

Appendix 1

Tables in the appendix:

Database	Search used	Number of results	Number after title screening	Number after abstract screening
USAID	syria * AND "maternal health" OR "pregnan *" OR "maternal morbidity" OR "maternal mortality" OR antenatal OR perinatal	371	30	0
	"syria*" AND "maternal health" OR pregnan * OR "maternal morbidity" OR "maternal mortality" OR antenatal OR postnatal	25	9	0
GoogleScholar	syria * "maternal health" abortion OR "pregnan *" OR "maternal morbidity" OR "maternal mortality" OR antenatal OR perinatal OR postnatal "syria *" -refugee - migrant	899	90	38 Results combined and duplicates removed.
Embase	(maternal care/ or perinatal care/ or maternal nutrition/ or maternal treatment/ or maternal welfare/) OR (("maternal mortality" or "maternal morbidity" or "antenatal" or "postnatal" or "abortion").mp) OR (pregnan*.mp) AND (Syria*.mp). Limit to (human and yr="2011-Current")	176	26	
Medline	(maternal care/ or perinatal care/ or maternal nutrition/ or maternal treatment/ or maternal welfare/) OR (("maternal mortality" or "maternal morbidity" or "antenatal" or "postnatal" or "abortion").mp) OR (pregnan*.mp) AND (Syria*.mp). Limit to (human and yr="2011-Current")	94	17	
WHO	Syria	44	1	0
OpenAire	Syria maternal health	57	2	1
Maternal Health Task Force (MHTF)	Syria maternal health	19	1	0
	Antenatal with Syria as filter	2	0	0
	Postnatal with Syria as filter	2	1	0
	Maternal with Syria as filter	8	1	0
	Perinatal with Syria as filter	0	0	0
	Pregnant with Syria as filter	5	3	0
DFID	"syria*" maternal antenatal postnatal perinatal pregnan*. Updated after 1/01/2011	260	7	0
	"syria*" "maternal" antenatal postnatal perinatal pregnan*	10	2	0
SAMS	Looked through the reports page	21	4	1
MSF	"syria" AND maternal health OR abortion OR pregnan * OR maternal morbidity OR maternal mortality OR antenatal OR perinatal OR postnatal	26	7	0
	Also looked through all published reports	10	4	1
Save the children	"syria *" "maternal health" abortion OR "pregnan *" OR "maternal morbidity" OR "maternal mortality" OR antenatal OR perinatal OR postnatal	806	3	0
UNFPA	syria*" AND "maternal health" OR abortion OR "pregnant *" OR "maternal mortality" OR "maternal morbidity" OR antenatal OR perinatal	9	3	0
UNICEF	Syria AND maternal health	14	1	0
	Looked through all publications under maternal health/mortality	15	4	2
Total		2,873	216	43

Table 1 appendix: This table shows the complete search strategy used for the scoping literature review.

Year	First Author	Study Title	Journal	Peer-reviewed/ Grey Literature	Study type	Study setting	Study period	Study objectives	Methods
2019	J. Gil Cuesta	Does the presence of conflict affect maternal and neonatal mortality during Caesarean sections?	Public Health Action	Peer-reviewed	Secondary data analysis of routinely collected maternal programme data.	MSF health facilities in 12 countries.	2008-2015	Is conflict associated with a difference in the rate of maternal and neonatal mortality during C-sections?	Data on the number of maternal deaths, neonatal deaths, number of total deliveries and the number of c-sections carried out in each MSF CEMONC facility in the 12 countries included between 2008 and 2015. Maternal mortality was defined as the total number of maternal deaths that occurred during the time in the theatre or in the recovery room, divided by the total number of C-sections conducted. Univariate analysis was used to describe the number of C-sections, the year, the type of facility and the presence and intensity of conflict. Bivariate analysis was used to describe the association between the maternal and neonatal mortality outcome variables and the conflict variables, with significance determined as $P < 0.05$. The data were analysed using Stata v14 (StataCorp LLC, College Station, TX, USA).
2015	Omar Hakeem	Adverse birth outcomes in women exposed to Syrian chemical attack	The Lancet	Peer-reviewed	Secondary data analysis of routinely collected maternal programme data.	Moadamyah, Syria	September - November 2014	To find the long-term consequences of chemical attack exposure on pregnant women and their offspring.	Review of medical notes of pregnant women visiting Al Ghouta hospital comparing outcomes of those exposed to chemical attacks to those who were not. The outcomes compared were number of miscarriages, premature births, still births and birth defects.
2014	Ahmed Mohamed Tammam Abdelgawad	The Association between Health Financing and Maternal and Child Health in Middle East and North Africa Countries	The American University in Cairo Digital Archive and Research Repository	Grey Literature	Cross-sectional study	21 countries from the MENA region	2009-2013	To investigate the relationship between the different health care financing options across the MENA region and maternal and child health outcomes.	Cross-sectional analysis of country level data from 21 countries in the MENA region. Control variables (total fertility rate, contraceptive prevalence, maternal mortality ratio, antenatal care coverage, births attended by skilled health personnel, availability of basic essential obstetric care and availability of comprehensive essential obstetric care, perinatal mortality rate, prevalence of low birth weight and prevalence of infertility in women) were compared across each country based on public spending on health per capita. Data source was the WHO Eastern Mediterranean Region Countries statistics summaries sheets from 2009 to 2013.
2014	Nicholas J Kassebaum	Global, regional, and national levels and causes of maternal mortality during 1990–2013: a systematic analysis for the Global Burden of Disease Study 2013	The Lancet	Peer-reviewed	Secondary analysis of country level reporting data	180 GBD countries	1990-2013	To measure levels and track trends in maternal mortality, the key causes contributing to maternal death, and the timing of maternal deaths.	Data was identified from 180 of 188 GBD countries, including 4877 site-years of vital registration data, 1213 site-years of sibling histories from Demographic and Health Surveys (DHS) and Reproductive Health Surveys (RHS) providing information about the pregnancy-related fraction of reproductive-age deaths, 73 site-years of censuses, 626 site-years of maternal mortality surveillance, and 267 site-years of verbal autopsy analyses covering women of reproductive age. We identified the above data sources through a systematic review, from GBD 2010 analyses, searches of Ministry of Health websites, and a search of the Global Health Data Exchange. The Cause of Death Ensemble model (CODEm) was used to model maternal mortality by age. 9 covariates for CODEm where used: age-specific fertility rate, total fertility rate, age-standardised HIV death rate for female individuals aged 15–49 years, neonatal death rate, lag- distributed gross domestic product (GDP) per person, proportion of deliveries occurring in facilities, proportion of deliveries overseen by skilled birth attendants, coverage of four visits of antenatal care, and malnutrition in children younger than 5 years. Maternal deaths were disaggregated into nine causes: maternal haemorrhage, maternal sepsis and other pregnancy-related infections, hypertensive disorders of pregnancy, obstructed labour, abortion, other direct maternal disorders, indirect maternal disorders, HIV, and late maternal deaths.

