

Maternal mortality in Algeria

وفيات الأمهات في الجزائر

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Abstract :

The importance of the maternal mortality index is to clarify the health status of the mother affected by pre-, during and post-natal care. This care during the three periods is regarded as an integrated system where each stage affects the next. One of the goals of the World Health Organization's work for this millennium is to improve women's health at various stages of motherhood, thereby reducing this rate to three quarters between 1990 and 2015. According to the World Health Organization, 303,000 women died worldwide during pregnancy or childbirth in 2015. The first cause of maternal death is the lack of access to services provided by qualified medical staff in daily and emergency care. This reflects a wide disparity between countries (99% of deaths in developing countries). What levels did Algeria in achieve in reducing in maternal mortality rate during the period 2000/2015?

Keywords: maternal mortality, health care, millennium Development goals, health services.

ملخص:

تكمن أهمية مؤشر وفيات الأمهات في توضيح الوضع الصحي للأم المتأثر بكل من رعاية الحامل قبل وأثناء وبعد الولادة. هذه الرعاية خلال الفترات الثلاث تعتبر بمثابة منظومة متكاملة إذ تؤثر كل مرحلة على التي تليها. فمن بين الأهداف في أعمال المنظمة العالمية للصحة لهذه الألفية تحسين المستوى الصحي للمرأة في مختلف مراحل الأمومة، وبالتالي تخفيض هذا المعدل إلى ثلاث أرباع في الفترة الممتدة بين 1990 و2015. فحسب المنظمة العالمية للصحة فإن حوالي 303,000 امرأة توفيت في العالم خلال فترة الحمل أو أثناء الولادة سنة 2015. السبب الأول في وفاة الأمهات هو عدم حصولهن على الخدمات المقدمة من طرف طاقم طبي مؤهل في مجالي الرعاية اليومية والرعاية الطارئة، وهذا يعكس تفاوتاً كبيراً بين الدول (99% من هذه الوفيات تحدث في الدول النامية). فما هي المستويات التي بلغتها الجزائر في تخفيض وفيات الأمهات خلال الفترة 2000 / 2015؟

كلمات مفتاحية: وفيات الأمهات، الرعاية الصحية، أهداف التنمية العالمية، الخدمات الصحية.

Introduction:

The maternal mortality Ratio is a key indicator that reflects maternal health status, encompassing prenatal care (during pregnancy), perinatal care (during delivery), and postnatal care. These three phases constitute an integrated system, with each stage influencing the subsequent one. The MMR serves as a comprehensive measure of maternal health conditions throughout the entire maternal care continuum.

Due to the significant prevalence of global poverty, illiteracy, and high maternal mortality rates, particularly in less developed countries, the World Health Organization (WHO) established the Millennium Development Goals (MDGs), which included developing strategic interventions in target countries.

Among the WHO's prominent initiatives was the achievement of eight defined millennium goals. Despite the strong interconnection between these goals, this context focuses on the Fifth Goal: improving maternal healthcare, which aimed to reduce maternal mortality by three-quarters between 1990 and 2015. This required providing quality reproductive health services and timely interventions to ensure safe pregnancy and motherhood.

Following the MDGs announcement, several Asian and African countries have achieved significant progress since 1990, reducing maternal mortality rates by more than half in Africa and one-third in Asia. Progress was also noted in Sub-Saharan Africa. However, the maternal mortality risk in these regions remains extremely high, with approximately one death per 38 women, compared to one death per 3,700 in developed nations. The increasing number of women receiving professional medical care during childbirth is expected to contribute effectively to reducing this rate.

Given this goal's importance, it was re-incorporated as a target within the third Sustainable Development Goal (SDG) for 2015-2030, which aims to reduce maternal mortality to less than 70 deaths per 100,000 live births by 2030 (معاش, 2020, p. 15).

Algeria has worked diligently to achieve the MDGs, particularly in education and health, specifically targeting a reduction in child mortality by one-third and maternal mortality by approximately 75%. Throughout the last decade of the previous century until today, efforts continue toward achieving these

goals, even years after the WHO's original deadline. In 1999, Algeria's maternal mortality rate was 117.4 deaths per 100,000 live births, compared to more than 200 deaths per 100,000 live births in 1990, declining to 60.3 deaths per 100,000 in 2014.

