



Antenatal Care Services for Migrant Workers in Northern Thailand: Challenges, Initiatives, and Recommendations for Improvement

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Abstract

This review article emphasizes the importance of addressing the unique health care needs of migrant workers in northern Thailand, with a focus on antenatal care services. There has been an increase in the number of migrant workers in the region. The challenges include language and cultural barriers, legal and administrative issues, inadequate health facilities and staff, and stigma and discrimination. However, by implementing a comprehensive set of recommendations, including strengthening collaboration, developing culturally sensitive programs, and increasing health care facility accessibility, stakeholders can create a more inclusive and supportive health care environment for migrant workers. This will ultimately contribute to healthier pregnancies and better outcomes for both mothers and their newborns. Prioritizing the needs of migrant workers is crucial for the successful integration of this population into the local health care workforce, thereby improving the health care system in northern Thailand.

Keywords

- ▶ migrant workers
- ▶ antenatal care
- ▶ northern Thailand
- ▶ health care

Introduction

Thailand, a rapidly developing nation in Southeast Asia, has made significant strides in improving its health care system and expanding access to quality care for all. One crucial aspect of this progress is the integration of migrant workers into Thai health facilities, particularly in the northern region.¹ Northern Thailand has experienced a rise in the number of migrant workers. These migrants come from various countries, such as Myanmar, Laos, and Cambodia, and play an essential role in health care need of both local and migrant populations.² While they contribute significantly to the health care system, it is also crucial to ensure their well-being and effectively integrate them into the local health care workforce. According to data from Thailand's Ministry of Labor and the Ministry of Public Health, the top five provinces with the highest number of migrant workers are in northern Thailand.

Examining the statistical trends and numbers of migrants in the northern provinces of Thailand over the last decade helps put the situation into perspective and illustrates the growing need for targeted antenatal care (ANC) services in northern Thai health facilities.³ In 2010, it was estimated that approximately 150,000 migrant workers lived in the northern provinces. In 2021, this figure had risen to around 450,000, that is around 200% increase in just over a decade.⁴ The region has experienced a significant influx of migrant workers from neighboring countries, particularly Myanmar, Laos, and Cambodia.⁵ When it comes to the number of migrant women's pregnancies in northern Thailand, data from the Thai Ministry of Public Health reveal that between 2010 and 2021, the number of registered pregnant migrant women in the northern provinces increased by approximately 60%, due to barriers such as language differences, cultural unfamiliarity with health care

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systems, lack of insurance, or fear of deportation in cases of undocumented immigration.⁶ This trend further highlights the importance of addressing the health care needs of this population group, including the provision of ANC services.

This review article examines the health care landscape in northern Thailand, focusing on the challenges and opportunities concerning the health care needs of local and migrant populations, particularly migrant health care workers. It explores the concept of ANC services, their importance, and their role in ensuring healthy pregnancies and positive outcomes. The review evaluates the current state of ANC services for migrant workers in northern Thailand, identifying challenges and barriers to accessing these services. It also discusses initiatives and policies implemented by the Thai government, nongovernmental organizations (NGOs), and international agencies to improve ANC services provision for migrant workers. The article highlights the successes, limitations, and potential for further improvement in this area.

This review article aims to provide a comprehensive understanding of the ANC services available for migrant workers in northern Thailand. By highlighting the current state of these services, the challenges faced, and the potential for improvement, it hopes to contribute to the ongoing efforts to ensure the well-being and successful integration of these valuable professionals into the Thai health care system.