2019	Hussein H. Khachfe	Maternal mortality and health in the Arab World: A 25-year epidemiological study	The Journal of Obstetrics and Gynaecology Research	Peer-reviewed	Secondary analysis of country level reporting data	Arab countries	1990-2015	To assess the maternal health in terms of maternal mortality ratios and lifetime risk of maternal death in of women in the Arab World.	Data on maternal mortality ratios (MMR) and lifetime risk of maternal death (LTR) of countries from the Arab World were extracted from the UNICEF official data website from the years 1990 till 2015. Annual percent changes of MMR and LTR over the study period were calculated using the Joinpoint regression model. The One-way analysis of variance (ANOVA) test was used to determine if a significant difference existed between countries. In case of ANOVA significance, Tukey's Multiple Comparison test was done to tell whether significant difference exists among different groups. P<0.05 was considered statistically significant for all analyses.
2018	Ali H. Mokdad,	Maternal mortality and morbidity burden in the Eastern Mediterranean Region: findings from the Global Burden of Disease 2015 study	International Journal of Public Health	Peer-reviewed	Secondary analysis of country level reporting data	Eastern Mediterranean Region	1990-2015	To provide an overview of the burden of maternal mortality in the Eastern Mediterranean Region (EMR) by underlying cause and age from 1990 to 2015.	Overall maternal mortality was modelled using cause-of-death ensemble modelling (CODEm), where all combinations of covariates were tested and ranked based on out-of-sample predictive validity performance. Years of life lost (YLLs) were calculated by multiplying deaths by the residual expected individual lifespan at the age of death as derived from the GBD 2015 standard model life table. Years lived with disability (YLDs) were calculated by multiplying the number of prevalent cases of a certain health outcome by the disability weight assigned to this health outcome. Disability-adjusted life years (DALYs) were calculated by adding YLLs and YLDs. The associations between maternal mortality and socio-demographic status was evaluated using the socio-demographic index (SDI).
2017	Fatemeh Nahidi	Maternal Mortality Ratio in Eastern Mediterranean Region: A Priority of Reproductive Health	International Journal of Women's Health and Reproductive Sciences	Peer-reviewed	Literature review and country level reporting data	Eastern Mediterranean Countries	1990-2015	To evaluate the current situation and trends of MMR in the Eastern Mediterranean region between 1990 and 2015.	MMR was extracted from the World Bank and WHO websites for countries in the Eastern Mediterranean region between 1990 and 2015. A literature review was also conducted to corroborate or add to MMR values for each country. Percent change and average annual percent change in MMR for each country were calculated between 1990 and 2015. Countries were categorised to determine the progress they made in MMR reduction. The Fisher exact test was used to determine the significance of the trend of MMR, P<0.05 was taken as significant.
2019	Mayada Roumieh	Prevalence and risk factors for postpartum depression among women seen at Primary Health Care Centres in Damascus	BME Pregnancy and Childbirth	Peer-reviewed	Descriptive cross-sectional study	Eight largest primary health care centres in Damascus.	January to December 2017	To investigate the prevalence of postpartum depression among Syrian women seen at primary health care centres in Damascus and identify associated risk factors.	Sample size was determined based on an estimated prevalence of depressive symptoms amongst women in neighbouring countries at anywhere from 15% onwards and an estimated sample of 1200 women was aimed for. Women were recruited through various clinics and the Edinburgh Postnatal Depression Scale questionnaire was used to measure postpartum depression, with a cut-off score of 13 indicating probable depression. A further questionnaire was also designed to collect data on women's characteristics and other potential risk factors. Three trained nurses/midwives at each primary health centre collected the data. All variables were subjected to univariate and bivariate analysis to determine associations between postpartum depression and women's characteristics. To determine the main factors associated with postpartum depression and to allow for confounders, a multivariate analysis using logistic regression was used.
2017	Hisham Al-Hammami	Prevalence of Cesarean Section at ALTAWLID Hospital during the Syrian Crisis	Journal of Medical Pharmaceutical And Allied Sciences	Peer-reviewed	Retrospective Clinical Audit	Damascus, Syria at ALTAWLID university hospital.	1/1/2010 to 30/6/2017	To determine the prevalence of CS in Damascus, Syria at ALTAWLID University Hospital.	Number of vaginal and CS deliveries between 1/1/2010 and 30/6/2017 at AITawlid University Hospital were collected and proportion of CS was compared across the years.

2017	Jocelyn DeJong	Reproductive, maternal, neonatal and child health in conflict: a case study on Syria using Countdown indicators	BMJ Global Health	Peer-reviewed	Literature review	Syria, Jordan, Lebanon, Turkey	January 2011 until December 2015.	To provide an up-to-date review and critique of the best available data focusing on the conflict-affected Syrian population both within Syria (including non-displaced and IDPs) and those living as refugees in neighbouring countries	<p>Searched: Medline, PubMed, Scopus, Popline, Index Medicus for WHO EMR (WHO Eastern Mediterranean Region), Google Scholar, Relief Web, UNHCR Syria Regional Refugee Response Portal, United Nations Development Programme, WHO Eastern Mediterranean Regional Office websites, specific relevant journals and hand searching of bibliographies of included articles</p> <p>Included original research studies that reported on Countdown indicators or proxy determinants on pre-conflict Syria, and during conflict among the Syrian population resident in Syria, the internally displaced or refugees in the neighbouring host countries (Jordan, Lebanon and Turkey)</p> <p>Data on Countdown indicators from identified literature based on the following geotemporal categories was extracted: Syria pre-conflict, Syria since 2011 and Syrian refugees in Lebanon, Jordan, and Turkey. Data were tabulated using the Countdown to 2015 framework of indicators.</p> <p>Results were reviewed and discussed with relevant key stakeholders.</p>
2018	Rahma Aburas	The Brotherhood Medical Center: Collaborative Foundation of Maternity and Children's Healthcare Facility for Displaced Syrians	Frontiers in Public Health	Peer-reviewed	Case Study	Brotherhood Medical Centre, Atimah, Syria	August 2016 to January 2017	To provide an example of a health facility developed to address maternal and child health needs in response to the urgent needs in Syria.	Description of the development and the current estimated functioning of the health centre.
2017	Tamar Kabakian-Khasholian	Women's satisfaction and perception of control in childbirth in three Arab countries	Sexual and Reproductive Health Matters	Peer-reviewed	Cross-sectional study	3 University teaching hospitals in Mansoura, Egypt; Beirut, Lebanon; and Damascus, Syria.	November 2014 to April 2015 in Damascus,	To describe the levels of satisfaction with the childbirth experience and perceptions of control of women giving birth in public hospitals in three middle-income Arab countries, Egypt, Lebanon and Syria, and to determine the service delivery factors associated with their satisfaction.	<p>Sample size was calculated based on an estimated reduction of 4% on the average C-section rates in the three countries (35%), the primary outcome of interest in the intervention study, considering a power of 85% and a significance level of 5%.</p> <p>Inclusion criteria: Women who gave birth and consented to participate in the study during the period November 2014 to July 2015 in Beirut and Mansoura, and November 2014 to April 2015 in Damascus</p> <p>Exclusion criteria: Women who were classified as high-risk by health care providers upon arrival to the hospital, those who suffered from intrauterine foetal death and those below 18 years of age</p> <p>Trained female field workers conducted interviews using a structured questionnaire with women who consented to participate. Information about type of birth, Apgar score and length of labour was obtained from the medical charts. The Mackey Childbirth Satisfaction Rating Scale was used to determine satisfaction. The Labor Agency Scale (LAS) was used to assess women's perception of control.</p> <p>Chi-squared statistics and one-way analysis of variance (ANOVA) test were used to compare socio-demographic and birth-related characteristics among the three country sites. Multiple regression analysis was performed to identify the determinants of the total satisfaction in this sample.</p>