This study is guided by the following research question :

- did Algeria achieve the fifth MDG? What levels were reached?

To address this question, the following hypotheses were proposed :

- Algeria, like other African countries, did not fully achieve this goal.
- Algeria can still catch up and achieve one of the targets of the third Sustainable Development Goal 2015-2030.

This study serves as an indicator of what has been achieved and what remains unaccomplished in maternal health, highlighting the efforts made by the Algerian state

1. Definition of Maternal Mortality:

According to WHO, maternal mortality is defined as the death of a woman during pregnancy, childbirth, or within 42 days after delivery due to any cause related to pregnancy or its management (Organization, 2024)

2. Common Causes of Maternal Death:

Large numbers of women die due to complications during pregnancy or within 42 days postpartum, though most of these complications are treatable or preventable. These issues are exacerbated by the lack of targeted treatment programs for women. Key complications include (National Institutes of Health, 2020)

- Severe postpartum hemorrhage
- Pregnancy-induced hypertension
- Unsafe abortion, often resulting from unwanted pregnancy The absence of qualified medical staff is another significant factor in elevated mortality rates.

To prevent maternal deaths, it's essential to provide:

- Healthcare facilities
- Necessary therapeutic measures, including contraception
- Safe abortion services within religious and legal frameworks
- Post-abortion care
- Normal and cesarean delivery services

Well-equipped healthcare facilities with skilled medical staff can prevent many mothers from experiencing the aforementioned potentially fatal complications during or after pregnancy.

3. Global Maternal Mortality:

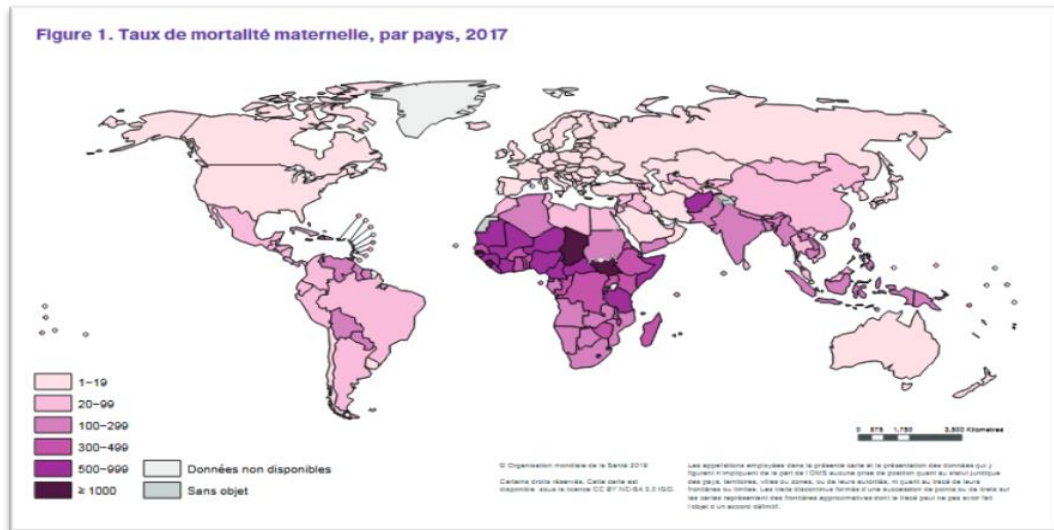
There is significant disparity in maternal mortality rates across geographic and economic regions worldwide. Developed countries record the lowest rates due to their high economic status, which positively impacts healthcare sectors and, consequently, women's health during pregnancy and childbirth, reducing mortality causes.

