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DIA : GRAM

A portrait of Mridu Gupta, a woman with long, wavy grey hair and glasses, smiling. She is wearing a dark green top. The background is dark.

Mridu Gupta, public health expert

The role of health literacy in empowering women

Why health equity matters

Placing the needs of women firmly in the spotlight

Thriving, not just surviving

Kirsty Browne - cervical cancer survivor to patient advocate

Rising to the burden of cervical cancer

Dr Tofan and Dr Nuttavut discuss ways to improve cervical cancer prevention

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Note from the Editor



Dear Readers,

For too long, science has placed men in the forefront as the “default human”, leaving women overlooked and left behind. As a result, today, women are faced with inequities in diagnostics, treatment, care and access to healthcare. There is a strong call to action now - for the industry to lean into biological differences between both sexes to better understand women’s health and account for women’s clinical characteristics and personal needs.

Diagram brings this conversation to Asia Pacific.







Hear from **Dr Nuttavut Kantathavorn**, from Thailand and **Dr Tofan Widya Utami**, from Indonesia as they discuss how they are trying to tackle the burden of cervical cancer in their countries. **Mridu Gupta**, CEO of Cancer Awareness, Prevention and Early Detection (CAPED) talks about the essential role of health literacy in empowering women to take better care of their health. **Dr Pham Trung Ha** from Vietnam and **Ms Taeko Hotta** from Japan discuss their thoughts on gender diversity in healthcare. And **Kirsty Browne** shares her story - from a cervical cancer survivor to an advocate for increased access to screening for women.

This edition dives into the unique cultural and societal barriers that prevent women in Asia Pacific from seeking the care they are entitled to.

Read these stories now.

Shruti Bose

Contents

	Addressing inequities in women's healthcare Placing the healthcare needs of women firmly in the spotlight	04		The need for more women leaders in healthcare Dr Pham Trung Ha and Ms Taeko Hotta discuss bringing more diversity to the healthcare industry	18
	Thriving, not just surviving Kirsty Browne shares her transformative story from cervical cancer survivor to patient advocate	10		Tackling the world's first preventable cancer Dr Tofan Widya Utami and Dr Nuttavut Kantathavorn on ways to improve cervical cancer prevention	22
	Knowledge is power Mridu Gupta on the role of health literacy in empowering women	14		Breaking taboos and empowering women The role of labs in removing stigmas surrounding Sexually Transmitted Infections (STIs)	26

Placing the healthcare needs of women firmly in the spotlight

For too long, science has placed men in the forefront as the “default human”, leaving women overlooked and left behind. As a result, today, women are faced with inequities in treatment, care, and access to healthcare.



It was only 1993 that women were included in clinical trials to ascertain the efficacy of tests and treatment options for women.¹ Up until that point, it was assumed that what worked for men would work just as well for women. While this might have been a logical assumption to make centuries ago, it has resulted in serious repercussions on the health of women.

On top of a reactive approach to healthcare - regardless of gender - such an approach is especially detrimental when seen through the lens of specific women's specific conditions and diseases such as preeclampsia - a pregnancy related complication which affects 2% to 8% of pregnancies worldwide and results in 9% to 26% of maternal deaths in low-income countries² - or cervical cancer, the world's only preventable cancer, that still kills over 340,000 women globally every year.³

There is no debate that every woman has a universal right to good health. Yet, even today, women face inequities (an absence of fairness) in treatment, care, and access to healthcare. Only with the knowledge to make informed decisions, and healthcare infrastructures and policies that cater to her unique health needs, can women truly enjoy the gift that good health yields - allowing them to reach their full potential and be who they want to be.

The underestimated impact of culture and societal expectations

While many may have experienced the weight of expectations from family, friends, and the communities we live in, societal conditioning can create an invisible burden of such expectations. From predetermined roles in a family defined by gender, to the "right age" that one should get married at, these can impact many facets of our lives.

Insights from a recent survey conducted by Roche Diagnostics with close to 3,300 women across 8 countries in Asia Pacific show just how heavily societal expectations can influence women's interaction, or lack thereof, with healthcare. More than 60% respondents from China, Vietnam, and Australia said that the responsibility for day-to-day family responsibilities in the home primarily lay with female caregivers.⁴ Grappling with the 'double-shift' of a full-time career and homecare duties, 62% of women identify lack of time as one of the barriers to taking care of their health.⁵

Another glaring gap is the lack of support women can have within their communities.