2019	Abdullah Sulieman Terkawi	Women's health in Northwestern Syria: findings from Healthy-Syria 2017 study	Avicenna Journal of Medicine	Peer-reviewed	Prospective data registry study and cross-sectional survey.	SEMA medical centre in Atmeh district	February 2017 - December 2017	To provide an updated account of women's health, including pregnancy, perinatal care, childbirth, and other conditions to identify obstacles and challenges to health-care delivery in Northwest Syria.	<p>Women who visited the obstetrics and gynaecology department between February and December 2017 had routine data collected and recorded including date of birth, name, national ID number, gender, condition of living, date of visit, and diagnosis.</p> <p>A survey to examine reasons for poor ANC attendance was given to pregnant patients who were coming for their ANC visits. The survey included age, gestational age, living situation, educational level and a list of 15 potential barriers to ANC attendance.</p> <p>Frequency and percentage of each condition was calculated. Chi-square test was used to evaluate statistical significance when comparing categorical and frequency results. Binary logistic regression analysis was used to identify factors associated with low attendance rates at ANC visits. Potential confounders were included in the model (age, condition of living [refugee camp vs. resident in town], and parity). Models were evaluated based on their -2 Log likelihood ($-2LL$), Cox and Snell R-square, Nagelkerke R-square, overall predictive ability of the model, and the model-driven P-value by the Omnibus test. The model with the lowest $-2LL$, highest R-squares, and the best overall prediction accuracy was selected as the best model. A P-value of 0.05 was considered statistically significant.</p>
2015	WHO	Trends in maternal mortality: 1990 to 2015	WHO publications	Grey Literature	Country level reporting data	Globally	1990-2015	To report global, regional and country-level estimates of trends in maternal mortality between 1990 and 2015.	<p>Maternal mortality measures were obtained from country-specific data sources such as civil registration systems, population-based surveys, specialized studies, surveillance studies and censuses.</p> <p>Variables: number of maternal deaths; number of maternal deaths per 100 000 live births (MMR); and the proportion of deaths among women of reproductive age due to maternal causes.</p> <p>Limited data availability for many countries, and the limitations of the data that are available, mean that statistical models are needed for generating comparable estimates of maternal mortality across countries. In this study the Bayesian maternal mortality estimation (BMat) model was used.</p>

2019	WHO	TRENDS IN MATERNAL MORTALITY 2000 to 2017		Grey Literature	Country level reporting data	Countries and territories included in the analyses are WHO Member States with populations over 100 000, plus two territories (Puerto Rico, and the West Bank and Gaza Strip). 185 countries.	2000 to 2017	To presents internationally comparable global, regional and country-level estimates and trends for maternal mortality between 2000 and 2017	The United Nations Maternal Mortality Estimation Inter-Agency Group (UN MMEIG) – comprising WHO, the United Nations Children’s Fund (UNICEF), the United Nations Population Fund (UNFPA), the World Bank Group and the United Nations Population Division (UNPD) of the Department of Economic and Social Affairs – has collaborated with external academic teams and technical experts on a new round of estimates for 2000–2017. To provide increasingly accurate MMR estimates, the previous estimation methods have been refined to optimize use of country-level data. Consultations with countries were carried out during May and June 2019. This process generated additional data for inclusion in the maternal mortality estimation model. Data sources include: CRVS systems, population-based household surveys, reproductive-age mortality studies (RAMOS), confidential enquires into maternal deaths (CEMD), verbal autopsies, censuses and other specialized maternal mortality studies conducted at the national level. Statistical models: for countries with a CRVS system, a Bayesian CRVS adjustment model was used to account for error in reporting maternal death. For all countries, a Bayesian maternal mortality estimation model was used to estimate the MMR for each country- year of interest.
2020	Human Appeal	Risking Death to Give Birth: The consequences of conflict on the health needs of women and girls in Syria		Grey Literature	Literature review and qualitative interviews and surveys	Al Imaan Hospital in Aleppo which then moved to Idlib during the period of the study.	January 2019 - April 2020	<ol style="list-style-type: none"> 1. To explore how the reproductive health needs of women and girls have been affected by the Syrian conflict. 2. To determine whether the right to health is being upheld for women and girls in Syria. 3. To identify reproductive health needs. 4. To establish women’s decision-making ability in processes related to matters of protection and health. 	To assist with identifying the challenges in reproductive healthcare access and delivery in Syria, we corroborated 74 visitation reports totalling 740 medical staff interviews and 532 patient surveys undertaken by Human Appeal’s Monitoring and Evaluation team at Al Imaan Hospital for Women and Children in western rural Aleppo between January and August 2019. Semi-structured interviews with 3 female staff members, a senior nurse, 2 midwives and a female Syrian journalist were conducted remotely in Arabic between 2nd March and 6th April. A literature review was conducted looking at media reports, online databases, policy reports and peer-reviewed academic literature to supplement findings regarding women’s health in Syria.
2019	SAMS	Disrupted Health Care In Syria: The State of Reproductive Health		Grey Literature	Secondary data analysis and qualitative semi-structured interviews.	Dara’a, Idlib and East Ghouta.	September 2017 - March 2018	To document the impact of the Syrian conflict on the provision of reproductive healthcare.	This report relies on two primary sources of information: quantitative data from records collected by SAMS staff in 10 facilities in Dara’a, Idlib, and East Ghouta between September 2017 and March 2018 and 21 semi-structured interviews with reproductive healthcare providers at SAMS facilities in these three regions.
2017	UNFPA	REGIONAL SITUATION REPORT FOR SYRIA CRISIS		Grey Literature	Activity report	SYRIA, LEBANON, JORDAN, IRAQ, TURKEY, EGYPT.	2016	To document the work UNFPA conducted in Syria and for Syrian refugees throughout 2016 and up to February of 2017.	Documentation of routinely collected data.