In middle and low-income countries, maternal mortality levels remain significantly higher compared to high-income countries. These deaths can only be prevented through proper management and calculated care that eliminates distribution gaps. In 2018, 81% of global births were attended by skilled birth attendants. However, geographic disparities persist, with only 59% of births in Sub-Saharan Africa attended by skilled midwives (WHO, 2023)

The following map shows the significant geographical disparities in maternal mortality rates across the world for 2017:

Graphic 1

Maternal mortality rate by country, 2017

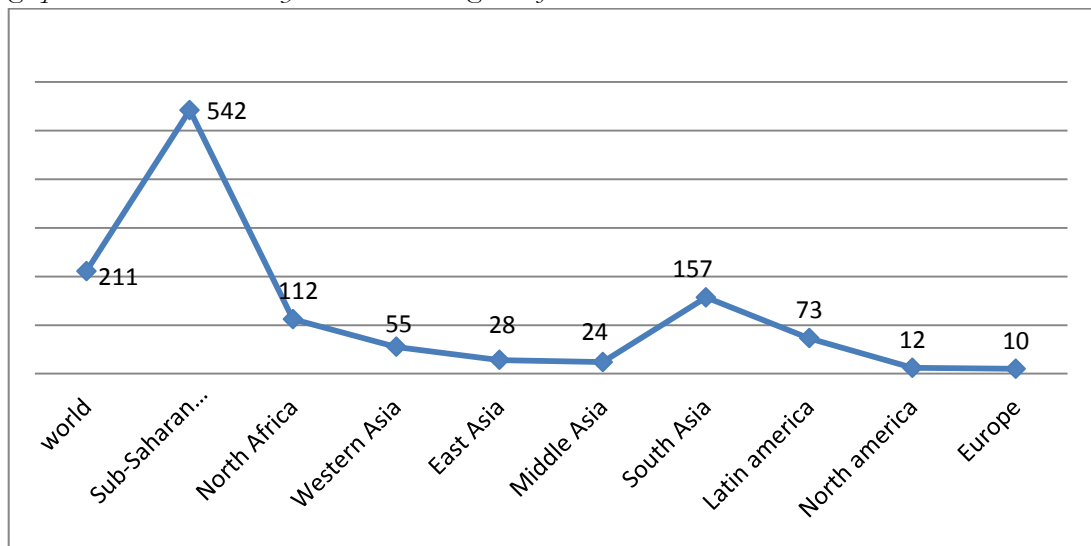


Source: (Organisation mondiale de la santé , 2020, p4).

As for the numerical disparity in maternal deaths between regions, it is illustrated in the following figure:

Graphic 2

Geographic Maternal mortality rate in some Regions of the World, 2017



Source: (Organisation mondiale de la santé , 2020, p6)

Due to most countries, particularly low-income nations, failing to achieve the MDG target of reducing maternal mortality to 1/4 while maintaining high mortality rates, this objective was incorporated into the third Sustainable Development Goal (SDG) for 2030.

4. Global Maternal Mortality Statistics 2020 :

- 287,000 women died during pregnancy, childbirth, and postpartum periods globally
- 90% occurred in low and middle-income countries
- 87% (253,000) occurred in South Asia and Sub-Saharan Africa
- Sub-Saharan Africa accounted for 70% (202,000) of deaths, most of which were preventable (Roser, 2013)

5. WHO's Maternal and Child Health Initiatives:

Given the crucial role of qualified medical supervision during pregnancy and childbirth in reducing maternal mortality, WHO's key focus areas include (Policy, 2024)

- Strengthening health systems and promoting cost-effective, pro-poor interventions and strategies
- Monitoring and evaluating maternal and neonatal health burden and its socio-économique impact
- Establishing effective partnerships to optimize maternal and neonatal health improvement efforts
- Advocating for investment in maternal and neonatal health by highlighting socio-économique benefits and addressing maternal mortality as a human rights and equality issue
- Coordinating large-scale research focused on improving maternal health throughout the pregnancy continuum.

6. Healthcare Status in Algeria:

In the aftermath of colonialism, Algeria faced significant challenges across multiple sectors. The country inherited a deteriorated economy accompanied by severely inadequate healthcare infrastructure. A particularly pressing issue was

the high illiteracy rate, especially among women, who represented more than half of the population. According to the 1966 census, there were 6,000,453 females compared to 5,817,145 males, with the majority of women lacking basic education.

To address these challenges, Algeria implemented comprehensive reforms across two major sectors: education and healthcare. The education sector saw the introduction of revolutionary policies, including free education for all citizens and mandatory schooling until age 16. A significant milestone was the National Literacy Strategy (2007-2015), supported by a substantial budget of 50 billion Algerian Dinars, which aimed to reduce illiteracy by 50% by 2012 and eliminate it entirely by 2015 (UNISCO, 2019).