For instance, receiving a diagnosis of cervical cancer may be seen as a sign of promiscuity and infidelity, preventing women from asking for a test that is life changing. Considering how 58% of cervical cancer cases globally were estimated to occur in the Asia Pacific region, and how only 22% of women surveyed felt very knowledgeable about cervical cancer, this could imply a knowledge gap that affects approximately 250 million women and can have very severe consequences on their lives.⁴

The stark consequences of under representation

As societies progress and the world continues to be more interconnected, we start to see the ways in which representation matters - from viewpoints that can help to create inclusive policies whether in the workplace or in society, to funding and policy decisions that allow people to thrive as contributing members of an economy. Which is why, good health is an enabler of a good quality life for everyone regardless of background or gender, and to the pursuit of a fairer society.

A critical element to health equity, and a major gap in the global health system, is data. While significant progress has been made with women making up 75% of the global healthcare workforce, they continue to be underrepresented in many parts of the clinical research process, and even when women are included, many studies still do not analyse data by sex.⁶

This can cause a gender data gap that can lead to a lack of knowledge about how to detect, treat, and understand conditions that primarily or predominantly affect women, or affect women differently. This can perhaps explain why the misdiagnosis risk of a heart attack is 50% higher in women than men.⁷ While the world's top killer, lung cancer, has seen an incidence drop of 36% in men, there has been an 84% increase in women in the last 40 years.⁸

With this stark gap in the quality of healthcare for women identified, the value of diversifying genetic data for scientific discovery has never been more paramount. The scientific industry as a whole requires greater diversity and involvement of all who experience and study a disease.

The economic impact of health inequity

A woman's full and effective participation in the workforce, her community, and family, are only possible if she has good health. A more equitable health system leads to

better quality care for women, giving them the ability to lead healthier and longer lives.

Helping women fully participate as a productive member of society has tangible impact on a wider scale. According to the International Monetary Fund (IMF), enabling women to participate fully in the economy is not only growth promoting, but also diversifies the economies, reduces income inequality, mitigates demographic shifts, and contributes to financial sector stability. Women are more likely to invest their disposable income and resources in education and the health of their children, building up future generations as well.⁹

For too long, science has placed men in the forefront as the "default human", leaving women overlooked and left behind. Investing in healthcare for women through greater funding and better policies isn't about correcting a gender imbalance but about shaping a future world that we will all inhabit. As a collective we have a responsibility to act, and to put the healthcare needs of women firmly in the spotlight. Because better health for her, means better health for everyone.

20% of respondents said that females shouldered the majority of the responsibility for the day-to-day family caregiving in the home⁴

Nearly 1 in 2 women surveyed said the expectations of family, friends, and the community influenced their decision to attend a university or college for pursuing higher education⁴



Understanding the challenges across the region

Recognising challenges women face across a region as diverse as Asia Pacific and understanding factors that drive their ability to access timely diagnosis and treatment is the first step to providing more effective care for the women in our region. The Asia Pacific-wide survey* sheds light on women’s roles, their knowledge levels, and perceptions of healthcare as well as factors influencing decision-making related to their health and wellbeing.

Knowledge levels about health:	Societal expectations:	Health equity and systems:
<ul style="list-style-type: none">• Only 22% feel very knowledgeable about cervical cancer. This could imply a knowledge gap in approximately 250 million women across the 8 countries surveyed.• 1 in 2 women feel knowledgeable about the options available for child conception.	<ul style="list-style-type: none">• 56% said that views around the expected roles of women have changed in the last 10 years.• 20% of respondents said that females shouldered the majority of the responsibility for day-to-day family caregiving in the home.• 1 in 5 women (21%) felt strongly they have delayed or avoided medical treatment one or several times due to a family obligation.	<ul style="list-style-type: none">• Only 16% of women said that the healthcare system is highly fair and equitable in its treatment of women.• 1 in 2 women (49%) surveyed believe that the level of fairness in their country's healthcare system impacts women's health a lot.

*Commissioned by Roche Diagnostics in Asia Pacific and conducted by FrontierView, the research spans eight countries in the Asia Pacific, specifically China, Japan, Indonesia, Vietnam, Thailand, South Korea, Australia and India, with 3,320 women respondents, including four qualitative interviews with subject matter experts. All contents on the website are for general information only and Roche disclaims all express and implied warranties with respect to these contents.



Thriving, Not Just Surviving

Life as a Cervical Cancer Screening Advocate

Kirsty Browne shares her passion for being a cervical cancer screening advocate and her journey through battling this disease.

"When I was 26, my world turned inside out overnight. I was completing the final year of my pharmacy degree and studying hard for the pharmaceutical intern exam. This was when I was also told I had a rare type of cervical cancer," says Kirsty Browne, a cervical cancer survivor, now advocate for cervical cancer screening.

A pharmacist-in-training at the time, the value of screening was not lost on Kirsty. Having been proactive with her cervical cancer screenings and vaccinations, this diagnosis was definitely a surprise, and not a pleasant one.

