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URBAN-RURAL MATERNAL HEALTH CHALLENGES INLEBANON

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Abstract

The health of urban populations has changed as cities have evolved. As more people worldwide live in cities, it is imperative to understand how urban living enhances population health and well-being. Maternal health is an indicator of global health; a healthy mother can fully participate in economic and social life. This paper discusses and analyses the challenges faced by mothers living in rural areas and aims at identifying the factors that affect maternal mortality among rural communities in Lebanon. This is achieved by gathering data from scientific reports from governmental and nongovernmental organizations. As well as using the statement written by Make Mothers Matter (MMM) for the 62nd UN Commission on the Status of Women (CSW62) that was held on March 2018 at UN headquarters in New York. The conclusion of this study highlights the negative impact of rural living on maternal health and propose solutions to overcome the health inequality between urban and rural areas.

Keywords

Maternal Health, Maternal Healthcare Services, Maternal Mortality, Urban-Rural Differences

URBAN-RURAL MATERNAL HEALTH CHALLENGES IN LEBANON

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ABSTRACT: *The health of urban populations has changed as cities have evolved. As more people worldwide live in cities, it is imperative to understand how urban living enhances population health and well-being. Maternal health is an indicator of global health; a healthy mother can fully participate in economic and social life. This paper discusses and analyses the challenges faced by mothers living in rural areas and aims at identifying the factors that affect maternal mortality among rural communities in Lebanon. This is achieved by gathering data from scientific reports from governmental and nongovernmental organizations. As well as using the statement written by Make Mothers Matter (MMM) for the 62nd UN Commission on the Status of Women (CSW62) that was held on March 2018 at UN headquarters in New York. The conclusion of this study highlights the negative impact of rural living on maternal health and propose solutions to overcome the health inequality between urban and rural areas.*

KEYWORDS: *Maternal Health, Maternal Healthcare Services, Maternal Mortality, Urban-Rural Differences*

1. INTRODUCTION

“Women are not dying because of untreatable diseases. The reason why women are dying is because societies have to make the decision that women’s lives are worth saving “(Mahmoud Fathalla, President of the International Federation of Gynecology and Obstetrics (FIGO), World Congress, Copenhagen, 1997)

Maternal health indicates global health. A healthy mother can take place in economic and social life. As well as being an indisputable partner in the aspects of health. Maternal health remains a public health problem in developing countries, mainly in low-resource areas, rural and poor communities. It is also the health status of women during pregnancy, childbirth, and the postpartum period, which incorporates the health care dimension of family planning, preconception, and prenatal and postnatal care to reduce maternal morbidity and mortality. (WHO,2013). The health of mothers during pregnancy and delivery is essential for the mother and the baby. In order to keep the health and safety of mothers at all levels of the health care facilities, there are services to be provided during pregnancy, during labor and delivery, and after delivery. If mothers utilize these services regularly they can be saved from sickness and death. (WHO,2015)

This study was carried out as an organizational work with Make Mothers Matter (MMM) Lebanon to study the situation of maternal health in Lebanon and the Influences of maternal mortality. MMM is international NGO which was established in 1947 at the UNESCO in Paris. MMM federates a network of associations in about 30 countries, which represents more than 6 million mothers around the world. MMM is an association with no political or religious affiliations and has a general consultative status with the United Nations. Make Mothers Matter’s objectives are:

- To empower mothers for peace and human security;
- To support mothers in assuming their responsibilities inside and outside the family: education, participation in the labor market, participation in social and civic life;
- To reaffirm and get recognition from decision makers and political institutions for a mother’s role in the family, in teaching her children, and the social and economic value of her work

- To fight all forms of violence, exclusion, exploitation, and discrimination against mothers.

