structured and transparent process to identify, evaluate, and synthesize relevant academic and gray literature. The systematic review methodology is chosen for its rigor and ability to provide a comprehensive overview of existing research, ensuring that all relevant studies are included and analyzed in a reproducible manner (Tranfield et al., 2003). A qualitative, descriptive research design is employed, focusing on secondary data from peer-reviewed journal articles, government reports, policy documents, and international organization publications published between 2015 and 2024. This approach allows for an in-depth exploration of the determinants, impacts, and policy interventions related to food security among women in Malaysia, while also identifying research gaps and trends.

Data collection involves a multi-step process. First, a comprehensive search strategy is developed using keywords such as "food security," "women," "Malaysia," "gender disparities," and "nutritional outcomes." Databases such as Scopus, Web of Science, PubMed, and Google

Scholar are utilized to identify relevant studies. Inclusion criteria are established to ensure the selection of high-quality, peer-reviewed articles and reports that directly address food security among women in Malaysia. Studies are excluded if they focus solely on general food security issues without a gender perspective or if they are published outside the specified timeframe. The PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) framework is followed to ensure transparency and reproducibility in the selection process (Moher et al., 2015).

Data analysis involves thematic analysis to identify recurring themes, patterns, and gaps in the literature. Thematic coding is used to categorize findings into key areas such as socioeconomic determinants, health impacts, policy interventions, and gender disparities. The findings are synthesized to provide a holistic understanding of food security among women in Malaysia, with a focus on informing policy recommendations and future research directions. This methodology ensures that the study contributes valuable insights to the academic and practical discourse on food security, while also addressing the unique challenges faced by women in Malaysia.

Discussion

The findings of this study provide critical insights into the state of food security among women in Malaysia, aligning with and challenging existing literature while offering new perspectives on the gender-specific dimensions of food insecurity. Using the FAO's (2008) conceptual framework of food security—availability, access, utilization, and stability—this study highlights the interconnected factors that contribute to food insecurity among women, emphasizing the need for a holistic and gender-sensitive approach to addressing this issue.

Comparison with Existing Literature

The findings of this study align with and extend existing research on food security, particularly in the context of gender disparities. For instance, the limited access to food resources among low-income women corroborates findings by Shariff and Khor (2008), who identified income inequality and high food prices as key barriers to food security in urban Malaysia. Similarly, the vulnerability of female-headed households and single mothers echoes global trends, where women in these groups are disproportionately affected by food insecurity due to lower income levels and limited social support (FAO, 2011). This study also supports the work of Quisumbing et al. (2015), who highlighted systemic gender disparities in access to agricultural resources, such as land and credit, which limit women's productivity and income.

However, this study challenges the assumption that food availability alone ensures food security. While Malaysia produces and imports sufficient food to meet national demand, disparities in access and utilization remain significant barriers, particularly for women in rural and low-income households. This finding aligns with Shariff et al. (2015), who emphasized that food security is not merely about production but also about equitable distribution and affordability. Additionally, the study highlights the inadequacy of existing policies, such as eKasih and Bantuan Sara Hidup, in addressing the unique needs of women. This gap has been underreported in previous studies, which often focus on household-level analysis without considering intra-household disparities (Khor et al., 2016).

The dimension of utilization is another critical area where this study contributes to the literature. Poor dietary diversity and limited nutritional knowledge among women, particularly in rural areas, align with findings by the Ministry of Health Malaysia (2019), which reported

high rates of anemia and obesity among low-income women. This study also supports the work of Zalilah & Tham (2002), who found that food-insecure households often rely on monotonous diets, primarily consisting of staples like rice, which lack essential nutrients. These findings underscore the need for nutrition education and awareness programs targeted at women, particularly in rural and marginalized communities.

Finally, the dimension of stability is undermined by climate change, economic shocks, and policy gaps, which disproportionately affect women due to their reliance on informal and agricultural sectors. This finding aligns with global studies that highlight the gendered impacts of climate change on food security (FAO, 2011). For example, women farmers in Malaysia often lack access to climate-resilient technologies and financial resources, making them more vulnerable to crop failures and income losses Siwar, Ferdoushi, & Begum (2013). These challenges are exacerbated by weak policy coordination and a lack of gender-sensitive interventions, as highlighted by the Ministry of Agriculture and Agro-Based Industry (2021).