Overview of the Health Care Landscape in Northern Thailand

Northern Thailand, comprises of several provinces including Chiang Mai, Chiang Rai, Kamphaeng Phet, Lampang, Lamphun, Mae Hong Son, Nakhon Sawan, Nan, Phayao, Phetchabun, Phichit, Phitsanulok, Phrae, Sukhothai, Tak, Uthai Thani, and Uttaradit, which is home to around 11 million people, a substantial part of Thailand's total population of 70 million as of 2021.⁷ Over the past few decades, this region has seen a significant improvement in health care infrastructure due to the Thai government's investments. It boasts a mix of public and private health care facilities, including tertiary hospitals, district hospitals, community hospitals, and primary care units. This extensive infrastructure caters to an increasing demand for health care services.⁸

The health care workforce in northern Thailand composes of both local and migrant workers, who fulfill roles such as doctors, nurses, pharmacists, dentists, and other allied health professionals. There's been a substantial influx of migrant workers from neighboring countries like Myanmar, Laos, and Cambodia, fulfilling the health care needs of both local and migrant populations.² In terms of health care needs, northern Thailand is unique due to its diverse ethnic makeup and geographical location. The region still struggles with communicable diseases such as malaria and dengue, especially in remote areas and amongst the migrant populations. Simultaneously, noncommunicable diseases like diabetes, hypertension, and cardiovascular diseases are becoming more prevalent with rapid urbanization and lifestyle changes.^{8,9}

Thailand's government has made significant strides to make health care services accessible to all citizens, irrespec-

tive of their socio-economic status. This includes the Universal Coverage Scheme (UCS) introduced in 2002, which played a crucial role in expanding access to essential health care services for most of the population. However, there are still challenges in providing equitable health care services to migrant populations, largely due to legal and administrative obstacles.³ Despite improvements, northern Thailand still faces several health care challenges. The region's remote and mountainous terrain complicates access to health care facilities and impacts the availability of health care professionals. The significant migrant population brings additional cultural and language barriers, affecting the quality of health care services. There is also a need to address the specific health care needs of the region's diverse ethnic communities and migrant populations.^{5,10,11}

The Overview of Antenatal Care Services in Thailand

ANC services, also known as prenatal care services, are a range of health care interventions and support provided to pregnant women from the time of conception until the onset of labor. These services aim to promote the health and well-being of both the mother and her unborn child, as well as to identify and manage potential risks and complications during pregnancy. ANC services typically include¹²⁻¹⁵ regular check-ups, pregnant women attend scheduled appointments with health care providers to monitor their health and the development of their unborn child. These appointments allow for early detection and management of potential complications.

Prenatal care encompasses various aspects to ensure the health of both the mother and the unborn child during pregnancy. These aspects include nutritional counseling, screening tests, health education, mental health support, and immunizations. Health care providers offer advice on maintaining a balanced and healthy diet to provide adequate nutrients for the mother and the developing fetus. Pregnant women undergo various screening tests, such as blood tests and ultrasounds, to identify potential health issues or genetic conditions that may affect the unborn child.¹⁶ Health education is provided to help women prepare for labor, delivery, and postnatal care. Mental health support is also available to address any emotional or psychological concerns related to pregnancy and childbirth. Finally, pregnant women may receive certain vaccinations, like the flu vaccine or the Tdap vaccine, to protect both the mother and the unborn child from preventable diseases.¹⁶ ANC services play a crucial role in ensuring a healthy pregnancy and positive outcomes for both the mother and her unborn child. By attending regular ANC appointments, pregnant women can receive the necessary care, support, and interventions to help them navigate pregnancy and prepare for childbirth.¹⁷⁻¹⁹

The ANC services in Thailand play a vital role in ensuring the well-being of pregnant women and their unborn children. These services encompass a wide range of health care interventions, such as medical check-ups, screenings, vaccinations, nutritional counseling, and health education, aimed at monitoring and promoting the health of both the mother and the fetus throughout pregnancy.¹⁵ The importance of ANC

services for pregnant women cannot be overstated. Adequate and timely ANC can help identify and address potential complications and risks associated with pregnancy, such as gestational diabetes, preeclampsia, and anemia.¹⁴ Moreover, ANC services can provide pregnant women with essential information on proper nutrition, safe delivery practices, breastfeeding, and newborn care, contributing to improved maternal and neonatal outcomes.¹² ANC services play a critical role in ensuring healthy pregnancies and positive outcomes for both mothers and their newborns. Studies have demonstrated a strong association between the utilization of ANC services and reduced maternal and infant mortality rates.¹³ Furthermore, ANC services can help detect and prevent congenital abnormalities and perinatal infections in the fetus, ensuring better long-term health outcomes for the child.¹²