The main aim of this article is to critically evaluate and explore the situation of maternal health in Lebanon based on published or unpublished governmental or nongovernmental organization's scientific reports regarding maternal health. *As well as using the statement written by Make Mothers Matter (MMM) for the 62nd UN Commission on the Status of Women (CSW62) that was held on March 2018 at UN headquarters in New York. Its main theme: "Challenges and opportunities in achieving gender equality and the empowerment of rural women and girls."* This statement therefore focuses on issues that relate to the role of rural women and girls as mothers and future mothers, and the particular challenges that they face. The Hypothesis of this study is to understand how urban living enhances population health and wellbeing.

1.1 Maternal Mortality

A study was made by the World Health Organization, they characterized maternal mortality as "The death of a woman while pregnant or inside 42 long stretches of end of pregnancy, regardless of the length and site of the pregnancy, from any reason (specifically or in a roundabout way) related or disturbed by the pregnancy or its administration, yet not from inadvertent or accidental causes". (WHO, 2013). Mostly maternal death is more likely to occur in developing countries rather than developed countries. Approximately 830 women die per day worldwide of pregnancy-related causes, which all can be prevented. Remarkably, 90% of maternal deaths happen in developing countries, especially in low-resource settings, rural areas and poor communities.

The World Health Organization estimated that 303,000 women worldwide will have died by the end of 2015 during and following pregnancy and childbirth. A report by the World Health Organization revealed that maternal death has dropped by 43% worldwide recently. The extensive number of maternal mortality, particularly in developing countries has been due to low level of maternal health care seeking behavior. Maternal health is a major challenge in most developing countries, including rural communities in Lebanon. (WHO,2015)

1.2 Maternal healthcare services

As indicated by World Health Organization Maternal and child wellbeing services can be described as "Promoting, preventing, therapeutic or rehabilitation facility or care for the mother and child". In order to decrease maternal morbidity and mortality, maternal healthcare service has been considered among the most important interventions. In addition, Prenatal/antenatal care, Intranatal care, Postnatal care and Under five child health care are considered as the most important factors of Maternal and child health services. There are many socio-demographic factors that have impact on the utilization of maternal health services. These factors are known to affect the use of maternal health services across the world: maternal education, woman's age, employment and income, socio economic status, residence (i.e. rural/urban), distance to health facilities, etc... (Gage, 2007).

1.3 Maternal Health: the urban-rural divide

Pregnant women who live in rural areas confront constant hardship and ongoing challenges during their pregnancy, labor and throughout the first few years of child care. In rural areas only 56 per cent of births are attended by qualified professionals, compared to 87 per cent in urban areas. Only 1/3 of rural women receive prenatal care compared to 50 per cent in developing regions globally. Despite the efforts of many of governments, NGOs and society overall, the quality of health for pregnant women and new-born hasn't improved much (United Nations, MDG Report ,2011).

Rural areas have more women of reproductive age (73.3%) when compared to urban areas (26.7%). Most countries, have larger urban populations than rural populations, due to rural-to-urban migration. In relation to urban-rural differentials in maternal healthcare use, it is known that women who lives in urban communities are more likely to make use of the maternal health services as compared to those who lives in rural communities. Moreover, in developing countries the healthcare services are unequally spread between rural and urban areas, where the most available resources often favor the residents of urban communities (dagne,2010). The lack or minimal use of maternal and child healthcare services by rural mothers is often assigned to the issues of accessibility and affordability; This causes mothers living in rural areas to travel for long distances to reach the nearest health care facility. Therefore, the challenges faced by rural mothers are first linked to the lack of public

infrastructure and services like water and sanitation, electricity/energy, transportation, healthcare, etc... (Babalola,2009)

2. METHODOLOGY

To establish an adequate study about the maternal health situation in Lebanon, an explorative and descriptive study is used to obtain data from existing documents and statistics. A comparative analysis method is also used to compare between rural-urban maternal health influencing factors and challenges. The paper is written in three parts.

- Literature review to define the keywords of this study.
- Data collection from official governmental and non-governmental publications to identify the situation of maternal health in Lebanon.
- A comparison analysis about the influencing factors of maternal health in rural and urban communities. The conclusion is provided based on the results of the comparison.