2015	MSF	INTERNATIONAL ACTIVITY REPORT 2015		Grey Literature	Activity report	Globally.	2015	To document MSFs work throughout 2015.	Documentation of routinely collected data.
2015	WHO	HeRAMS Annual Report: January - December 2015 Public Hospitals in the Syrian Arab Republic		Grey Literature	Country level reporting data	99 Ministry of Health (MoH) hospitals and 14 Ministry of Higher Education (MoHE) hospitals in Syria.	January - December 2015	To report descriptive and trend analysis for the situation of public hospitals in all 14 governorates of Syria.	The completeness of reporting from public hospitals across Syria remained at 100%, where all the 99 Ministry of Health (MoH) Hospitals and the 14 Ministry of Higher Education (MoHE) hospitals continued to report to HeRAMS in December 2015. Domains reported through HeRAMS system: Accessibility of hospitals Infrastructure - damage, bed capacity, water sources, electrical power Human resources - number of doctors, nurses, midwives, type of doctor Utilisation of health services - outpatient consultations, inpatient stays, labs, blood bank and imaging services, emergency cases, mass casualties and surgeries, normal deliveries, CS, children with severe disease, children with severe acute malnutrition, NCD consultations, psychiatric cases. Availability of medical equipment Availability of medicines and medical supplies
2020	Mhd Nezar Alsharif	THE INCREASING RATIO OF CESAREAN SECTION DELIVERIES: CAUSES AND IMPLICATIONS	European Journal of Biomedical and Pharmaceutical Sciences	Peer-reviewed	Secondary data analysis of routinely collected maternal programme data.	Obstetric clinics, Damascus, Syria.	January 2013 to 30 June 2014 and 10 August 2018 to 31 January 2020	To record the rates of caesarean deliveries compared to natural births, and the reasons for the CS deliveries in Damascus Syria.	Obstetric files of all pregnant women between 1 January 2013 to 30 June 2014 and 10 August 2018 to 31 January 2020 were collected and reviewed. Statistical Analysis was done using SPSS 23.0

Table 2a appendix: This table shows the study characteristics of all included studies in the scoping literature review.

First Author	Population studied	Details of study population	Results / Outcomes
J. Gil Cuesta	The study population was defined as the women who underwent an emergency C-section conducted by MSF Operational Center Brussels and the neonates of these women, from January 2008 to December 2015, in selected facilities under the Emergency Obstetric Care programme.		Maternal mortality (MM) was 0.15% (46 maternal deaths) related to C-sections. MM = 0% in Syria, 0 deliveries per year The MM decreased from 0.25% (four maternal deaths) in 2008 to 0.07% (three maternal deaths) in 2015 ($P < 0.02$). C-sections performed in non-conflict countries showed a MM of 0.11%, which was not statistically different from that in conflict settings (0.18%). In conflict settings, the MM was not statistically different (0.1% vs. 0.2%) between minor and war-intensity conflicts. C-sections in general hospitals reported a higher MM (0.18%) compared to maternities (0.09%), with a borderline statistically significant difference ($P = 0.05$). Syria: MMR 2015: 68, C-section rate 2002 15%
Omar Hakeem	211 pregnant women who visited at Al Ghouta hospital.	110 women had a history of self-reported exposure to the chemical attack and 101 women were not exposed.	There were 49 miscarriages (45%) in the exposed group compared with 14 (14%) in the non-exposed women. There were four premature births (<37 weeks' gestation; two of them died shortly after birth) and three stillbirths (≥ 28 weeks' gestation) in the group of women with a history of exposure to gases, compared with none in the unexposed group. Seven women exposed to the attack delivered neonates with malformations, of whom five died after a few hours to a few days and the other two survived—one with cardiac abnormalities and the other with cerebral oedema.

Ahmed Mohamed Tammam Abdelgawad	Data from the following countries analysed: Bahrain, Egypt, Afghanistan, Kuwait, Iraq, Djibouti, Oman, Jordan, Somalia, Qatar, Lebanon, S. Sudan, Saudi Arabia, Libya, Sudan, UAE, Morocco, Yemen, OPT, Syria, Tunisia.		<p>Syria:</p> <p>Total expenditure on health as % of GDP: 3.7 Gov. Health Expenditure as % of total health Expenditure: 49 Gov health expenditure as % of total gov. expenditure: 5.6 Out of pocket expenditure as of % total health expenditure: 51 Ministry of Health budget as % of gov. budget: 5</p> <p>Physicians / 10000 of population: 6.5 Nurses / 10000 of population: 15 Hospital beds / 10000 of population: 15.3 Primary health care units / 10000 of population: 1</p> <p>Antenatal care coverage (%): 88 Birth attended by skilled health personnel (%): 96 New birth with low birth weight (%): 10.3 Neonatal mortality (per 1000 live births): 8.5</p>														
Nicholas J Kassebaum	Women who died as a result of pregnancy.		<p>Syria:</p> <table border="0"> <tr> <td>Maternal mortality ratio (per 100,000 livebirths)</td> <td>Number of maternal deaths</td> </tr> <tr> <td>1990: 120.5 (86.0 to 158.8)</td> <td>1990: 513 (367 to 676)</td> </tr> <tr> <td>2003: 64.8 (49.1 to 80.9)</td> <td>2003: 309 (235 to 386)</td> </tr> <tr> <td>2013: 44.1 (31.1 to 60.3)</td> <td>2013: 229 (161 to 313)</td> </tr> </table>	Maternal mortality ratio (per 100,000 livebirths)	Number of maternal deaths	1990: 120.5 (86.0 to 158.8)	1990: 513 (367 to 676)	2003: 64.8 (49.1 to 80.9)	2003: 309 (235 to 386)	2013: 44.1 (31.1 to 60.3)	2013: 229 (161 to 313)						
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Hussein H. Khachfe	Women who died whilst pregnant in the 22 included countries between 1990 and 2015.		<p>MMR in all countries in the Arab World significantly decreased between 1990 and 2015, with an average decreased of around 45%.</p> <table border="0"> <tr> <td>Syrian Arab Republic MMR per 100,000:</td> <td>Syria lifetime risk of maternal death:</td> </tr> <tr> <td>1990: 123</td> <td>1990: 1:150</td> </tr> <tr> <td>1995: 89</td> <td>1995: 1:230</td> </tr> <tr> <td>2000: 73</td> <td>2000: 1:330</td> </tr> <tr> <td>2005: 58</td> <td>2005: 1:450</td> </tr> <tr> <td>2010: 49</td> <td>2010: 1:650</td> </tr> <tr> <td>2015: 68</td> <td>2015: 1:440</td> </tr> </table>	Syrian Arab Republic MMR per 100,000:	Syria lifetime risk of maternal death:	1990: 123	1990: 1:150	1995: 89	1995: 1:230	2000: 73	2000: 1:330	2005: 58	2005: 1:450	2010: 49	2010: 1:650	2015: 68	2015: 1:440
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Ali H. Mokdad,	Women who died as a result of a maternal disorder in the Eastern Mediterranean Region between 1990 and 2015.		<p>Syria:</p> <table border="0"> <tr> <td>Maternal Deaths:</td> <td>Maternal Mortality Ratio per 100,000:</td> </tr> <tr> <td>1990: 560 (421–719)</td> <td>1990: 125.7(94.6–161.6)</td> </tr> <tr> <td>2000: 365 (276–480)</td> <td>2000: 73.6 (55.6–96.7)</td> </tr> <tr> <td>2015: 237 (181–309)</td> <td>2015: 54.1 (41.3–70.5)</td> </tr> </table>	Maternal Deaths:	Maternal Mortality Ratio per 100,000:	1990: 560 (421–719)	1990: 125.7(94.6–161.6)	2000: 365 (276–480)	2000: 73.6 (55.6–96.7)	2015: 237 (181–309)	2015: 54.1 (41.3–70.5)						
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Fatemeh Nahidi	Women who died whilst pregnant between 1990–2015 in the Eastern Mediterranean countries. Following the definition proposed by the WHO, maternal mortality was considered as the death of a woman during pregnancy or up to 42 days after delivery irrespective of the site and duration of the pregnancy. The definition includes deaths from any cause related to or aggravated by pregnancy and its management, but not those from accidental or incidental causes.		<p>Maternal mortality ratio per 100,000 live births:</p> <p>1990: 130 2013: 49 2015: 68</p>														
Mayada Roumieh	All women who recently gave birth (30–45 days postnatal) seen at the selected primary health care centres during the study period.	Mean age 27.7 years, high education 18.6%, work outside the house 17.7%, did not live in a separate house 48%, shared the house with three families or more 11.8%, internally displaced 46.5%.	<p>28.2% (312 women) of women had a score of 13 or more on the EPDS (probable depression), while 20.7% (229 women) of women scored 10–12 on the EPDS (possible depression). 7 women had the thought of harming themselves with suicidal ideations.</p> <p>Bivariate analysis indicated that postpartum depression was significantly associated with demographic factors (younger age at marriage), socio-economic factors (women and husbands' lower level of education), pregnancy-related factors (poor antenatal care; delivery at public hospital), conflict-related factors (displacement; multiple families at house; perceived exposure to a lot of life stressors/pressure), and health-related factors (a reported health problem during pregnancy; reported a mental health problem; and having a newborn with health problems). Logistic regression analysis revealed that postpartum depression was significantly associated with a reported health problem during last pregnancy; displacement; perceived exposure to a lot of life stressors; while antenatal care had a protective effect.</p>														

