

Additional file 3 Summary of the study design and reported outcomes.

Study Country Study year	Study design Treatment: N	Trimester	Estimation of gestational age	Parity or gravidity reported	Follow up until delivery	Length of follow-up after delivery	ECG	Blood test	Pregnancy outcomes reported
Naing, 1988 Myanmar 1985-1986 [26]	RCT Q: 23 AQ: 19	2,3	Not specified	Parity	Weekly	Not followed	Not reported	Routine blood test was carried out, but the results were not reported.	Stillbirth/miscarriage Preterm birth Neonatal mortality
Harinasuta, 1990 ^a Thailand INA [27]	RCT Q: 82 MFQ: 85	1,2,3	Not specified	INA	Yes	6 months	INA	Blood glucose	Stillbirth/miscarriage Preterm birth Low birth weight (%) Congenital abnormality Child development (6 months)
Nosten, 1993 Thailand 1989-1990 [28]	RCT Q5: 16 Q5 + spiramycin: 16	2,3	Not specified	Parity	Not followed	Not followed	Not reported	WBC count at baseline	Stillbirth/miscarriage during the treatment
Sowunmi, 1998 Nigeria 1994-1997 [29]	RCT AM: 23 AMMQ: 22	2,3	Ultrasound	Parity	3-6 weekly	3 years	Not reported	Total WBC count, platelet count, ALT, AST, bilirubin, sodium, potassium, chloride, bicarbonate, uric acid, creatinine and blood glucose at baseline and on day 7	Stillbirth/miscarriage Preterm birth Congenital abnormality Birth weight Child development
Bounyasong, 2001 Thailand 1995-1998 [30]	RCT ASMQ: 29 Q: 28	2,3	Fundal height + ultrasound	Parity	Weekly	2 years	Not reported	CBC at baseline and daily during the study period, but not reported. Blood glucose.	Calcification of placenta Intra-uterine growth restriction Estimated gestational age at delivery Birth weight Congenital abnormality Child development (up to 2 years)

Additional file 3 continued.

Study Country Study year	Study design Treatment: N	Trimester	Estimation of gestational age	Parity or gravidity reported	Follow up until delivery	Length of follow-up after delivery	ECG	Blood test	Pregnancy outcomes reported
McGready, 2000 Thailand 1995-1997 [31]	RCT Q: 42 ASMQ: 66	2,3	Fundal height + Dubowitz	Parity	Weekly	1 year	Not reported	Not reported	Stillbirth/miscarriage Estimated gestational age at delivery Birth weight / low birth weight (%) Placental weight Congenital abnormality Child development Neonatal mortality / Infantile mortality Maternal mortality
McGready, 2001a Thailand 1997-2000 [32]	RCT QC: 65 AS: 64	2,3	Fundal height + Dubowitz	Parity	Weekly	1 year	Not reported	Not reported	Stillbirth/miscarriage Estimated gestational age at delivery Birth weight / low birth weight (%) Congenital abnormality Placental weight Neonatal mortality / infantile mortality Child development
McGready, 2005 Thailand 2001-2003 [33]	RCT AAP: 39 Q: 42	2,3	Ultrasound, Dubowitz or Fundal height	Gravidity	Weekly	1 year	Not reported	CBC at baseline	Stillbirth/miscarriage Estimated gestational age at delivery Birth weight / low birth weight (%) Height, head circumference, arm circumference Congenital abnormality Infantile mortality Child development Maternal mortality
Adam, 2004a Sudan 2002-2003 [34]	RCT Q (low dose): 18 Q (standard dose): 24	2,3	Not specified	Parity	Yes	Not followed	Not reported	Blood glucose	Preterm birth Perinatal mortality

Additional file 3 continued.

Study Country Study year	Study design Treatment: N	Trimester	Estimation of gestational age	Parity or gravidity reported	Follow up until delivery	Length of follow-up after delivery	ECG	Blood test	Pregnancy outcomes reported
Kalilani, 2007 Malawi 2003-2004 [35]	RCT ASSP: 47 SP: 47 SP + azithromycin: 47	2	Ballard score	Gravidity	Yes	Not followed	Not reported	Not reported	Anaemia at delivery Stillbirth/miscarriage Preterm birth Birth weight and low birth weight Congenital abnormality Neonatal death
McGready, 2008 Thailand 2004-2006 [36]	RCT AL: 125 AS: 128	2,3	Ultrasound or Dubowitz	Both	Weekly	1 year	Yes (subset)	CBC and biochemistry at baseline and on day 14 (subset of patients)	Stillbirth/miscarriage Estimated gestational age at delivery Birth weight / low birth weight (%) Height, head circumference, arm circumference Congenital abnormality Neonatal neurological test Neonatal / Infantile mortality Child development Maternal mortality
Mutabingwa, 2009 Tanzania 2004-2006 [37]	RCT ASAQ: 83 AQSP: 80 CD: 81 SP: 28	2,3	Dubowitz	Parity	At delivery and 42d after delivery	6 weeks	Yes	Total WBC count with differential, platelet count, creatinine, total bilirubin, ALT and albumin at baseline, on day 3 and 7	Stillbirth/miscarriage Preterm birth Birth weight Congenital abnormality Placenta weight Maternal mortality
Kaye, 2008 Uganda 2006 [38]	RCT AL: 57 CD: 57	2,3	Not specified	Gravidity	Not followed	Not followed	Not reported	Not reported	None

Additional file 3 continued.