6.1. Modern Healthcare Developments :

The healthcare sector underwent equally significant reforms, beginning with the landmark 1974 Free Healthcare Policy. A cornerstone of these reforms was the nationwide establishment of Mother and Child Protection Centers (PMI). These initiatives proved highly successful, achieving 60% medical coverage for women of reproductive age within just 15 years. The government also conducted several comprehensive national health surveys, including EASME (1992/1995), the National Maternal Mortality Survey (1999), and the National Family Health Survey (2002), to monitor and improve maternal health services (Oxford Business Group, 2015).

Recent years have seen remarkable progress in maternal healthcare services. The country implemented comprehensive prenatal, postnatal, and neonatal care programs, resulting in a significant reduction in maternal mortality - from 174 deaths per 100,000 live births in 1996 to 92.6 in 2006. The "Risk-Free Childbirth" program, launched in 2000, has been particularly successful, with over 90% of prenatal care now being provided in public health facilities. The system has been further strengthened through the expansion of specialized maternal care units and the integration of family planning services. (Oxford Business Group, 2015).

To address these challenges, Algeria initiated improvement measures in various areas since the early years of its independence, including education and healthcare. Free education played a significant role in reducing illiteracy rates in society, with compulsory education before the age of 16 encouraging many girls

to pursue education. Literacy rates continued to rise due to the National Strategy for Literacy Eradication which aimed to reduce illiteracy to 50% by 2012 and eliminate it by 2015, especially among the age group of 15 to 49 years.

During the past two decades, national health programs in Algeria have allocated a significant portion to maternal and child care within the framework of what is termed reproductive health. This ensures that women receive both physical and psychological attention during pregnancy, childbirth, and the postpartum period. According to statistics from the Ministry of Health and Population, over 90% of antenatal care for women is provided in public healthcare facilities, thanks to the widespread establishment of centers and clinics in various regions to make healthcare more accessible to citizens (راشدي, 2013).

These facilities have been reinforced with specialized departments, wings, or clinics staffed with qualified personnel dedicated to pregnant women and children to provide monitoring, treatment, vaccination, and medical advice.

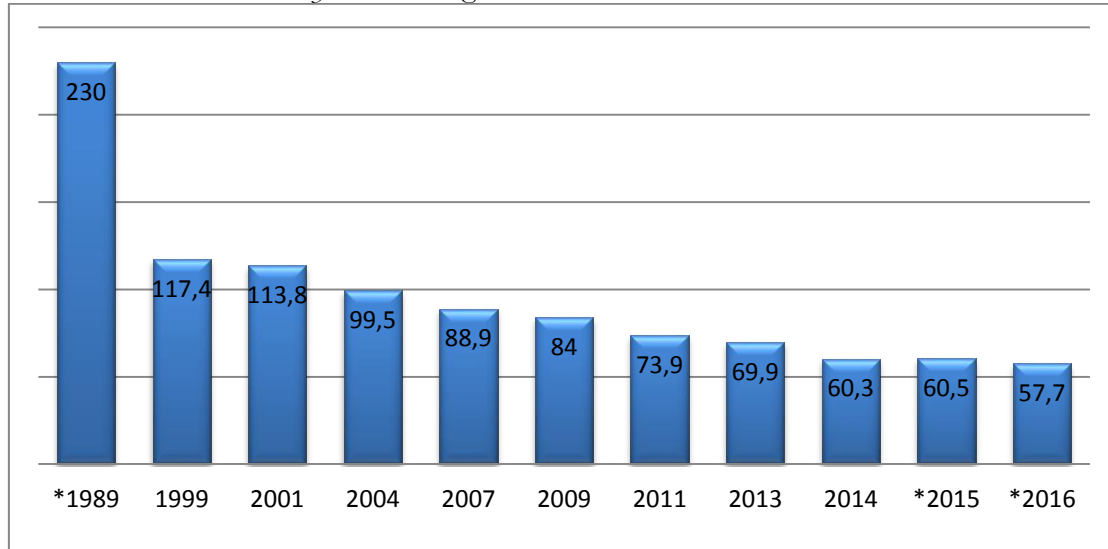
Furthermore, family planning methods, by spacing births, have played a crucial role in protecting both mothers and children from the specter of death due to the risks associated with closely spaced pregnancies and the emergence of postpartum complications, especially those occurring at home.