Recounting the experience, Kirsty describes her emotions at the time: "At 26, this isn't something you're thinking about. My mind was a mess, with all these thoughts running through my mind..."

It can't be me.

This must be a mistake!

Will I be ok?

Who will want to be with me after this?

Will I ever get married?

Will I be able to have a baby?

Everything started to spiral. It was a bizarre period of time – trying to wrap my head around what was going on in my body, and having to make quick decisions about things that my life literally depended on." Sadly, this isn't a unique experience.

Cervical cancer is one of the most preventable cancers today, with a potential

"For most women, the outcomes of a cervical cancer diagnosis is vastly different from my life today, and that needs to be fixed."

- Kirsty Browne



to eliminate cervical cancer incidences in our lifetime. Yet, it remains a leading cause of death in women worldwide, with one woman succumbing to the disease every 2 minutes. Cervical cancer is the fourth most frequent cancer in women with more than 600 000 new cases in 2020 and more than 302,000 deaths from cervical cancer in 2020.¹

Unlike the majority of cancers, the main cause of cervical cancer is well known with almost all cases caused by the human papillomavirus (HPV), which infects most men and women at some point in their lives.

In 2018, the World Health Organization (WHO) had a global call to action for the elimination of cervical cancer by 2030. The WHO recommends a ‘90-70-90’ approach that involves three key pillars: vaccination, screening, and treatment.

The critical role of screening

Part of the WHO’s 90-70-90 target is to ensure 70% of women would be screened with a high performance test by age 35 and again by 45. With effective screening, we have the ability to achieve WHO’s target of 4 or less cases per 100,000 women much earlier.² Despite efforts, coverage of vaccination or screening is lacking in many parts of the world, including much of the Asia Pacific region. Only 4 out of 10 ASEAN countries have launched a population-based screening program, with the remaining of women screened opportunistically or not at all.³

Effective cervical cancer screening programmes are worth the investment as they can improve outcomes and reduce costs to health systems and women. The benefits

can also extend to the broader economy, with an estimated USD \$3.20 return for every dollar spent on intervention measures, and up to USD \$26 when this support is extended to broader aspects of a woman’s life.⁴

The lack of access to screening can be due to many factors, ranging from the lack of financial resources to pay for a test, to the low quality of testing infrastructure within a country. Studies have linked low literacy with poorer health literacy and increased barriers to health access, including low knowledge of health service utilisation and disease symptoms, and lower likelihood of attending health screenings.⁵ Over 500 million females are illiterate globally, approximately twice the number of men.⁶ Education therefore, remains a critical first step in ensuring patients are aware of the critical role of screening in maintaining their health, and saving lives.

A call for more equitable healthcare

With Australia leading the way in eliminating cervical cancer by 2030, Kirsty acknowledges the privilege she’s had to receive world-class healthcare at speed. With effective and efficient diagnostics, her doctors were able to provide fertility preserving treatment options that could both save her life, and give her the precious gift of motherhood in the future. Kirsty, however, realises this isn’t the case for most women. “Inequity to care is definitely an issue. Having grown up in South Africa before moving to Australia, the lack of access to quality healthcare is very apparent to me. I know that if I was in another country, my diagnosis, and prognosis, would be very different. For most women, their outcomes and quality of life after a cervical cancer

diagnosis is vastly different from my life today, and that’s definitely something that needs to be fixed,” says Kirsty.

Nearly 90% of annual cervical cancer deaths occur in Low and Middle Income Countries (LMICs). With 60% of the LMICs residing in the Asia Pacific region, this is a critical problem for families, societies, and economies.’ With many having little to no access to quality care, improvements to health systems and infrastructure are required to meet the basic needs of patients in developing countries.

With the WHO’s global call for action to eliminate cervical cancer, renewed political will is required to make this a reality. It requires collective action amongst all stakeholders to unite behind this common goal to educate, roll-out vaccination and screening programs, and increase the access of, and accessibility to, effective and efficient healthcare.

Thriving, not just surviving

Thankful for the options that were available to her at the time, Kirsty is living the life she’s always wanted, a life that could very well have been cut short. After going through treatment and coming out cancer free, Kirsty is faced with the question – What now? She recounts: “I have spent the last five years understanding what it means to thrive in this new world post-cancer. Developing a new mindset, being grateful for the opportunities I now have, and for the life I’m living is paramount – I’m now a wife, a mother, and have a fulfilling career. While my journey with cancer is definitely a pivotal chapter in my life, it isn’t all of me. I want my life to be, and mean, so much more.”

Today, Kirsty is a passionate advocate for cervical cancer screening: “Looking back, this experience I’ve had, and knowing that so many women are going through something similar, when it can all be avoided and even eliminated, that just drives me to keep talking about it to anyone who would listen to me.”