In Thailand, the government has made significant efforts to improve access to and the quality of ANC services. As part of the UCS, pregnant women in Thailand, including those in the northern provinces, are entitled to a comprehensive package of ANC services free of charge.¹⁰ Additionally, the Thai Ministry of Public Health has established guidelines and protocols for ANC services, which adhere to the recommendations of the World Health Organization.¹¹ Despite these efforts, challenges remain in ensuring equitable access to ANC services for all pregnant women in Thailand, particularly those from migrant populations. Language and cultural barriers, as well as legal and administrative obstacles, can hinder the utilization of ANC services among migrant women.³ To address these challenges, targeted interventions and support systems must be developed to ensure that all pregnant women, including migrants, can access the essential ANC services they need for healthy pregnancies and positive outcomes for both them and their newborns.

To improve the accessibility and quality of ANC services for all pregnant women in Thailand, various strategies and interventions could be implemented:

- Outreach programs: community-based outreach programs can be designed to increase awareness and knowledge about the importance of ANC services among pregnant women, especially those in remote areas or from marginalized populations. These programs can also help identify and connect pregnant women with the appropriate health care facilities, ensuring timely access to essential ANC services.¹²
- Mobile health clinics: to address the logistical challenges faced by pregnant women in accessing health care facilities, mobile health clinics can be deployed to provide ANC services in remote or underserved areas. These mobile clinics can be staffed with skilled health care professionals and equipped with necessary medical equipment and supplies, ensuring that pregnant women receive quality ANC services close to their homes.¹⁴
- Cultural competency training: health care providers should receive cultural competency training to better understand and address the specific needs and preferences of diverse communities, including migrant populations. This training can help bridge language and cultural barriers, ensuring

that pregnant women from different backgrounds receive appropriate and respectful care during their pregnancy.³

- Collaboration with community health workers and volunteers: collaborating with community health workers and volunteers can help enhance the delivery of ANC services at the local level. These individuals can play a vital role in identifying pregnant women in their communities, providing health education, and facilitating access to health care facilities for ANC services.¹⁵
- Legal and administrative support: addressing the legal and administrative barriers faced by migrant pregnant women is crucial to ensuring their access to ANC services. The Thai government can work toward simplifying the registration and documentation process for migrant workers and their families, thereby allowing them to access health care services without fear of legal consequences.³

By adopting these strategies and interventions, Thailand can work toward ensuring that all pregnant women, regardless of their background or location, have access to the essential ANC services needed for healthy pregnancies and positive outcomes for both mothers and their newborns.

The Current Situation of Antenatal Care Services Available for Migrant Workers in Northern Thailand

According to a report by the International Organization for Migration (IOM), there were approximately 18,000 pregnant migrants in Thailand in 2020.⁴ Although this figure is for the entire country, a significant proportion of these pregnant migrants are likely to be living in northern Thailand, given the region's high concentration of migrant populations. From the situation of maternal health care utilization among migrant workers during 2015 to 2017, it was found that the proportion of pregnant migrants using ANC services was 15.85, 20.34, and 25.41%, respectively. Most pregnant migrants started their first ANC visit after 20 weeks of gestation. Regarding the utilization of delivery care services, the proportion of foreign migrant pregnant women using these services was 25.21, 27.55, and 30.12%, respectively. It was also found that the proportion of foreign migrant pregnant women who did not receive any ANC services was 5.37, 4.85, and 4.70%, respectively.²⁰ Regarding the prevalence of adverse pregnancy outcomes among migrant women in Thailand, a study conducted by the IOM reported that the maternal mortality ratio for migrant women was 289 per 100,000 live births, higher than the national average of 37.7 per 100,000 live births.⁴ This highlights the increased vulnerability of pregnant migrant women and the need for improved access to ANC services.