7. Maternal mortality in Algeria:

In alignment with MDG 5 (1990-2015), Algeria committed to reducing the maternal mortality ratio by three-quarters. This commitment was monitored through several key indicators, including maternal mortality rate, proportion of births attended by skilled health personnel, accessibility of reproductive health services, contraceptive prevalence rate, adolescent birth rate reduction, and improved access to prenatal care. These metrics continue to guide Algeria's maternal health policies and interventions (WHO et al., 2016).

Graphic 3

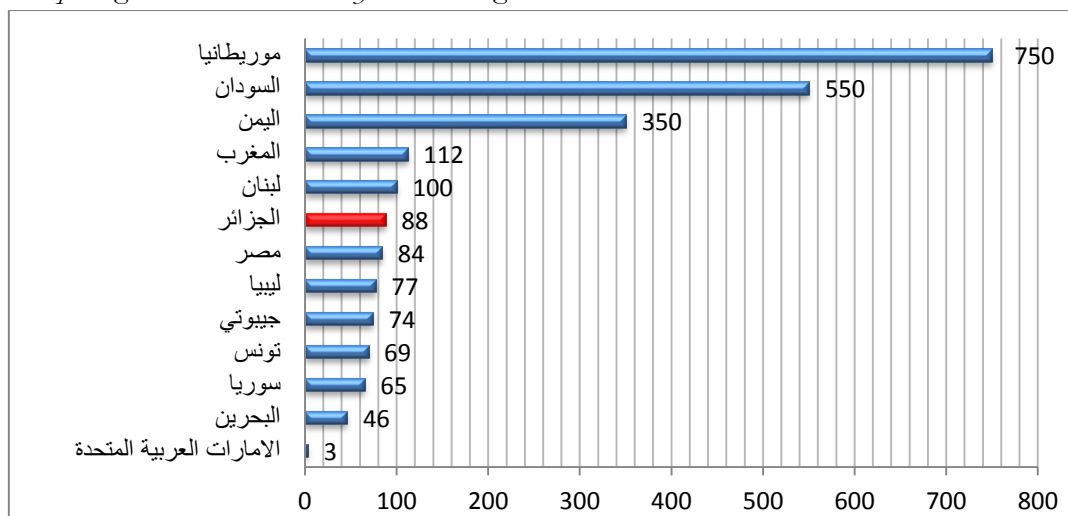
Trends in Maternal Mortality Rates in Algeria.1990 to 2016



Source: p.12 / 2030، فيصل معاش

Graphic 4

Comparing the maternal mortality rate in Alegria some countries 2010



Source: 2010-2009 التحقيق الديمغرافي المغربي

Based on the preceding figures, the disparity in maternal mortality rates among Arab countries in general, and Maghreb countries in particular, can be attributed to several factors. While the Maghreb countries share significant geographical, ideological, and economic similarities, the causes of maternal mortality may vary among these three neighboring nations. These variations can be attributed to differences in the quality of healthcare monitoring, place of residence, and prevention measures for certain fatal conditions, which will be elaborated upon.

Table 1*Health follow-up in the Maghreb countries according to quality indicators (%)*

Countries \ Type of examination	Early medical examination	Examination by a doctor	Four times and more
Algeria	74.8	50.2	48.4
Tunisia	86.6	35.7	69
Morocco	79.1	31.2	44.5

Source: المسح العربي لصحة الاسرة، 2008، ص.100.

Based on the data above, it's evident that Maghreb countries show varying rates of women's healthcare access according to quality indicators. Regarding the number of medical examinations, Tunisian women show the highest engagement at 69%, followed by Algerian women at 48%, and Moroccan women at 34%. The higher percentage of Algerian women seeking early screening with qualified medical staff may prove more beneficial than repeated visits to less specialized practitioners.

While Tunisian women prioritize both early screening and follow-up visits (more than four times), Algerian women lead in physician follow-up rates. Moroccan women show the lowest follow-up rates.