3. OVERVIEW OF MATERNAL HEALTH IN LEBANON

In the Middle East countries, access to a professional health services for childbirth care is no longer a key constraint; the majority of women recently deliver with doctors or midwives in institutional settings (World Health Organization Department of Reproductive Health and Research, 2008). Lebanon has witnessed significant improvements in the reproductive health outcomes and indicators as clearly listed in the results and findings of the Pan Arab Survey for Family Health (PAPFAM,2004). Progress has been seen in reaching the target of Millennium Development Goal 5, namely improving maternal health, particularly reducing the maternal mortality ratio (MDG Report, 2014).

3.1 Maternal Health Progress (1990-2015)

The maternal mortality ratio has decreased in Lebanon by more than two thirds compared to the 1990s, to reach a ratio of 16 per 100,000 live births in 2015 (table 1). This improvement places Lebanon in a better league than the regional countries, which register ratios around 10 times higher (WHO,2015).

Table 1: Maternal Mortality in Lebanon
Source: WHO/UNICEF, 2015

year	Maternal mortality ratio (MMR) Per 100,000 live Birth (LB)	Maternal Death Numbers	Live Birth Thousands	Proportion of Deaths among women of Reproductive age that are due to Maternal causes (PM) Percent
2015	16	10	63	1.5
2005	26	14	55	1.9
2000	37	23	62	2.5
1995	47	31	66	3.1
1990	64	44	68	4.0
% of Change 1990-2015		-5.3		

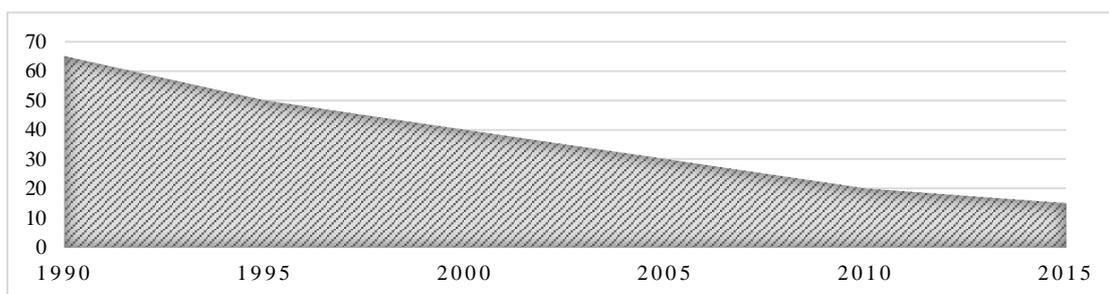


Fig. 1: Maternal Mortality reduction 1990-2015
Source: WHO/UNICEF, 2015

3.2 Maternal Health Situation Analysis

The proportion of births attended by Professional healthcare institutions was 98 percent in 2015. Likewise, the proportion of pregnant women receiving antenatal care is above the 95 percent threshold (Ministry of Public Health,2013).

Table 2: Maternal Health Indicators

Source: PAPFAM 2004 with data from the Ministry of Social Affairs, Central Administration of Statistics and World Health

	1990	2000	2005	2010	2015
Proportion of births attended by skilled health institutions	55	96	98	96	98
Proportion of pregnant women receiving antenatal care	56	94	96	98	98

The analysis of the success in achieving Millennium Development Goal 5 (MDG 5) by geographical area, shows a different picture. There are obstacles to benefiting from reproductive health services in rural areas because of social norms, traditions and religious beliefs. Likewise, disparities happen in maternal mortality ratios, with higher rates among some rural areas (fig.2).

According to Ministry of Public Health statistics, maternal mortality ratios per 1000,000 live births were as high as 69 in Chouf and 60 in Baalback in 2011, versus 16 in Baabda and 14 in Saida (Ministry of Public Health, 2011). The sociocultural and economic factors account for these disparities. Nevertheless, Beirut mortality Rates remain high because it is densely populated, due to rural-urban migration and war-displaced populations with the same healthcare facilities and infrastructure.