The current state of ANC services for migrant workers in northern Thailand presents both successes and challenges. As the Thai government continues to make efforts to improve the health care system and expand access to quality care, it is crucial to examine the availability and accessibility of ANC services for this specific population.

- UCS: as part of Thailand's commitment to providing health care to all residents, the UCS includes comprehensive ANC services for pregnant women, regardless of their

nationality or employment status. This has significantly improved access to ANC services for migrant workers in northern Thailand.¹⁰

- Migrant health programs: various migrant health programs have been implemented by the Thai government, international organizations, and NGOs to address the health care needs of migrant populations, including health care workers. These programs often focus on health education, screenings, vaccinations, and essential health care services, which can benefit pregnant migrant workers.³

Despite these positive developments, several challenges persist:

- Language and cultural barriers: migrant workers, particularly those from Myanmar, Laos, and Cambodia, may face language and cultural barriers when accessing ANC services in northern Thailand. These barriers can hinder communication with health care providers and affect the quality of care received.⁵
- Legal and administrative issues: migrant workers may encounter difficulties in obtaining the necessary documentation and permits required to access health care services in Thailand. The complex registration process and fear of legal repercussions can deter some pregnant migrant workers from seeking ANC services.³
- Inadequate health facilities and staff: northern Thailand faces a shortage of health care facilities and skilled health care professionals, particularly in remote and rural areas. This can limit the availability of ANC services for pregnant migrant workers, resulting in delayed or inadequate care.⁸
- Stigma and discrimination: migrant workers may face stigma and discrimination in accessing health care services, including ANC. This can lead to feelings of isolation and reluctance to seek care, ultimately impacting their health and well-being.⁵

Enhancing Antenatal Care Services for Migrant Workers: Initiatives and Policies by Thai Government, NGOs, and International Agencies

Several initiatives and policies have been implemented by the Thai government, NGOs, and international agencies to improve the provision of ANC services for migrant workers in Northern Thailand:

- UCS: the Thai government's UCS provides comprehensive ANC services to all residents, including migrants, regardless of their nationality or employment status. This policy has significantly improved access to ANC services for migrant workers in Northern Thailand.¹⁰
- Migrant health programs: a range of migrant health programs have been introduced by the Thai government, international organizations like the IOM, and NGOs such as Raks Thai Foundation and the Migrant Assistance Program to address the health care needs of migrant populations. These programs often focus on health education, screenings, vaccinations, and essential health care services, which can benefit pregnant migrant workers.³

- Health Insurance Card Scheme (HICS) for migrants: the Thai government has introduced the HICS for migrants to provide health insurance coverage for documented and undocumented migrants, including health care workers. This scheme covers various health care services, including ANC, and aims to improve access to health care for migrant populations.⁴
- Community-based interventions: NGOs and international agencies, such as the IOM and World Health Organization, have implemented community-based interventions targeting migrant populations in northern Thailand. These interventions involve training and employing local community health workers and volunteers to provide health education, screenings, and referrals for ANC services.⁴
- Language support and cultural competency training: several NGOs and international agencies, including the World Health Organization and Shoklo Malaria Research Unit, have introduced programs to provide language support and cultural competency training for health care providers. This aims to improve communication between health care providers and migrant workers, and to address the specific needs and preferences of migrant populations when accessing ANC services.⁵
- Collaboration and coordination: the Thai government, NGOs, and international agencies such as the United Nations Population Fund are working together to improve coordination and collaboration in the delivery of health care services for migrants, including ANC services. This includes sharing best practices, resources, and expertise to address the challenges faced by migrant workers and to ensure equitable access to quality health care.⁸
- Addressing legal and administrative challenges: the Thai government has implemented policy changes and collaborated with international organizations like the IOM to simplify the registration and documentation process for migrant workers. This helps them access health care services, including ANC, without fear of legal consequences.³

These initiatives and policies demonstrate the concerted efforts of the Thai government, NGOs, and international agencies to improve the provision of ANC services for migrant workers in northern Thailand. Continued investment in these programs and a focus on addressing the remaining challenges will be crucial in ensuring equitable access to quality ANC services for this population group.