A cervical cancer diagnosis doesn’t just affect a woman, nor is it solely a women’s issue. It affects her partner, her children, her community. When asked what her one message to everyone would be, Kirsty says in a heartbeat: “We all know a woman in our life that we care about. We can all do our part to check in on them, remind them to put their health first. I speak about this all the time, and my message is always the same – go and get screened, go and tell a woman you love to get screened. You could very well be saving a life. In the least, you’re doing your part to help eliminate this one cancer that we can all get rid of in our lifetime.”



Health information is not enough: Why literacy can turn the tide on healthcare for women

Gender-based inequities in healthcare is a phenomenon across the world. **Mridu Gupta**, CEO of Cancer Awareness, Prevention and Early Detection (CAPED), writes for **Diagram** as she assess the impact these gaps in healthcare have on women’s lives in India.

Globally, the health of women has always been a topic of concern, and there have been various discussions on issues related to it. However, women's health is not given enough priority in society, despite several initiatives. This phenomenon is widespread in both developing and developed countries. India, the second-most populous country in the world, is still facing gender-based inequities in women's health, despite being a rapidly developing nation. These inequities range from limited access to healthcare to cultural norms that restrict women's autonomy and decision-making power.

There is a significant lack of knowledge among Indian women about non-communicable diseases (NCDs), including cardiovascular disease, diabetes, and cancer. Similar findings were revealed in a study conducted in India, where 60% of women were unaware about heart attacks or strokes; knowledge about breast (27.3%) and cervical cancer (11.5%) was even poorer.¹ A 2020 study undertaken by CAPED across

21 cities in India to assess awareness levels on cervical cancer found similar results where only 46% women had heard of cervical cancer and 23% of those thought it was a cancer of the neck.² This lack of awareness and understanding of women's health issues can have severe consequences for women's health outcomes, the largest being her inability to make informed decisions regarding her health.

The lack of awareness extends to policymakers and healthcare providers too, as many tend to view women's health concerns as secondary or limited to reproductive health. However, women's health encompasses a broad range of issues, including mental health, cardiovascular disease, cancer, and autoimmune diseases, among others. For example, the American Heart Association reports that women are more likely to die from a heart attack than men, in part because their symptoms are often misdiagnosed or dismissed as anxiety or stress.³



Misdiagnosis is a common complaint among women above 40 years of age.

Healthcare policy is also greatly affected by the significant gap in the research and funding for women's health issues in India. This lack of representation can lead to gender-based differences in drug efficacy and safety, as well as delays in the identification of potential adverse effects in women. The disparity in funding is reflected in the lack of attention given to women's health issues in healthcare policy and planning. This gap in healthcare policy is the reason there is no women specific healthcare schemes or government health insurance available in India.

A study conducted by experts from India and Harvard University reveals that Indian women suffer gender bias while accessing healthcare. The study examined records of over 2.3 million women outpatients and found that only 37% women got access to healthcare as compared to 67% men.⁴ In low-income families where the woman

culturally takes over the caregiver's role, the lack of a women-specific health fund puts her chances of access to healthcare lower than the provider or male members of the family. Limited access to healthcare facilities and barriers such as language, lack of education, and poverty are the suggested reasons. In India, the gender gap in healthcare is a significant issue.

In an eco-system where policies and planning do not support women's healthcare and the woman herself is either uninformed or not free to make decisions regarding her own health, it is obvious that health outcomes for women will suffer. According to a study conducted by the National Family Health Survey in India, only 12% of women aged 15-49 make decisions about their own health, compared to 34% of men in the same age group.⁵ This suggests that cultural norms and gender roles play a significant role in women's decision-making power regarding their health. These findings indicate the detrimental impact of cultural norms and gender roles on women's health in India.

To address these issues, it is crucial to increase awareness and understanding of women's health issues, conduct more research and funding for women's health, address the gender gap in healthcare, and ensure that women of all backgrounds have access to quality healthcare services. Empowering women to make informed decisions about their health and addressing cultural norms that prioritise men's health over women's is also essential for improving women's health and achieving gender equality in healthcare.





Women leaders in healthcare:

Why gender equality is needed for better healthcare

Making equality possible: Industry leaders share their thoughts on gender diversity in healthcare. The lack of women leaders in healthcare can hinder accurate diagnosis for women, according to a report by the Foundation for Innovative Diagnostics (FIND) and Women in Global Health.¹



"Despite the challenges, don't give up on your dream".

– Ms Taeko Hotta

90% percent in nursing. Yet, they account for just 25% of leadership roles.

Despite these daunting numbers, improvements have been made over the years, Dr Trung Ha notes. In the case of Vietnam, this could be partly attributed to the government's commitment to gender equality. This has led to the development of various legal frameworks concerning the rights of female workers,⁴ such as the Law on Gender Equality established in 2006.