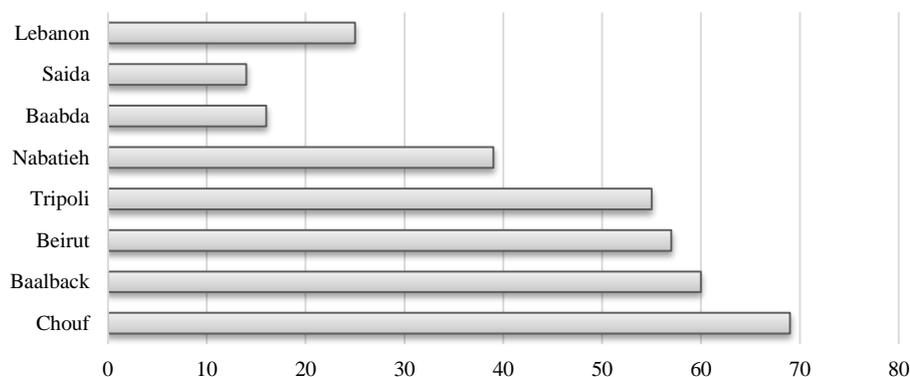


Fig. 2: Maternal Mortality Ratios in Selected Lebanese Locations (Per 100,000 Live Births)

Source: Ministry of Public Health, 2011

3.3 Maternal Health Achievement Practices

Lebanon is putting so much efforts attain the Millennium Development Goal 5 (MDG 5) on maternal health. The efforts that achieved include upgrading the statistical system for yearly monitoring, more improvements across the primary health-care system, and the general upgrade in women's rights campaigns, which increased awareness on educating women (MDG Report, 2014).

Beginning with the year 2008 a project supported by the Public Health Ministry, used a methodology with the help of gynecologists, public health professionals and family doctors, that helped to reduce Lebanon's maternal mortality rate by 75% (Sacca,2018). As well as initiating a neonatal resuscitation training that was supported by the World Health Organization (WHO) in 2008, which was made with collaboration of a local and an international specialized nongovernmental organization. This

training was adopted by the Ministry of Public Health, and the main aim was to certify the health professionals working in emergency pediatrics units and delivery rooms, to achieve the goal of decreasing child mortality. In the context of the secure motherhood initiative, a training on emergency obstetrical care was also initiated by the World Health Organization(WHO) in collaboration with the United Nations Fund for Population (UNFPA) and the Ministry of Public Health. This initiative trained around 1000 staff who works in hospital emergency rooms and at the primary health care institutions, on the principles and guidelines for managing reproductive health in emergencies. (WHO,2018).

A Maternal and Neonatal Mortality Notification System was initiated at the beginning of the year 2011 by the Ministry of Public Health, this system gathers data on all births, neonatal and maternal deaths occurring in hospitals all over the country, in addition to other variables, including birth-weight and incidence of birth defects. These measurement approaches, allows greater accuracy in the field of maternal and child mortality. At the same time access to reproductive health services has increased (Fig.3), due to the expansion and increase in quality of the primary health-care system. Also, by the awareness campaigns and door-to-door services to educate mothers about the importance of medical follow-up, offered by the Ministry of Health. The number of pregnant women benefiting from the health care services was doubled between 2009 and 2012, which was equivalent to 45 per cent of all pregnant women in Lebanon (MDG Report, 2014).