According to the literature review, in many countries, there are several recommendations and strategies to increase the number of women who begin ANC in the first 10 weeks of pregnancy through initiatives such as direct self-referrals to local midwifery services. While these may have resulted in more timely ANC initiation, there is a need to support mothers from ethnic minority groups in areas with high levels of social deprivation who are at a higher risk of receiving late ANC. When planning services and programs to ensure equity in ANC provision, migrants' diversity and levels of social disadvantage should be considered when framing new recommendations for ANC for migrant or minority.²¹

Moreover, midwives in the targeted models had better conditions for providing culturally competent care because they had more time, more flexibility, and more consistent interpreter services. The care provided was distinguished by a greater emphasis on individual needs; however, cross-cutting issues included interpretation, interpersonal interaction, and communication regarding body awareness and how to navigate the health care system. Immigrant women were chosen for targeted care based on problematic criteria, which should be carefully considered to avoid stigma. It appears that the ANC's universal models ignored the needs of vulnerable immigrant women. To reduce ethnic disparities in maternal and child health, screening tools for targeted and differentiated care, as well as universal ANC, must be improved.²²

Recommendations for Enhancing Antenatal Care Services for Migrant Workers in Northern Thai Health Facilities

As the number of migrant workers in northern Thailand continues to grow, it becomes increasingly important to address their unique health care needs, particularly when it comes to ANC services. Ensuring that pregnant migrant workers have access to high-quality ANC services is essential for their well-being and the well-being of their newborns. To effectively tackle this issue, a multifaceted approach is required, involving collaboration between various stakeholders, including the Thai government, NGOs, and international agencies.²³ By working together and implementing a comprehensive set of recommendations, these entities can make significant strides in enhancing ANC services for migrant workers in northern Thai health facilities. The following recommendations provide a roadmap for creating a more inclusive and accessible health care environment for these individuals, ultimately contributing to healthier pregnancies and better outcomes for both mothers and their newborns.²⁴

- Strengthen collaboration: enhance collaboration between the Thai government, NGOs, and international agencies to improve coordination, share best practices, and pool resources. This will enable a more comprehensive approach to addressing the unique challenges faced by migrant workers in accessing ANC services.^{25,26}
- Develop culturally sensitive programs: create culturally sensitive ANC programs that cater to the unique needs and preferences of migrant workers. This could include providing services in their native languages and training health care providers in cultural competency to ensure effective communication and understanding.^{27,28}
- Expand outreach and awareness campaigns: develop and implement targeted outreach and awareness campaigns that focus on the importance of ANC services for pregnant migrant workers. This can help increase their knowledge about available services, encourage them to seek care, and reduce misconceptions and stigma surrounding ANC services.²⁸⁻³⁰

- Simplify legal and administrative processes: streamline the registration and documentation process for migrant workers to access health care services, including ANC. This could involve simplifying forms, providing clear guidelines, and aiding navigation in the process, which will help reduce barriers to care.^{31,32}
- Increase health care facility accessibility: invest in expanding and improving health care facilities in remote and rural areas in northern Thailand, where many migrant workers reside. This will ensure better access to ANC services and help reduce disparities in care.³³⁻³⁵
- Train community health workers: train and employ community health workers from migrant communities who can act as liaisons between migrant workers and health care providers. These community health workers can provide education, screenings, and referrals for ANC services, and help bridge cultural and linguistic barriers.^{29,30,34}
- Monitor and evaluate programs: regular monitoring and evaluation of ANC services for migrant workers in northern Thai health facilities is crucial. Data on service utilization, maternal and neonatal outcomes, and migrant challenges should be collected. Key outcomes to address include morbidity and mortality rates, prenatal visit adherence, vaccination coverage, nutritional deficiencies, high-risk pregnancy management, and mental health support. This information will inform future policies and interventions to improve ANC services for migrant workers.³⁶⁻³⁸
- Address stigma and discrimination: implement programs to combat the stigma and discrimination faced by migrant workers when accessing ANC services. This could involve community-based awareness campaigns and sensitivity training for health care providers to foster a more inclusive and supportive environment.^{39,40}
- Establish support networks: develop support networks for pregnant migrant workers, such as peer groups and mentorship programs. These networks can provide emotional support, share experiences, and help navigate challenges faced during pregnancy and accessing ANC services.^{29,30,40}
- Allocate adequate funding: ensure that adequate funding is allocated to support the development and implementation of targeted interventions and support systems to enhance ANC services for migrant workers in northern Thai health facilities.⁴¹⁻⁴³