In Saigon International Hospital, for example, Dr Trung Ha shares that while women account for 66% of the workforce in 2021, there is still an equal number of male and female leaders.

Gender equality, of course, is not just about the dry statistics. The lack of gender representation — particularly in healthcare — can have dire consequences. In 2020, the Foundation for Innovative Diagnostics (FIND) and Women in Global Health released a report that examines how empowering women can lead to better health outcomes.⁴ The report found that gender bias hinders accurate diagnosis for women; for example, while tuberculosis (TB) is often seen as a “male disease”, more women were found to be dying of TB-related causes compared to all causes of maternal mortality.

“Assumptions and thought filters are not things of the past; they are still here today,” states Hotta. To reduce the risk of gender bias, Hotta emphasises that more must be done to increase women's participation in healthcare, especially in areas like diagnosis and treatment. Changes such as increasing the number of women in leadership positions are key. Hotta cites her own experience as an example. She will always remember 1993 — the year the first woman was appointed as the Head of Clinical Laboratory Technologists in Kyushu University Hospital. Having such role models goes a long way in inspiring and motivating younger generations of women. In Hotta's case, her hard work paid off as she assumed the same role of Head of Clinical Laboratory Technologists less than two decades later.

Some may start their careers out of passion, while others do so for pragmatic reasons. For Japan-based **Taeko Hotta**, it was a mix of both. Since young, her goal has always been financial independence, but she knew that her career options were limited.

“At that time, the only occupations where women could build a career without facing gender obstacles were either teachers, nurses, pharmacists or clinical laboratory technologists,” Hotta recalls. Thankfully, the decision was simple. Always fascinated by the science, technology, engineering and medicine (STEM) fields since her teenage years, Hotta's interest in clinical laboratory grew stronger.

Today, as the Head of Laboratory at Kyushu University Hospital in Fukuoka, Japan, Hotta is also the acting head of the hospital's Medical Technology Department. Her story is a rare one if you consider the numbers. In Japan, the latest data available shows that women filled just 13% of management roles in 2019 — the second-lowest country in the Organisation for Economic Co-operation and Development (OECD).²

What will it take to see more women leaders in diagnostics?

“At the social level, the burden of household chores should be shared more at home. Surprisingly, the reality is that the burden of housework on Japanese women is among the heaviest in the world. At the political level, a ‘system’ to increase the number of women in leadership positions should be introduced, rather than being solely dependent on the effort made by individuals or companies.”

Forging Gender Equality in Healthcare

The disparity in gender equality in healthcare can be seen across the world. “The higher the position, the less the percentage of women participating,” observes Vietnam-based **Pham Trung Ha**, who is the Deputy Medical Director and Head of the Laboratory Department at Saigon International Hospital. That is despite the fact that women far outnumber men in the healthcare workforce. According to the World Health Organization,³ women hold 70% of jobs in health and social care, and

How will female representation in diagnostics and healthcare help prevent gender bias?

“Women's representation in diagnosis and healthcare in general will contribute to removing gender stereotypes and improve the accuracy of diagnosis of patients and disease patterns.”

Dr Trung Ha shares the same sentiments about the need for female representation, explaining that this representation in diagnosis and the healthcare industry will contribute to improving accurate diagnosis of patients and disease patterns.

As a leader in the Saigon International Hospital, Dr Trung Ha has made it her mission to actively contribute to women's healthcare and diagnostics, whether it is through conducting research or working with the Board of Directors at the hospital. She's pleased that medical advancements, such as the application of thyroid and biochemical tests to diagnose pregnancy pathologies, have helped to reduce the rate of obstetric complications and raise the quality of women's health in recent years.

Finding Success at Work for Women in Healthcare

Dr Trung Ha advises women to stay passionate, enthusiastic and motivated in their work. In her experience, continuous learning and open communication with

colleagues has significantly helped her in her career.

Meanwhile, Hotta hopes that increased gender diversity, especially in the diagnostics space, will lead to better collaboration. She believes that laboratories can work better with other departments and divisions in medical institutions, contributing to better healthcare for all.

That said, women with children may find it harder to balance work and family life, acknowledges Hotta, who has four children. To that end, governments and companies must actively contribute to bridging the workforce gender gap and encourage more women to take on leadership roles.

Childcare is a great experience, but one that should be more equally shared. Rather than assuming that childcare is done purely by women, men can also take leave and actively participate to create a better working environment. Despite the challenges, Hotta urges women not to give up on their dreams. Experience gained outside of work can enhance one's leadership abilities, she adds. With a ground-swell of ever more women climbing the ladder, the future looks bright for a more equal healthcare workforce.