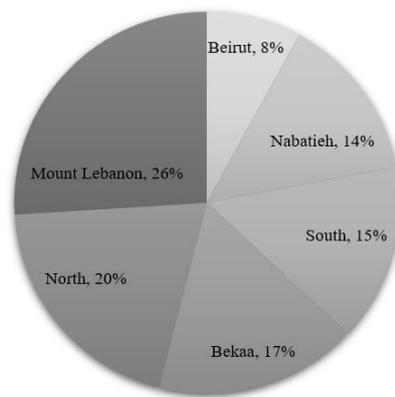


Fig.3: Distribution of Maternal Health Care Centers in Lebanon-2012
Source: Ministry of Public Health, 2011

The Syrian Refugee influx in 2012 made a pressure on public health services, which in turn has a huge impact on health in the hosting communities. Although funding and medical support was upgraded, it did not match the increase rate of demand. Maternal Health is a serious challenge for the refugees, which is reflected in low rates of family planning methods and the lack of knowledge on reproductive health problems (UNHC,2013).

4. FACTORS INFLUENCING MATERNAL HEALTH IN RURAL AREAS

Rural women represent 25% from the world population. Women living in rural areas face many challenges, especially when they are mothers (MMM,2017). The main factors contributing to this division between rural and urban mothers is the geographic location and social cultural factors, since it is related to access to information, marriage age, poverty, education and appropriate health care.

4.1 Education and Marriage Age

Girls living in rural communities are more likely to be out of primary school when compared to urban girls; and only 39% of rural girls continue their education to secondary school around the world. As a result, females still represent two third of the illiterate people including the youth generation (MMM, 2017). Table 3 shows the differences between the education in rural and urban communities in Lebanon.

Table 3: Women's Education Level by Urban-Rural Distribution in Lebanon
Source: Central Administration of Statistics (CAS), 2010

Education	Total %	Urban %	Rural %
Illiterate	13.5	8.1	16.2
Elementary Level and Lower	34.4	59	35.5
Intermediate and Secondary	41.4	45.1	39.6
University	10.7	12.7	9.7

The lack of education and knowledge are key factors in affecting maternal mortality. Knowledge and education also determine the healthcare seeking behaviour of mothers (WHO, 2015). Educated mothers have more motivation to use maternal healthcare services, therefore they have more interaction with physicians and professions. Also, educated women have more decision-making power and confidence (Sharma, 2004)

Mothers' education also has a long-term impact on the family's overall health and wellbeing. As stated by UNESCO, "Education transforms lives", and this is specifically for mothers; since maternal education develops child nutrition and health. All studies around the world shows that maternal education is a key factor for children's survival (Table 4), and children's level of education (MMM, 2017).

Table 4: Child Mortality by Education Attainment of Mothers (per thousand live births)
Source: Lebanon Maternal and Child Health Survey (PAPCHILD, 1996)

Education Attainment	Mothers %	Infant Mortality Rate	Neonatal Mortality rate
Illiterate	18.4	54.55	38.2
Can read and write	13.5	51.1	33.3
Primary	29.1	29.5	23.4
Intermediate	18.8	30.5	23.6
Secondary and above	19.6	14.8	12.8
Country	100	27.9	20.3

The education level attainment by mothers is a main determinant of the death for newborns and infants. Illiterate mothers or mothers that can just write and read are more likely to lose their children at the age of 1 year or less. Whereas the ratio for losing children is much less for mothers that completed secondary school, which is 3.5 times more than mothers who completed secondary school (PAPCHILD, 1996).

There is a positive relation between the level of education and the marital status of women (table 5), the marriage is delayed when the level of education is higher. The education and training of mothers allows them to marry at an older age and have less children, as well as having income-generating opportunities (MMM, 2017).

Table 3: Marital Status of Female Youth by Urban-Rural Distribution
Source: Ministry of Social Affairs Lebanon, 2011

Marital Status		Age	
		15-19	20-24
Urban	Single	99 %	80 %
	Married	1 %	20 %
Rural	Single	94 %	68 %
	married	6 %	32 %

Table 5 shows that in rural areas the percentage of married women at the age 15-19 is 6% compared to 1% in urban areas.