By implementing these recommendations, the Thai government, NGOs, and international agencies can work together to improve the accessibility, quality, and effectiveness of ANC services for migrant workers in northern Thailand, ultimately contributing to healthier pregnancies and better outcomes for both mothers and their newborns.

There are several challenges that hinder the enhancement of ANC services for migrant workers. These include:

- Language and cultural barriers: migrant workers may have limited proficiency in the language of the host country, making it difficult for them to communicate

effectively with health care providers. Additionally, they may come from different cultural backgrounds and have different beliefs and practices related to pregnancy and childbirth.⁴⁴

- Access to health care services: migrant workers may face barriers to accessing health care services due to their legal status, lack of health insurance, or limited financial resources. They may also live in remote or rural areas where health care services are not easily available.⁴⁵
- Discrimination and stigma: migrant workers may face discrimination and stigma from health care providers, which can discourage them from seeking care or lead to suboptimal care.⁴⁴
- Lack of knowledge and awareness: migrant workers may have limited knowledge and awareness of the importance of ANC services, the risks associated with pregnancy and childbirth, and the available health care services.⁴⁶
- Work-related constraints: migrant workers may have limited time off work or face pressure from employers to continue working during pregnancy, making it difficult for them to attend ANC appointments or seek care when needed.

To overcome these challenges, it is important to provide culturally sensitive and linguistically appropriate ANC services that are accessible, affordable, and free from discrimination. This can be achieved by working with migrant worker communities, providing education and awareness campaigns, improving health care infrastructure in remote areas, and ensuring that health care providers receive training on cultural competency and sensitivity.⁴⁴⁻⁴⁶ It is also important to address work-related constraints by providing flexible work arrangements and ensuring that employers are aware of the importance of ANC services for the health and well-being of their employees.

Successfully implementing recommended ANC strategies among migrant workers could lead to numerous positive impacts for both the migrant workers and the host countries. Some potential impacts include:

- Improved maternal and child health outcomes: ensuring that migrant workers have access to quality ANC services can contribute to better health outcomes for both mothers and their children, including reduced maternal and infant mortality, lower rates of preterm births, and improved management of pregnancy-related complications.⁴⁵
- Enhanced social integration: by providing culturally and linguistically appropriate ANC services, host countries can promote social integration and facilitate positive interactions between migrant workers and the local community. This can contribute to a sense of belonging, increased trust in health care services, and greater willingness to seek health care when needed.⁴⁴
- Reduced health care costs: by addressing potential health risks early through ANC services, host countries can prevent complications that may lead to costly emergency care or long-term health issues for both mothers and their children. This can ultimately reduce the overall burden on

the health care system and contribute to more efficient allocation of resources.⁴⁶

- Increased productivity and economic contributions: healthy migrant workers who receive appropriate ANC services are more likely to be able to maintain their productivity and contribute to the economy of the host country. By ensuring that pregnant migrant workers receive proper care, employers can also reduce the potential for lost productivity due to pregnancy-related complications or absences.
- Strengthened human rights and social justice: ensuring that migrant workers have access to ANC services regardless of their legal status or financial situation is an essential step toward promoting human rights and social justice. By addressing the specific needs and challenges faced by migrant workers, host countries can contribute to a more equitable society and demonstrate a commitment to the well-being of all individuals, regardless of their background or origin.