Hisham Al-Hammami	Women who gave birth at Al Tawlid university hospital from the beginning of January 2010 to end of June 2017.	90054 deliveries; 54,105 normal deliveries and 35949 CS.	78,115 births during the period of the Syrian crisis; 45,649 vaginal deliveries (58.4%), 32,466 CS (41.6%). In 2010, the percentage of caesarean births was 29%, and this percentage increased gradually until reaching its peak in the first half of 2017 at 51%.												
Jocelyn DeJong	Conflict-affected Syrian population both within Syria (including non-displaced and IDPs) and those living as refugees in neighbouring countries.		Coverage of at least one ANC visit with a skilled professional declined from 87.7% to 62%. Rates of skilled birth attendance at delivery dropped from 96.2% to 72%. Data from the largest public maternity hospital in Damascus show C-section rates increasing from 29% in 2010 to 46% in 2014. Syria pre-conflict: 548,000 births (2010), 12.4 stillbirth rate per 100,000, 52 MMR Syria in conflict: 460,000 births (2015), 62.7 MMR												
Rahma Aburas	All women and children presenting to the brotherhood medical clinic between August 2016 and January 2017, around 300 per day.	Women who were given postnatal care had to live 250 km from the clinic.	Number of deliveries in August 2016 = 80, January 2017 = 175. <table border="0"> <tr> <td>Function</td> <td>Est. No. of cases</td> </tr> <tr> <td>OB/GYN emergency room visits</td> <td>100/day</td> </tr> <tr> <td>Normal deliveries</td> <td>25/day</td> </tr> <tr> <td>Outpatient cases</td> <td>300/day</td> </tr> <tr> <td>Operative cases</td> <td>10/day</td> </tr> <tr> <td>Inpatient cases</td> <td>25/day</td> </tr> </table>	Function	Est. No. of cases	OB/GYN emergency room visits	100/day	Normal deliveries	25/day	Outpatient cases	300/day	Operative cases	10/day	Inpatient cases	25/day
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Tamar Kabakian-Khasholian	Women who gave birth and consented to participate in the study during the period November 2014 to July 2015 in Beirut and Mansoura, and November 2014 to April 2015 in Damascus.	Average age = 26 years, majority didn't work outside the home, more women in the Syrian hospital had low levels of education, average number of children 3.53 in Syria.	60.6% of obstetricians were female in Syria. Type of birth: Normal: 1010 (83.7%) C-section: 196 (16.3%) Antenatal visits: Less than 4 visits: 390 (32.5%) 4 or more visits: 810 (67.5%)												
Abdullah Sulieman Terkawi	All women who visited the obstetric and gynaecology department during the study period.	Patients' age range was 11–75 years, with a median [IQR] age of 25 (20–31) years. Among the pregnant women, 2955 (60%) were living in the refugee camp, whereas 1981 (40%) were residents in the town.	A total of 4936 pregnant women were seen in the center during the study period, many of whom came for multiple visits. Among the 730 women who delivered between October and December 2017, 39% did not have any antenatal visits, 4% satisfied the minimal WHO requirements for ideal ANC visits and 14% satisfied the minimal WHO requirement for FANC visits. Patients living in the refugee camps are 2.7 times less likely to meet the WHO FANC visits compared to those who are town residents. Of 2057 delivery, 70% delivered vaginally and 30% CS. There were 216 (3% of all patient population) cases of miscarriage; 120 (56%) were in women living in refugee camps and 96 (44%) in patients who were resident in town. How convinced with ANC visits? - 43% very convinced, 48% convinced, 7% I do not know, 2% not fully convinced, and only 1% answered not convinced at all. How many ANC visits are needed? - 52% did not know, 48% did know. What are the recommended timing for ANC visits? - 53% do not know, 47% did know.												
WHO	Pregnant women globally between 1990 and 2015.		Syrian Arab Republic Maternal mortality rate per 100,000 live births 2015: 68 Number of maternal deaths 2015: 300 Lifetime risk of maternal death 2015: 1 in 440 Proportion of deaths among women of reproductive age that are due to maternal causes 2015: 6.7 MMR: 1990: 123 1995: 89 2000: 73 2005: 58 2010: 49 2015: 68												