4.2 Poverty and Access to Maternal Healthcare Services

One of the main challenges faced by rural women around the world is access to maternal healthcare services. 56 % of births occur by qualified physicians in rural areas, compared to 87% in urban communities. (MMM, 2017) The Sustainable Development Goals (SDGs) Report for 2017 show that 80% of the world's poor live in rural areas.

Women living in rural areas have less access to healthcare services and lower number of physicians (Table 6), compared to women living in urban settings. Mothers living in poor areas are more likely to be engaged in unhealthy behaviors such as smoking, bad diet, hard physical work, this contributes to an increased health risk outcome for both mother and children (timmermans, 2011).

Table 6: Distribution of Physicians among Regions in Lebanon
Source: Ministry of Public Health, 2011

Region	Physicians Percentage
Beirut	33 %
Mount Lebanon	35 %
South	11 %
North	13 %
Bekaa	7%

Poor mothers with low socioeconomic status usually have less levels of education, which contributes in early marriage, and unplanned pregnancy (Murray,2018). The socio-economic status influences the access to maternal healthcare services, where rich women have more access to healthcare services (Celik,2000), therefore income is directly related to the quality of prenatal care (Curry,1990). The use of maternal healthcare services is a key factor to decrease maternal mortality.

Figure 4 shows that Bekaa and North Lebanon have the highest poverty percentages.

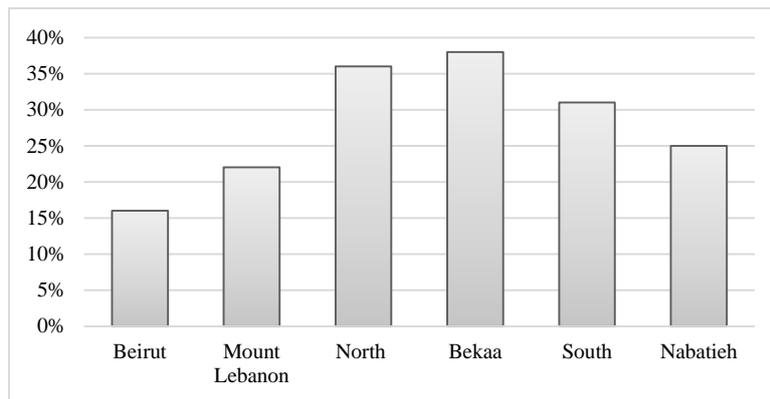


Fig.4: Poverty Rates by Regions

Source: Central Administration of Statistics of Lebanon and the World Bank, 2015

4.3 Public Infrastructure and Services

The World Health Organization reported that health care is still characterized by the following defects: unequal coverage and quality of services; inaccessibility of services, particularly for the under-privileged and rural communities in many Mediterranean countries (WHO,2015).

The lack of public infrastructure and services, access to clean water, electricity, the exposure to information services and mass media, the lack of these services have a negative impact on maternal and child health (MMM,2017).

Women living in rural communities tend to have less access to mass media than girls living in urban areas. Mothers who have access to information about maternal health services have lower rates of maternal mortality. Mass media (i.e. newspapers, radio and television) have a major role in educating mothers about maternal health (Birmeta, 2013).