ROLE SEGREGATION IN HEALTHCARE

Globally, women hold

70%

of health and care jobs, yet only

25%

are leaders.



"Women's representation in healthcare will contribute to removing gender stereotypes and improve quality of care for women everywhere".

– Dr Pham Trung Ha

The Battle to Eliminate the world's first preventable cancer

Cervical cancer is preventable but lack of awareness about the disease and access to screening have often been the main obstacle. We talk to experts from Indonesia and Thailand on breaking down barriers to cervical cancer.





comprising of more than 17,000 islands poses a more complex and “unpreventable” geographical challenge. Dr Tofan says prevention is a better strategy than cure.

Having signed the WHO's Global Strategy to Accelerate the Elimination of cervical cancer, Indonesia has committed to screen at least 70% of women by the ages of 35 and 45 and to enable 90% of women diagnosed with cervical cancer to receive treatment by 2030.^{6,7} Last year, the Indonesian government announced it was adding the Human Papillomavirus (HPV) vaccine to part of the domestic immunisation programme administered nationwide. The move aims to reduce the risk of cervical cancer among women, and comes as the government places more emphasis on preventive instead of curative treatments in addressing the country's health challenges. While Dr Tofan says Indonesia's commitment to upscaling free HPV vaccination is a major milestone for young Indonesian women, more effort needs to be made towards older women, requiring continued advocacy and greater investment from the government in the years ahead.

“There needs to be a strong commitment towards gender-specific policy interventions from multiple stakeholders, including the Ministry of Health, Ministry of Women and Child Protection, Ministry of Education and planning to address the unique health challenges women encounter. Every woman is at risk for getting cervical cancer regardless of their sexual behaviour, economic status or educational background. If developed countries like Australia can prove to eliminate cervical cancer and there is evidence, then it's just as possible to do the same in Indonesia.”

"An estimated 77.9% of women with cervical cancer are in the advanced stage when they visit hospitals for initial treatment."⁵

– Dr Tofan

When Dr Tofan Widya Utami ran the routine pregnancy tests for her patient at the Cipto Mangunkusumo General Hospital in Jakarta, she faced a dilemma. The 36-year-old expectant mother was diagnosed with early stage cervical cancer.

“Her life was at risk and we recommended terminating the pregnancy, but her husband refused. Even in this life threatening situation, she was unable to make a decision on her own,” says Dr Tofan, a specialist in Gynecology Oncology and a strong advocate for women's health in Indonesia. Eventually, the delay, denial, and loss of follow-up narrowed options for the unborn baby and mom. Dr Tofan says despite an early C-Section delivery and multiple rounds of chemotherapy, the patient lost her life several months after childbirth.

Cervical cancer during pregnancy is relatively uncommon. However, the cancer itself is not. It remains among the leading cancers among women globally with about 90% of new cases and deaths in 2020 having occurred in low- and middle-income

countries.¹ An estimated 19,300 Indonesian women lose their lives to cervical cancer annually, which is the second most common cancer in the country.^{2,3} Although preventable and highly treatable if detected early, cervical cancer incidence has doubled over the last five years and survival rate for women diagnosed with the disease remains abysmally low at 50%.⁴

In the Indonesian society, ruled for generations by cultural tradition, women are often misinformed and have limited knowledge regarding their health.

According to Dr Tofan, a range of factors render Indonesian women more vulnerable to developing cervical cancer; entrenched beliefs and attitudes, social stigmas associated with the disease and women relying on family for decision-making impede many from accessing early screening. In fact, an estimated 77.9% of women with cervical cancer are in the advanced stage when they visit hospitals for initial treatment.⁵ What's worse, limited access to healthcare in the archipelago state



"Thailand's vaccination and screening standards are on par with developed countries, thereby making cervical cancer likely “a rare disease in the near future.” ”

– Dr Nuttavut

Thailand: a model of success

Just two decades ago, like many other low-and middle-income countries, Thailand was also struggling to find a way to beat cervical cancer. For 30 years, it had tried the test-and-refer approach, which involved cytology screening using Pap smear and referrals. But this approach had not made a dent in the incidence of cervical cancer deaths in the country. Then in 2000, the trajectory of the country's efforts to establish a viable cervical cancer prevention and control program altered with the Safety, Acceptability, Feasibility and program implementation Effort (SAFE) study which was a single visit approach, combining visual inspection of the cervix with acetic acid (VIA) and cryotherapy.

This low-cost method did not need electricity, sophisticated labs or equipment. It was provided by non-physicians, required women to visit only once, and it could be made available even in hard-to-reach interiors of the country. Given the low

doctor-to-patient ratio, Dr Nuttavut Kantathavorn, Gynecologic Oncologist at the Chulabhorn Hospital in Bangkok says nurses were tasked with doing cryotherapy which “helped make screening more accessible for Thai women at the time.” The programme has become an inspiration for many countries in the South-East Asia region attempting to implement low-cost health interventions and demonstrate how partnership efforts can advance women's health and equality.