WHO	Pregnant women globally between 2000 and 2017.		<p>Maternal mortality ratio per 100,000 live births Syria:</p> <p>2000: 26 2005: 25 2010: 27 2015: 30 2017: 31 (Lower uncertainty interval - 20, Upper uncertainty interval - 50), number of deaths 130, lifetime risk of maternal death 1 in 1,000</p> <p>Adult lifetime risk of maternal death for women in the population, defined as the probability that a 15-year-old girl (in the year of the estimate) will eventually die from a maternal cause.</p>
Human Appeal	Women of reproductive age in Syria between 2010 and 2020.		<p>In northwest Syria, 20% of mothers are able to feed their babies properly, and at least one in three children in the region is stunted.</p> <p>Prior to the conflict, 96% of births were attended by medical professionals, now, just 25% are.</p> <p>Al Imaan Hospital in Aleppo, of 1,752 deliveries, 88% were natural births and 22% caesarean sections. This is due to the fear for safety with long waiting times in natural births due to the threat of aerial bombings. 43 percent of Syrians would only go to hospital if their lives depended on it.</p> <p>Out of the estimated 120 women visiting Al Imaan hospital each day in Idlib, around 25 percent of these were thought to be pregnant girls under the age of 18.</p>
SAMS	<p>Quantitative - women in Dara'a, Idlib and East Ghouta between September 2017 and March 2018.</p> <p>Qualitative - 8 midwives, 6 obstetricians-gynecologists (OBGYN), 6 physicians serving as OBGYNs and 1 nurse.</p>		<p>In 2017, 12 SAMS facilities, 6 of which provided RH services, were forced to close either temporarily or permanently as a result of targeted attacks. Most hospitals surveyed in this report didn't meet Sphere Standards, either due to lack of funding or lack of medical personnel. In northern Syria, because</p> <p>The data provided by SAMS medical facilities for a 6-month time period spanning September 2017 through February 2018 has indicated a high percentage of C-sections, much higher than the pre-conflict C-section rate of 26.4% in Syria. In three major RH facilities in northern Syria, C-sections reached 44.63% of total deliveries, and the rate of C-sections reached 39.3% in three facilities in southern Syria and 41.1% in one East Ghouta center.⁵⁹</p>
UNFPA	Women and girls in Syria and female Syrian refugees in neighbouring countries.		<p>UNFPA RESPONSE IN SYRIA:</p> <ul style="list-style-type: none"> • 8,573 normal deliveries • 5,476 C-section deliveries • 11,569 ante-natal care services • 1,225 pregnancies under 18 <p>26,587 clients received services in the northern part of Syria:</p> <ul style="list-style-type: none"> • 1,296 normal deliveries • 431 C-section deliveries • 129 pregnancies under 18 • 5,372 ante-natal care services • 173 post-natal care services <p>12,452 beneficiaries received services in the southern part of Syria:</p> <ul style="list-style-type: none"> • 1,096 normal deliveries • 574 C-sections • 506 pregnancies under 18 • 4,288 ante-natal care services • 688 post-natal care services

MSF	Individuals supported by MSF globally throughout 2015.		<p>Aleppo governorate: MSF-run hospital in Azaz district: saw 6,000 patients for antenatal, postnatal and family planning consultations and delivered 409 babies.</p> <p>Hassakeh governorate: MSF worked in a maternity hospital in the area, where 1,559 births were assisted, including 393 caesarean sections.</p> <p>Dara'a governorate: MSF provided medical donations, relief items and technical support to six hospitals and health posts across Dara'a governorate, assisting with more than 2,000 deliveries.</p>
WHO	All people making use of hospitals in Syria in 2015.		<p>Normal deliveries vs CS:</p> <p>Ar-Raqqa: 1,702 normal deliveries 386(19.1%) CS Hama: 659 normal deliveries 611(48.1%) CS Homs: 240 normal deliveries, 217(47.5%) CS Dara'a: 85 normal deliveries, 28(24.8%) CS Aleppo: 226 normal deliveries, 180(44.3%) CS Deir-ez-zour: 35 normal deliveries, 0 CS Al Hassakeh: 717 normal deliveries, 115(13.8%) CS As-Sweida: 280 normal deliveries, 165(37.1%) CS Quneitra : 70 normal deliveries, 40(36.4%) CS Damascus, Syria: 958 normal deliveries, 571(37.3%) CS Lattakia, Syria: 272 normal deliveries, 478 (63.7%) CS Tartous, Syria: 311 normal deliveries, 442(58.7%) CS</p>
Mhd Nezar Alsharif	All pregnant cases who reviewed the clinics between 10 August 2018 to 31 January 2020 for delivery.		<p>10 August 2018 to 31 January 2020: 787 cases (52%) had CS deliveries. Of the CS, 57% of them had a caesarean section delivery per their request (no indications), while 43% of them had an indication for caesarean section delivery.</p> <p>1 January 2013 to 30 June 2014: 523 cases (33%) had CS deliveries, 44% of them per patients request and 56% had it with medical indications.</p>

Table 2b appendix: This table shows the results of all included studies in the scoping literature review.

First Author	Author's conclusions	Limitations
J. Gil Cuesta	The study found no differences in maternal or neonatal mortality in emergency C-sections between conflict and non-conflict periods, however other factors not assessed could influence mortality. These could be related to the accessibility of healthcare, clinical presentation or type of procedure. They suggest that the lack of a difference in mortality rates with or without conflict could be related to the MSF's use of standardised procedures, adequate equipment and proper staff in all their supported surgical facilities. To continue health-care provision during conflict and non-conflict, homogenous minimal quality standards should therefore continue to be implemented and monitored.	The study included only those women who had reached health facilities and had one specific operation. Further studies that include other forms of delivery, number of stillborn, more complex pathology or patients with delayed access to care during conflict would be required to assess other reasons. Looking at country level context rather than local facility level context is a limitation of this study. To minimise this, the conflict category was validated with staff at each of the facilities.
Omar Hakeem	The data suggest an increased incidence of spontaneous abortion, stillbirth, and birth defects in women exposed to chemical attacks compared with women who were not exposed, and to the previously available statistics on Syria.	Very small sample size and only in one hospital, may not be representative of all pregnant women exposed to chemical weapons.
Ahmed Mohamed Tammam Abdelgawad	Spending on health is significantly associated with improved maternal and child health outcomes and reduces infant and child mortality. Furthermore, improvements in government effectiveness enhances the effect of government health spending which reduces infant and under-five child mortality. Thus, increasing government expenditures is likely to lead to better improvements of health outcomes if it is accompanied by the right policies and institutions. There was significant negative correlation between out of pocket (OOP) and the maternal and child health indicators. This can give a recommendation to policy makers to minimize this OOP portion, as minimising this portion improves maternal and child health outcomes.	Generalised country level reporting with no context specific data or discussion.
Nicholas J Kassebaum	Ambitious calls for progress in maternal mortality in the next 15–20 years and reductions in MMRs to less than 30 in all countries have been deemed financially and technically feasible. Our finding that rates of change in maternal mortality in some developing countries have exceeded 8% in the past decade (eg, in China) lends support to ambitious aspirational goals.	Method of estimating the detailed causes of maternal death used all available data, but such specific data are not available for many countries, or, if they are available, are coarse with respect to age. Therefore, the true extent of the interplay between cause and age in maternal mortality and differences between countries in the same region may have been underestimated. Estimates of maternal mortality are affected by estimates in each age group of other causes of death developed for the GBD 2013 because of the requirement that cause-specific mortality must sum to all-cause mortality. Errors in the estimates for other causes of death could bias upwards or downwards the assessments of maternal mortality.
Hussein H. Khachfe	The overall trend of maternal mortality and lifetime risk of maternal death showed a significant decrease throughout the years of our study due to the increased efforts put in by a number of countries to achieve goal 5a of the 2015 Millennium Development Goals. Although the Arab world did not achieve the goal of decreasing maternal mortality by 75% by 2015, it did decrease by around 45%. Some possible reasons that this was not possible could include high prevalence of child marriage, unsafe abortions and political instability. Improved economic development, increased resources allocated to the obstetrics sector and improving women's knowledge and education were key factors to the decrease in MMR and LTR across many countries in the Arab world.	Reliability of data rests of the validity of the UNICEF database. Lack of proper registration and lack of proper reporting present in many Arab countries may contribute to mistakes and under representation of the true burden of maternal deaths in these countries.
Ali H. Mokdad,	Progress in reducing maternal mortality in the EMR has accelerated in the past 15 years, but there is still much to do to reduce preventable deaths. Extending basic maternal health services, improving quality of care, and eliminating unmet need for contraception are all crucial, proven steps effective at reducing MMR. This study demonstrates the importance of empowering women: increased women's rights are needed to improve their health. Coordinated and rigorous efforts are needed to make sure that every woman in need receives these interventions in a timely fashion at each stage of her reproductive life.	Many countries in the region have poor health data and vital statistics, GBD methodology was used to account for quality and lack of data. Also, little information is available on unsafe abortion in the region due to religion and culture, limiting the ability to assess the impact of this practice on MMR.
Fatemeh Nahidi	The WHO reported an average annual change of 2.56% for MMR in Syria between 1990 and 2015. A Syrian study indicated that there is an urgent need for developing national protocols to regulate practices during the third stage of labor and the postpartum period. It was reported that the causes of maternal mortality and their contributing factors in Syria reflect serious defects in the quality of maternal care that need to be rectified urgently. This research showed that Syria has made progress toward improved maternal mortality.	The number of related studies was low. In addition, the authors did not find any article about maternal mortality in Iraq, Libya, Djibouti, and the United Arab Emirates.
Mayada Roumich	The findings of this study should alert Syrian health professionals that postpartum depression needs to be screened for in the usual antenatal and postnatal care of Syrian women. This study indicated that nearly one of three women have postpartum depression, a concerning finding considering that the promotion of mental health and wellbeing is among health priorities of the global development agenda.	The main limitations of this study include the issue of design which was not prospective and further that the recruitment was only from women who are using the primary health care centers.
Hisham Al-Hammami	In 2014, caesarean delivery was 43% in South America. It was the highest percentage of global Caesareans in that period compared to 43.5% in the ALTAWLID University Hospital in Damascus, Syria in the same year. Given the increasing rate of CS in the crisis and globally it is very important to focus our attention on the causes of this incidence in order to reduce it.	Data collected in only 1 hospital.