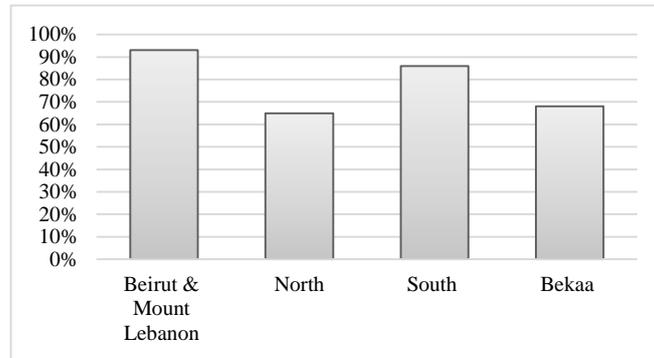


Fig.5: Water Connection Rates Across Lebanon
Source: World Bank, 2010

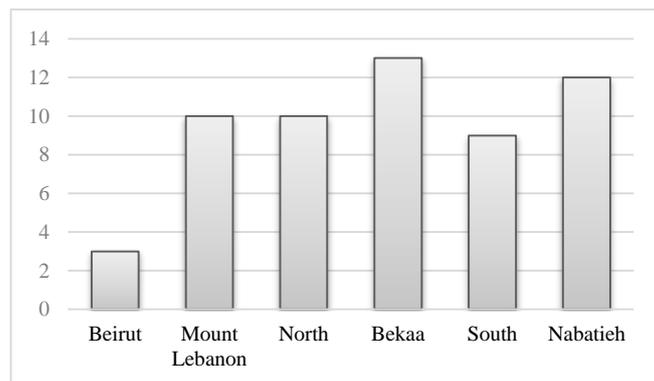


Fig.6: Daily Blackout Period Across Lebanon
Source: World Bank SIA Survey, 2008

Figures 5 and 6 shows that Bekaa and North have the least access to public infrastructure in comparison to other regions in Lebanon.

4.4 Results

After analyzing the factors that influences maternal mortality among the regions in Lebanon, the highest percentages were recorded in the provinces of the Bekaa and the North with 60% of child deaths recorded. This disparity is noticed through indicators such as the age at marriage, Levels of education, distribution of physicians and the availability of public infrastructure. Furthermore, the findings show that all the factors analyzed are related to each other. Rural area has less public infrastructure and more poor population, therefore women are less educated and marry at a younger age, which make them at a higher risk for complications and health problems during and after pregnancy.

5. CONCLUSIONS

Although Lebanon is putting so much efforts to attain the Millennium Development Goal 5 (MDG 5) on maternal health, Lebanon's major weakness is the lack of updated annual statistics on health and especially in the field of maternity. The disparities in services between rural and urban communities in Lebanon is still having a negative impact on maternal health in rural areas. As a conclusion urban living has a positive effect on the health and wellbeing of mothers, as well as a homogenous and organized growth of the population.

The challenges for urban-rural division are big, but change is possible according to the 2030 agenda. First step is to Educate rural girls, the mothers of the future, beyond primary education. The benefits of education will extend to their future family and the community at large. Therefore, the level of education in rural areas should be increased, and women should participate in health-related programs in the community, which will in turn empower them. At last Provide accessible, affordable and high-quality public services and infrastructures equally is the country, with a focus on addressing women's "poverty" and improving health outcomes.