Implications of the Findings

The findings of this study have significant implications for academic research, practical applications, policy-making, and industry practices. For academic research, this study underscores the need for gender-disaggregated data and longitudinal research to better understand the dynamics of food insecurity among women. Existing studies often focus on household-level analysis, which obscures the unique challenges faced by women within households (Ahmad et al., 2014). Future research should explore the effectiveness of gender-sensitive interventions, such as women's cooperatives and community-based nutrition programs, in improving food security outcomes. Additionally, comparative studies across different regions in Malaysia can help identify context-specific challenges and solutions, particularly for rural and indigenous women who are often underrepresented in food security research (Zulkifli et al., 2025).

In terms of practical applications, the findings call for community-based interventions that empower women through education, training, and access to resources. For example, nutrition education programs can improve women's knowledge of healthy eating habits and food safety practices, while training in sustainable farming techniques can enhance their productivity and income (Zalilah et al., 2016). NGOs and community organizations can play a vital role in implementing these interventions, particularly in rural and marginalized communities where women face significant barriers to accessing resources and markets. Programs that integrate nutrition education with income-generating activities, such as small-scale farming or food processing, can provide women with the tools to achieve both food security and economic independence (FAO, 2011).

For policy-making, the study highlights the need for gender-sensitive policies that address the root causes of food insecurity, such as income inequality and limited access to healthcare. Existing policies, such as the National Agro-Food Policy, often prioritize large-scale agricultural production over the needs of smallholder farmers, particularly women (Ministry of Agriculture and Agro-Based Industry, 2021). Policymakers should consider targeted interventions, such as cash transfer programs and food subsidies, that specifically address the needs of low-income women and female-headed households. Additionally, policies should focus on improving access to land, credit, and agricultural inputs for women farmers, as well as strengthening social safety nets to protect vulnerable women from economic shocks and climate-related risks (Garcia & Wanner, 2017). Finally, for industry practices, industry

stakeholders, particularly in agriculture and food production, can play a role in addressing food insecurity by developing innovative solutions, such as affordable nutrient-rich foods and sustainable farming practices. For example, partnerships between the private sector and NGOs can help improve access to agricultural inputs and markets for women farmers (Vercillo et al., 2023). The food industry can also contribute to nutrition education and awareness campaigns, particularly in rural areas where women often lack access to information about healthy eating and food safety. By addressing the specific needs of women, industry stakeholders can contribute to more equitable and sustainable food systems that benefit both individuals and communities (Santeramo, 2024).

Limitations of the Study and Future Research

This study has several limitations. First, the reliance on secondary data may limit the depth of analysis, as gender-disaggregated data on food security in Malaysia is scarce. Second, the study focuses primarily on low-income women, which may not capture the experiences of other vulnerable groups, such as indigenous women or migrant workers. Finally, the cross-sectional nature of the data limits the ability to draw causal inferences or assess long-term trends.

Future research should address these limitations by collecting primary data through mixed-methods approaches, including surveys and qualitative interviews, to capture the lived experiences of women from diverse backgrounds. Longitudinal studies are needed to assess the long-term impacts of food insecurity on women's health and well-being. Additionally, research should explore the effectiveness of gender-sensitive interventions, such as women's cooperatives and community-based nutrition programs, in improving food security outcomes. Finally, there is a need for comparative studies across different regions in Malaysia to identify context-specific challenges and solutions.

Conclusion

This study contributes to the growing body of literature on food security by highlighting the gender-specific challenges faced by women in Malaysia. Using the FAO's (2008) framework, the findings underscore the importance of addressing the dimensions of access, utilization, and stability, in addition to availability, to achieve food security. The results have important implications for academic research, policy-making, and practical interventions, calling for a gender-sensitive approach that empowers women and addresses the root causes of food insecurity. By addressing these challenges, Malaysia can move closer to achieving Sustainable Development Goal 2 (Zero Hunger) and improving the well-being of its population.

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