Jocelyn DeJong	Increase in c-section rates could be explained by the need for women and their physicians to schedule delivery around the security situation. The available mortality data in Syria during conflict showed an increase in maternal mortality ratio, although it was not possible to provide accurate data on conflict-related casualties among women. In Syria, available data show a decline in coverage of ANC, skilled birth attendance and child immunisation. A partial explanation for these observed trends may be differential access to healthcare across Syria.	Definitions may differ between included studies and countdown indicators limiting the ability of this review to draw conclusions.
Rahma Aburas	The BMC represents a unique example of cooperation between local and regional stakeholders with the aim of filling a critical gap in provisioning of medical humanitarian aid for women and children.	This is a descriptive study that uses estimated number of cases limiting the accuracy of its figures.
Tamar Kabakian-Khasholian	Perceived control during labour was a significant predictor of improved satisfaction levels among women in the three sites of the study. In addition, having few children in the sample from Egypt and Lebanon and receiving care by a team including both male and female physicians in the Syrian hospital decreased satisfaction. Although the mean satisfaction score was high, there were slight variations in the levels between the three sites. Differences might be explained by the context of conflict and displacement that affect Syria and Lebanon. The hospitals from these two countries included in the study provide services to refugees and to internally displaced populations, therefore it is expected that these women will be reluctant to express criticism about the care they received while feeling “grateful” for accessing a hospital and giving birth to a healthy infant. Perceived control during labour was found to be at an average level in the overall sample with slightly higher scores in Lebanon and Syria than in Egypt. Women’s satisfaction with childbirth improved with an increased number of children, specifically in the samples from Egypt and Lebanon. These women would have prior experience with the system of care and therefore have already shaped their expectations according to the routines followed at these facilities. The lack of this relationship in the sample from Syria could be attributed to the lack of previous experience with birthing in a hospital for women displaced from rural to urban areas due to the prevailing conflict. It is to be noted that women in the hospitals in this study are not entitled to choose their health care providers. The hospitals in Lebanon and Syria were found to have teams of both male and female obstetricians, residents, medical and nursing students attending the birth. This was a factor inducing dissatisfaction among women in the Syrian hospital compared to being offered care by either a male or a female physician. The presence of a male provider in the team together with female providers is considered disrespectful in this context and influences their satisfaction with care.	Women were interviewed in the very early postpartum hours or days which probably shifted satisfaction levels towards more favorable ones.
Abdullah Sulieman Terkawi	The study identified a considerable deficiency in the ANC and PNC visits, high adolescent birth rate, and higher caesarean delivery ratio than recommended by the WHO. There was a severe shortage in the number of obstetrician-gynaecologists per 1000 population. The study found that challenges are much greater amongst those living in camps than in the city. The major challenges facing patients trying to visit the centre, especially for their ANC visits, are related to poor transportation services and deficient staffing.	This study data are derived from a single center in the Northwestern part of Syria. Thus, it may not perfectly represent other affected areas in Syria nor the across-the-border communities in neighboring countries. The recent deployment of Healthy Syria program made accessible data limited to 2017 only, making extrapolation to a longer period difficult.
WHO	Syria has made insufficient progress to achieving the Millennium Development Goal 5.	Household surveys: This approach has the following limitations. <ul style="list-style-type: none"> • It identifies pregnancy-related deaths, rather than maternal deaths. • It produces estimates with wide confidence intervals, thereby diminishing opportunities for trend analysis. • It provides a retrospective rather than a current maternal mortality estimate (referring to a period approximately five years prior to the survey); the analysis is more complicated. <p>The data available on all countries was limited and so there are limitations to the calculations used to find the estimates for each country.</p>