REFERENCES

- Babalola, S. (2009, September 15). PubMed.gov. *Determinants of use of maternal health services in Nigeria - looking beyond individual and household factors*. Retrieved August 2, 2018, from <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2754433/>
- Birmeta, K. (2013, July 3). PubMed.gov. *Determinants of maternal health care utilization in Holeta town, central Ethiopia*. Retrieved August 2, 2018, from <https://www.ncbi.nlm.nih.gov/pubmed/23822155>
- CAS, (2004,). Central Administration of Statistics (CAS). *Lebanon Family Health Survey PAFAM 2004*. Retrieved July 6, 2018, from <http://www.cas.gov.lb/index.php/all-publications-en>
- CAS, (2012, April 3). Central Administration of Statistics (CAS). *Education in Lebanon*. Retrieved August 11, 2018, from <http://www.cas.gov.lb/index.php/all-publications-en#education-in-lebanon>
- Dagne, E. (2010,). Umeå University. *Role of socio-demographic factors on utilization of maternal health care services in Ethiopia*. Retrieved August 2, 2018, from http://www.nmd.umu.se/digitalAssets/50/50454_mph200920dagne-1-1-new-1-.pdf
- Gage, A. (2007, July 23). PubMed.gov. *Barriers to the utilization of maternal health care in rural Mali*. Retrieved August 2, 2018, from <https://www.ncbi.nlm.nih.gov/pubmed/17643685>
- MDG, (2014-2013,). *Lebanon Millennium Development Goals Report*. Retrieved June 3, 2018, from <http://www.cdr.gov.lb/study/mdg/MDGR2013-2014e.pdf>
- MSA, (2004). *Lebanon Family Health Survey*, www.socialaffairs.gov.lb/files/Papfamreport.En.pdf
- MOH, (2011,). Ministry of Public Health. *Statistical Bulletins*. Retrieved June 10, 2018, from <https://www.moph.gov.lb/en/DynamicPages/index/8>
- MMM, (2016,). *Maternal Health: Indicator of Global Health - MMM | MMM*. Retrieved August 2, 2018, from <http://makemothersmatter.org/mobilisations/mothers-and-health/maternal-health-indicator-of-global-health/>
- MMM, (2018, February 2). Make Mothers Matter | MMM. *Challenges and opportunities for mothers in rural areas*. Retrieved May 10, 2018, from <https://makemothersmatter.org/challenges-and-opportunities-for-mothers-in-rural-areas/>
- Sacca, L. (2018, March 28). *Maternal Mortality in Lebanon: A Success Story*. Retrieved August 2, 2018, from http://www.borgenmagazine.com/maternal-mortality-in-lebanon/?utm_source=Global+Health+NOW+Main+List&utm_campaign=c049ef96d7-EMAIL_CAMPAIGN_2018_04_02&utm_medium=email&utm_term=0_8d0d062dbd-c049ef96d7-884823
- MoSA, CAS and UNDP (Ministry of Social Affairs, Central Administration of Statistics and United Nations Development Programme).. (2018, June 15). Republic of Lebanon-UNDP. *Development of Mapping of Living in Lebanon*. Retrieved 2004, from <http://www.lb.undp.org/content/dam/lebanon/docs/Poverty/Publications/comp.mapping%201995-2004%20-%20English>.
- Sharma, S. (2004, January). PubMed.gov. *Reproductive rights of Nepalese women: current status and future directions*. Retrieved August 2, 2018, from <https://www.ncbi.nlm.nih.gov/pubmed/19780290>
- Timmermans, S. (2011, January 4). PubMed.gov. *Individual accumulation of heterogeneous risks explains perinatal inequalities within deprived neighbourhoods*. Retrieved August 2, 2018, from <https://www.ncbi.nlm.nih.gov/pubmed/21203801>

- UNHCR, (n.d.). UNHCR The UN Refugee Agency. *Syria Regional Response Plan (January - December 2013)*. Retrieved June 7, 2013, from <http://www.unhcr.org/partners/donors/51b04c9c9/syria-regional-response-plan-january-december-2013.htm>
- UNICEF, (n.d.). UNICEF, for every child. *UNICEF Data: Monitoring the situation of children and women*. Retrieved August 5, 2018, from <https://data.unicef.org/country/lbn/>
- UNICEF, (2013, December 27). *At a glance: Lebanon*. Retrieved August 5, 2018, from https://www.unicef.org/infobycountry/lebanon_statistics.html
- WHO-EMRO, (2017,). *Lebanon Maternal and child health*. Retrieved August 5, 2018, from <http://www.emro.who.int/lbn/programmes/maternal-and-child-health.html>
- WHO, (2018, February 16). World Health Organisation. *Key Facts*. Retrieved August 5, 2018, from <http://www.who.int/en/news-room/fact-sheets/detail/maternal-mortality>
- WHO, (2015,). Maternal and reproductive health. *Global Health Observatory (GHO) data*. Retrieved August 5, 2018, from <http://www.who.int/en/news-room/fact-sheets/detail/maternal-mortality>
- WHO, (2018, February 15). Making childbirth a positive experience. *Sexual and reproductive health*. Retrieved August 5, 2018, from <http://www.who.int/reproductivehealth/intrapartum-care/en/>