Overall, the successful implementation of ANC strategies among migrant workers can lead to numerous positive outcomes for the individuals involved, as well as the broader society and economy. These benefits highlight the importance of addressing the unique challenges faced by migrant workers and ensuring that they have access to quality, culturally appropriate health care services. To ensure clarity, we have summarized the related articles in ► **Table 1**.

Conclusion

This review article emphasizes the importance of addressing the unique health care needs of migrant workers in northern Thailand, particularly in terms of ANC services. As the region continues to experience an influx of migrant workers, ensuring that they have access to high-quality ANC services is essential for the well-being of both pregnant women and their newborns. Several challenges persist, such as language and cultural barriers, legal and administrative issues, inadequate health facilities and staff, and stigma and discrimination. However, by implementing a comprehensive set of recommendations, the Thai government, NGOs, and international agencies can work together to improve the accessibility, quality, and effectiveness of ANC services for migrant workers in northern Thailand. Specific benefits of providing ANC services for migrant workers include improved maternal and neonatal health outcomes, reduced health care costs due to early detection and management of pregnancy complications, increased vaccination coverage, better mental health support, and enhanced health education. These benefits contribute to healthier pregnancies and better outcomes for both mothers and their newborns.

Recommendations to achieve these benefits include strengthening collaboration, developing culturally sensitive programs, expanding outreach and awareness campaigns, simplifying legal and administrative processes, increasing health care facility accessibility, training community health workers, monitoring and evaluating programs, addressing

Table 1 A summary of the included studies

Authors and year	Summarized results
Aungkulanon et al, 2017	Socioeconomic inequality in Thailand correlates with higher mortality rates, particularly from diseases other than colorectal cancer, in areas of lower socioeconomic status. Despite lower overall mortality, affluent areas have higher colorectal cancer-specific mortality rates. Efforts should be made to understand and address these disparities.
Benova et al, 2018	While most women reported having at least one ANC visit, the content and quality of care varied widely, with blood pressure measurement being the most commonly reported component. Even among women who followed global recommendations for ANC, the overall quality of care was found to be poor.
Boerma et al, 2018	To accelerate improvements in women's, children's, and adolescents' health in 81 key countries. The initiative has made progress but faces challenges in achieving universal coverage of quality interventions, reducing within-country inequalities, and overcoming barriers like weak health systems and conflict settings. Investments are being made in measurement and regional networks to enhance local capacity and evidence for reproductive, maternal, newborn, and child health (RMNCH).
Chi et al, 2015	Armed conflict significantly affects maternal and reproductive health (MRH) services, causing reduced access, poor quality, and detrimental outcomes in Burundi and Northern Uganda. Mechanisms of impact differ by region and involve attacks on facilities, targeting health care personnel, and higher prevalence of health issues like HIV/AIDS. Solutions must consider these factors and local contexts.
Dantas et al, 2021	Primary health care plays a crucial role in managing the COVID-19 pandemic, including disease prevention, early detection, and patient management. The specifics of the study's findings would need more context for a detailed summary.
Gagnon et al, 2013	International migrant women in Canada, especially asylum seekers and immigrants, face more post-birth health issues than Canadian-born women. These health concerns are often overlooked, emphasizing the need for targeted health care support for migrant women considering their immigration class.
Ghebreyesus and Swaminathan 2021	Africa, with 1% of the global population, contributed only 1.1% to worldwide R&D investments in 2016. Political instability and limited research capacity pose challenges. To mitigate these, strategies need to accommodate different African countries' capacities and stimulate innovative funding mechanisms for R&D.
Goudar et al, 2021	The Global Network for Women's and Children's Health Research created the MNHR, a registry to accurately track pregnancy outcomes and assess interventions in low- and middle-income countries.
Ghebreyesus and Swaminathan 2021	Despite hosting 1% of the world's population, Africa contributed just 1.1% to global R&D investments in 2016. Limitations in research capacity and political instability hinder private investment. Addressing these disparities requires tailored strategies that reflect each African country's capacity.
Goudar et al, 2021	The Global Network developed the Maternal Newborn Health Registry (MNHR) to accurately record pregnancy outcomes in resource-limited countries. The registry aids in evaluating interventions to improve women's and children's health in these areas.
Higginbottom et al, 2015	This study assesses the experiences of immigrant women accessing maternity-care services in Canada from conception to 6 months postpartum. It focuses on the accessibility and acceptability of these services and the effects of their experiences on birth and postnatal outcomes.
Liu et al, 2012	In 2010, most deaths in children under the age of five were due to infections, particularly preterm birth complications, pneumonia, and malaria. Despite some mortality reduction from 2000 to 2010, efforts must accelerate to meet Millennium Development Goal.
Meessen et al, 2011.	Several low-income African countries have removed or reduced health sector user fees to improve access for vulnerable groups like pregnant women and children. However, lack of preparation often led to poor implementation. Careful planning, adequate funding, and long-term commitment are essential for such reforms.
Moller et al, 2017	The study analyzes early antenatal care visits' coverage from 1990 to 2013 across 132 countries. Worldwide coverage increased from 40.9% to 58.6%, but significant disparities exist between developed (84.8%) and developing regions (48.1%), and between high-income (81.9%) and low-income countries (24.0%). Despite the progress, coverage is not universal, and there is substantial inequity.