Table 2*Proportions of women receiving good healthcare according to their place of residence*

Country	countryside	civilized region
Algeria	14.5	22.9
Tunisia	7.5	37.2
Morocco	2.8	22.5

Source: المسح العربي لصحة الاسرة، 2008، ص.106.

Residence location is a significant factor for both Tunisian and Moroccan women who received quality healthcare. However, the urban-rural disparity among Algerian women appears minimal. Despite Algeria's urbanization rate of 65%, rural women demonstrate comparable health awareness to their urban counterparts. This can be attributed to the widespread distribution of healthcare facilities, including clinics, treatment centers, and multi-service institutions providing maternal and child care services across both urban and rural Algeria. Rural women in Algeria receive approximately two-thirds of the quality services available to urban residents, also reflecting the improving educational levels among rural Algerian women.

8. Contraception Use and Maternal Mortality :

Globally, about 10% of women lack access to safe and effective contraception. Projections indicate that meeting family planning services and contraception needs could reduce maternal mortality by approximately 33%. The UN Secretary-General's strategy for women's and children's health aimed to prevent 33 million unwanted pregnancies between 2011-2015, potentially saving women at risk of death from pregnancy and childbirth complications, including unsafe abortions (Allia)

9. Contraceptive use in Algeria :

Since the launch of the National Demographic Growth Control Program in 1983, contraception usage rates have steadily increased. Maternal and child protection centers have worked to educate women about the health risks of multiple pregnancies and short birth intervals. This was particularly challenging at the program's inception, requiring trained midwives to overcome traditional beliefs where family prestige was associated with having many children. Specialists succeeded by emphasizing birth spacing rather than limitation, focusing on maternal and child health benefits (Bank., 2010).

Table 3

Development of the use of contraceptives in Algeria

Years	1968	1984	1992	2002	2013	2019*
Contraceptive use rate %	8	25	51	57	57	53,6

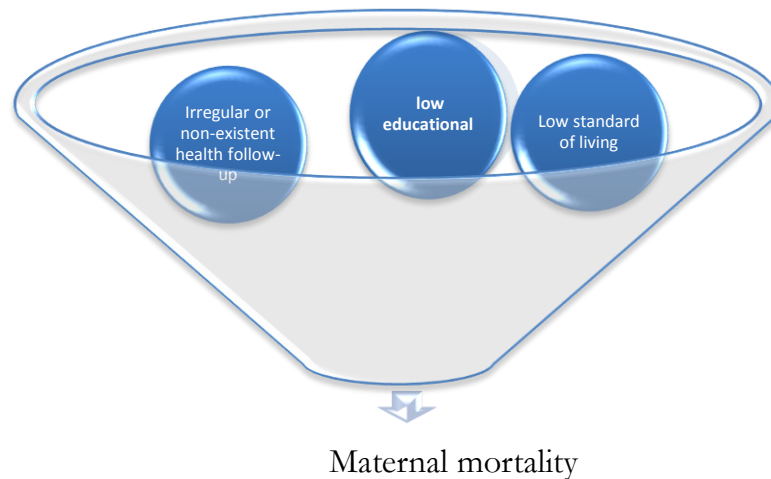
Source: Mics6, p143

10. Causes of maternal deaths:

The diagram below illustrates how the intersection of various indicators can increase maternal mortality risk.

Graphic 4

The overlap of certain indicators may increase the risk of maternal mortality



Source: BELAROUSSI, 2014

Conclusion:

The analysis demonstrates that Algeria has made significant strides toward achieving the Fifth Millennium Development Goal. The country has nearly reached the WHO-specified target, achieving a rate of 63.5 maternal deaths per 100,000 live births in 2015, compared to 230 per 100,000 live births previously. While this approaches the WHO's target of reducing maternal mortality by three-quarters from 1990 levels, according to national data, the planned benchmark has not been fully achieved.

Recommendations

- Intensify focus on improving women's health status
- Conduct a comprehensive national maternal mortality survey to assess the current situation and evaluate progress toward intended objectives
- Continue efforts to achieve developmental goals in maternal and child health to reach the targets set in the 2030 Sustainable Development Agenda
- Support researchers with accurate data to facilitate new research, proposals, and innovative ideas for health status improvement Promote collaborative efforts between various stakeholders including administrative, healthcare, and academic institutions.

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