WHO	In 2017, according to the Fragile States Index, 15 countries were considered to be “very high alert” or “high alert” (from highest to lowest: South Sudan, Somalia, Central African Republic, Yemen, Syrian Arab Republic, Sudan, the Democratic Republic of the Congo, Chad, Afghanistan, Iraq, Haiti, Guinea, Nigeria, Zimbabwe and Ethiopia), and these 15 countries had MMRs in 2017 ranging from 31(Syrian Arab Republic) to 1150 (South Sudan).	This study is limited by the accuracy of the data sources it relies on. Limitations of verbal autopsy: Misclassification of causes of deaths in women of reproductive age Difficulty identifying direct and indirect maternal deaths The accuracy of the estimates depends on the extent of family members’ knowledge of the events leading to the death, the skill of the interviewers, and the competence of physicians who do the diagnosis and coding. • Detailed verbal autopsy for research purposes that aims to identify the cause of death of an individual requires physician assessment and long interviews. Such systems are expensive to maintain, and the findings cannot be extrapolated to obtain national MMRs.
Human Appeal	Whilst the world is on the whole experiencing positive developments in maternal health, more Syrian women are currently dying in childbirth or from pregnancy-related complications than they were twenty years ago. It is estimated that maternal mortality in Syria has risen by as much as 40 percent since the conflict began. International factors have a part to play as conflict affected countries typically receive 60 percent less official development assistance for reproductive health than non-conflict affected countries. Maternal mortality, risk of miscarriage, premature labour and undernourishment have all been exacerbated by the Syrian conflict. This by and large due to the fact that close to a decade of war has corroded Syria’s healthcare system leaving vast shortages of medical supplies, qualified staff and functioning facilities.	Most data are based on one site and so may not be representative of maternal health in Syria generally.
SAMS	The conflict has exacted a heavy toll on the provision of reproductive healthcare in particular. While the conflict has affected populations across gender, age, political and religious affiliation, for women especially, the challenges are tremendous. In the Syrian context, expectant women struggle to maintain healthy pregnancies and to give birth safely amidst the war’s persistently corrosive effects on reproductive healthcare, which largely impede access to adequate services and family planning.	Many obstacles, including the systematic attacks on healthcare, and the severe shortage in medical personnel limit the ability to collect adequate and reliable data across Syria.
UNFPA	UNFPA believes that every Syrian woman and girl has the right to have access to affordable reproductive health care and be effectively protected from gender-based violence. UNFPA and partners are scaling up efforts to empower and improve the lives of Syrian women and youth and impacted communities inside Syria and in host countries, including by advocating for human rights and gender equality, to better cope with and recover from the crisis.	This is a descriptive study with no clear explanation of the methodology used to collect reported data, this limits the reliability of these results.
MSF	In 2015, MSF continued to operate six medical facilities in different locations across northern Syria and saw an increase in the number of people with medical complications caused by delayed medical care, and in infections and deaths due to shortages of antibiotics.	This is a descriptive study with no clear explanation of the methodology used to collect reported data, this limits the reliability of these results.
WHO	The global norm for the percentage of CS to normal deliveries is 5% to 15%, all 12 governorates are above this threshold. The highest CS figures are reported in Latakia and Tartous, which are due to cultural preferences, where the pregnant women opt for CS for several reasons such as reducing pain and choosing a fixed date for delivery, in relation to other social occasions. In Homs, Rural Damascus, and Aleppo the high numbers of CSs are due to the fact that majority of the pregnant women prefer CS because of the security situation. Across all reported functional hospitals in December 2015, 37% (3,524) of deliveries are CSs while 63% (5,880) are normal deliveries.	The HeRAMS tool relies on effective and proper recording of data at each facility and so there may be issues with accuracy considering the context and number of facilities included.

Mhd Nezar Alsharif	The percentage of caesarean delivery globally has increased during the years and this includes caesarean delivery by mother request as an important factor among other reasons. The average global caesarean section is 18.6%, the highest rates are found in South America at 42.9% compared to 33% in our study in Damascus, Syria in the same year. Furthermore, given the increasing rate of CS in our country and globally, it is very important to focus our attention on the causes of this incidence in order to reduce it.	Methodology is very limited; this limits the reliability of these results.
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Table 2c appendix: This table shows the conclusions of all included studies in the scoping literature review.

Feature	Inclusion	Exclusion
Population of interest	Syrian women inside Syria who are pregnant or have given birth including internally displaced persons	Syrian women who are pregnant or have given birth outside Syria including refugees
Intervention	Maternal health services	Sexual and reproductive health services
Outcomes	Maternal health Maternal morbidity and mortality Obstetric care (Antenatal, perinatal and postnatal) Availability of health services Utilisation of health services Maternal variables (age of mother) Delivery statistics (cesarean section compared or vaginal delivery) Abortion statistics	Gender based violence Neonatal health
Study design	Review articles, epidemiological studies, retrospective analysis, cross-sectional studies	Case reports and newspaper articles.
Study period	Study period after the start of the conflict in March 2011.	Study period before the start of the conflict in March 2011.
Language	Full paper available in English or Arabic.	Full paper not available in English or Arabic.

Table 3 appendix: This table shows the inclusion and exclusion criteria for the scoping literature review

Facility Name (Alias)	Catchment (from SAMS dashboard)	Total Deliveries from March 2017 to July 202	Mean Monthly Deliveries (Median)
General Hospital (Hospital 1)	41,836/44,304 (94.4%)	5,115	125 (124)
General Hospital (Hospital 2)	99,062/151,005 (65.6%)	6,924	315 (319)
Maternity Specialized Hospital (Hospital 3)	125,054/351,914 (35.5%)	16,966	424 (427)
Maternity Hospital	61,116/62,747 (97.4%)	7,914	247 (266)

(Hospital 4)			
PHC (PHC 1)	20,992/28,248 (74.3%)	1,230	95 (95)

Table 4 appendix: This table shows the anonymised name of the hospital or primary healthcare (PHC) facility with the estimated catchment area, total deliveries in the time period and the mean monthly deliveries.

Figures in the appendix:

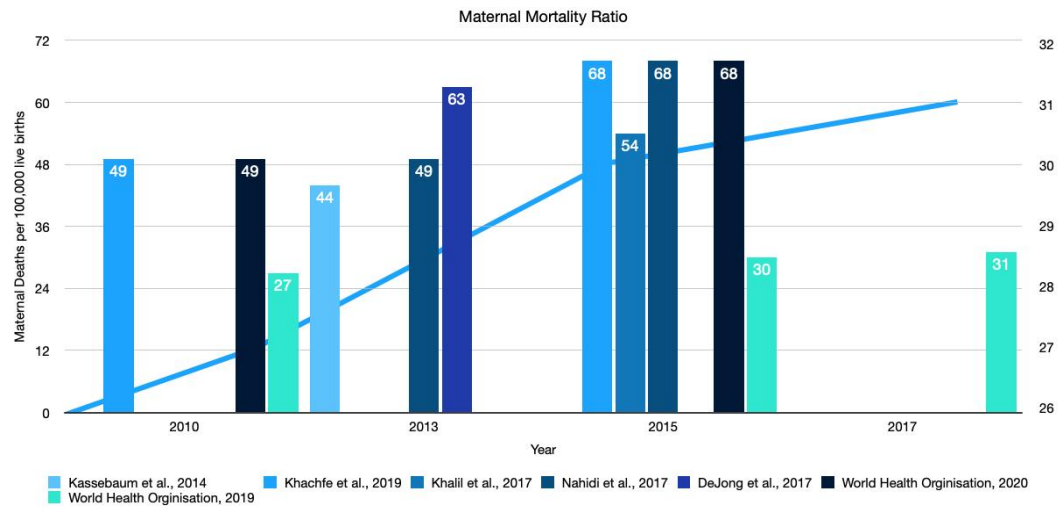


Figure 1 appendix: Bar chart of maternal mortality rates (MMR) reported by each reviewed study compared to a line graph of the UN MMEIG MMR estimates during the same periods.