Table 1 (Continued)

Authors and year	Summarized results
O'Donnell et al, 2016	Migrants, especially those in marginalized situations, often face barriers to accessing quality health care. Primary care can play a key role in addressing these barriers. However, individual patient capacity and health care system configuration and funding can limit access. Policymakers and practitioners must address these issues with strategies ranging from policy changes to practice modifications.
Oo et al, 2018	The study reviews migrant women's experiences of maternity care in Europe. Findings stress the need for culturally sensitive, holistic maternity care addressing specific needs of migrant women beyond just pregnancy.
Phillimore 2016	This article investigates the barriers to antenatal care for new migrants in the UK's West Midlands, an area with high infant and maternal mortality rates. Rather than a lack of priority for care, it found structural, legal, and institutional hurdles hindered migrants' access to effective antenatal care.
Puthussery et al, 2022	The study reveals that late initiation of antenatal care is more prevalent among non-White British ethnic groups in socially disadvantaged areas in the UK, contributing to higher mortality and morbidity rates. It highlights the need for targeted, timely antenatal care programs to ensure equity in maternity services.
Singh et al, 2018	This systematic review evaluates the use of sexual and reproductive health (SRH) interventions in emergencies in low and middle-income countries. Out of 2404 citations, 23 studies were included, showing effectiveness in increasing SRH service utilization through methods like peer-led education and community-based programming. The review concludes that despite increased attention, the evidence base is limited, and more research is needed in diverse crisis settings.
Suphanchaimat et al, 2015	This review examines health care providers' challenges in caring for migrants, including language and cultural differences, resource constraints, and legal-professional conflicts. Despite these, providers often overlooked legal status or sought external help. The study calls for more research on managing migrant health care within different health insurance models.
Tangcharoensathien et al, 2018	Thailand's health development, focusing on infrastructure and workforce training, has led to universal health coverage since 2002, reducing out-of-pocket health expenses and medical impoverishment. Future challenges include managing an aging population, noncommunicable disease prevention, traffic safety, and disease-specific coverage.
Villadsen et al, 2019	While immigrant-targeted care provides longer consultations and individualized care, its selection criteria may risk stigmatization. Universal care may neglect immigrant needs, creating inequities. Solutions may include enhancing cultural competencies, interpreter services, and the flexibility of universal care.

Abbreviations: AIDS, acquired immune deficiency syndrome; ANC, antenatal care; HIV, human immunodeficiency virus.

stigma and discrimination, establishing support networks, and allocating adequate funding. By taking these measures, stakeholders can create a more inclusive and supportive health care environment for migrant workers, ultimately benefiting not only the migrant workers themselves but also contributing to the overall improvement of the health care system in northern Thailand. As Thailand continues to make strides in improving its health care system, it is crucial to prioritize the needs of migrant workers and ensure their successful integration into the local health care workforce.

Conflict of Interest

None declared.

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