Looking ahead, it's quite possible that Thailand will meet the WHO's goal to eliminate cancer by 2030. While the country has had a National Cervical Cancer Screening Policy since 2002, there are many ongoing campaigns to raise awareness about the disease. According to WHO, 6 in 10 women in Thailand have been screened for cervical cancer in the last 5 years⁸ and Dr Nuttavut asserts that Thailand's vaccination and screening standards are on par with developed countries, thereby making cervical cancer likely “a rare disease in the near future.”

Additionally, Thailand's healthcare for women at government medical facilities is quite comprehensive and gratis. Thais are entitled to Universal Health Coverage (UHC), Social Security Scheme (SSS) or the Civil Servant Medical Benefit Scheme (CSMBS), providing women with a range of health care services, including cervical cancer screening and treatment, free of cost. While the tests and treatments are accessible for all, Dr Nuttavut says, more work needs to be done to generate awareness and “ensure that the public know their rights to good health.”

How labs can help to reduce the burden of women's diseases

The essential role of laboratories in removing stigmas surrounding Sexually Transmitted Infections (STIs) so that women can be better positioned in their own fertility journey.

When it comes to women's health, levels of knowledge and awareness on sexual and reproductive health vary in Asia Pacific. Diverse beliefs and cultures often lead to stigmatisation around Sexually Transmitted Infections (STIs). STIs like Chlamydia trachomatis (CT or Chlamydia) and Neisseria gonorrhoeae (GC or gonorrhoeae) can negatively impact the health of women causing a variety of serious consequences, including infertility, ectopic pregnancy and stillbirths,¹ when left untreated.

The inequities preventing women from receiving care

While STIs remain largely asymptomatic and/or undiagnosed, biological differences can exacerbate the condition and its impact on women. Factors range from easier tissue penetration to being less likely to have visible symptoms of infection.² Without detection and treatment, the unchecked infection spreads through the reproductive system and can lead to pelvic inflammatory disease and tubal inflammation (scarring and damage) which can ultimately lead to infertility.

Socially and culturally speaking, there remains a lot of stigma surrounding STIs and infertility, as shown by a survey conducted by Roche Diagnostics Asia Pacific to understand the perceptions of, and access to healthcare for women in Asia Pacific. 73% of respondents said that when a couple faces fertility issues, people in their community assume the female is the source of the issue.

Despite the availability of healthcare, culture and stigma (72%) and familial obligations (75%) were the top reasons women said prevented them from receiving better fertility-related healthcare.³

Economically, women are also disadvantaged when seeking healthcare for STIs and infertility. 1 in 3 married women in low-income countries do not have control over major household spending decisions.⁴ Husbands and family members can restrict a woman from seeking appropriate care, delaying diagnosis and treatment. Due to this imbalance of financial freedom, nearly 1 in 4 women do not feel empowered to seek medical treatment for their own health, let alone fertility-related issues.³ Healthcare systems that are poorly funded with mostly out-of-pocket payments present yet another barrier to women accessing the care needed.⁵

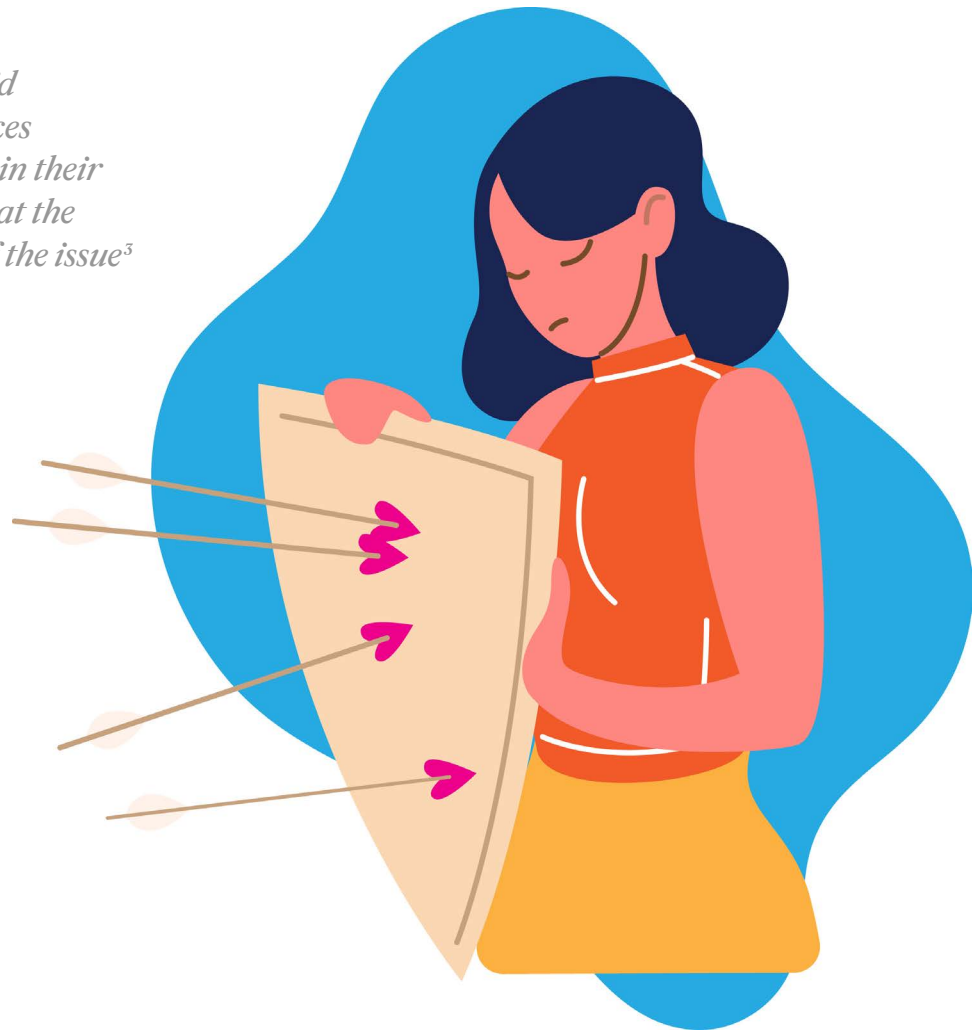
Diagnostics as the first line of defence in clinical settings

Effective screening programs across the region could create a monumental shift in reducing the burden on health systems, with labs serving as the first line of defence in clinical settings.

There are two main diagnostic methods for detecting the presence of Chlamydia trachomatis and Neisseria gonorrhoeae. This method of culture that is used widely has a low sensitivity of about 63%, which can lead to an inaccurate diagnosis and an inappropriate course of treatment.⁶

Due to this imbalance of financial freedom, nearly 1 in 4 women do not feel empowered to seek medical treatment for their own health, let alone fertility-related issues³

73% of responders said that when a couple faces fertility issues, people in their community assume that the female is the source of the issue³



The second diagnostic method, and what is considered the gold standard, is via a PCR test that targets specific nucleic acid sequences in the genomes of Chlamydia trachomatis and Neisseria gonorrhoeae.⁷ Commonly referred to as nucleic acid amplification testing (NAAT), it offers much quicker results at a much higher sensitivity of 99%. Sample collection is much less invasive, and in some cases even allows for the sample to be self-collected. This provides a patient with the independence and comfort of testing at their convenience, removing any inhibitions and logistical barriers they might have with seeing a clinician onsite.

While testing efficacy is an issue, so is the underdiagnosis of STIs. It is estimated that only 35% of gonorrhoeae and 56% of chlamydia cases are actually given an official diagnosis.⁸ Testing for Chlamydia trachomatis and Neisseria gonorrhoeae infections are seldom routinely screened for nor are they included in most health screening packages in Asia Pacific health

systems. This is not the case in other parts of the world. Recognising the importance of screening, the US CDC updated its guidelines for the screening and treatment of STIs in 2015, and ramped up efforts to target high-risk groups, as did the National Health Service in the UK.

An accurate and efficient diagnosis also allows the laboratory to provide clear test results to a physician, who will be able to ensure that an appropriate course of treatment is started for the patient. As typical treatment often involves the use of antibiotics, this is especially pertinent as antibiotic-resistant strains of both bacteria have been reported to be on the rise due to the overuse, and misuse of antibiotics.⁹

While routine screening for STIs are necessary to manage the spread of STIs, it needs to be coupled with greater public health efforts to destigmatise and break down long-held cultural beliefs. National education and awareness programs can support the vital role of diagnostics in the

management of STIs and demonstrate how earlier detection can lead to more effective treatment outcomes, and quality of life. Partnerships with other stakeholders in the healthcare ecosystem - like insurance providers - is another to increase awareness for testing and treatment for STI, providing women with the information they need to take care of their health.

The role of the lab goes far beyond the actual test

Timely and accurate diagnostics enables better care, and has the potential to empower women with testing options that overcome cultural barriers in our region. In order for this to take place at scale, it is vital for the voice of the lab to be heard in wider healthcare decision making conversations so that we take a step forward to closing the care gap for women in Asia Pacific.

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