Study Country Study year	Study design Treatment: N	Trimester	Estimation of gestational age	Parity or gravidity reported	Follow up until delivery	Length of follow-up after delivery	ECG	Blood test	Pregnancy outcomes reported
Piola, 2010 Uganda 2006-2009 [39]	RCT AL: 152 Q: 152	2,3	Ultrasound or LMP	Gravidity	Weekly	1 year	Yes	Creatinine, ALT and bilirubin at baseline, on day 7, 14 and 42. CBC at baseline, on day 14 and 42	Stillbirth/miscarriage Preterm birth / gestational age at delivery Birth weight / low birth weight (%) Congenital abnormality Early neonatal mortality Maternal mortality
Carmona-Fonseca, 2013 Colombia 2008-2011 [40]	RCT AL: 15 ASMQ: 15	2,3	Not specified	Gravidity	Not followed	Not followed	Not reported	Creatinine, AST, ALT, direct and indirect bilirubin, and platelet 24 hours after the treatment	Maternal mortality
D'Alessandro, 2016 Burkina Faso, Ghana, Malawi and Zambia 2010-2013 [41, 42]	RCT AL: 880 ASMQ: 842 ASMQ: 848 DP: 853	2,3	Fundal height + New Ballard score	Gravidity	Monthly	1 year	Not reported	Total WBC count with differential at baseline, on day 7, 14, 28 and 63. Total bilirubin, ALT and creatinine at baseline, on day 7 and 14.	Stillbirth/miscarriage Preterm birth Birth weight Congenital abnormality Maternal mortality
Osarfo, 2017 Ghana 2011-2012 [43]	RCT ASMQ: 205 DP: 212	2,3	ultrasound (or Ballard if not done)	Parity	Yes	6 weeks	Not reported	CBC at baseline, on day 14, 28 and 42	Stillbirth/miscarriage Preterm birth Birth weight / low birth weight Congenital abnormality Neonatal mortality and morbidity Maternal mortality

Additional file 3 continued.

Study Country Study year	Study design Treatment: N	Trimester	Estimation of gestational age	Parity or gravidity reported	Follow up until delivery	Length of follow-up after delivery	ECG	Blood test	Pregnancy outcomes reported
Onyamboko, 2015 ^a DRC 2013-2014 [44]	RCT AL: 48 AL5: 48	2,3	Ultrasound	INA	Yes	1 year	INA	Biochemistry	Stillbirth/miscarriage Congenital abnormality Neonatal mortality Child development
Ukah, 2015 Nigeria 2013 [45]	RCT AL: 75 ASAQ: 75	2,3	Not specified	Parity	Telephone confirmation after birth	Not followed	Not reported	Not reported	Stillbirth/miscarriage
Iribhogbe, 2017a Nigeria INA [46]	RCT AL: 40 ASAQ: 40	2,3	Not specified	Both	No	No	Not reported	Differential WBC count, total and conjugated bilirubin, ALT, AST, ALP, cholesterol) on day 4.	None
CTRI/2009/091/001055 ^b India 2010-2015 [47]	RCT ASMQ (500) ASSP (500)	2,3	INA	INA	Yes	42 days	INA	Biochemistry	Birth outcomes Congenital abnormality
NCT01054248 ^b Thailand 2010-2016 [48]	RCT AL4 (335) ASMQ (335) DP (335)	2,3	Ultrasound (Dubowitz, LMP or fundal height)	Both	Yes	1 year	INA	Full biochemistry and CBC at baseline, on day 0, 14 and 28 (subset of the patients)	Stillbirth/miscarriage Preterm birth Congenital abnormality Birth weight / low birth weight (%) Neonatal and infant mortality Child development
McGready, 2003a Thailand 2000-2001 [49]	PK AAP: 24	2,3	Fundal height + Dubowitz	Both	Weekly	Not followed	Yes	CBC and blood glucose at baseline. Biochemistry at baseline and 72 h after treatment	Stillbirth/miscarriage Estimated gestational age at delivery / preterm birth Birth weight / low birth weight (%) Congenital abnormality Maternal mortality

Additional file 3 continued.

Study Country Study year	Study design Treatment: N	Trimester	Estimation of gestational age	Parity or gravidity reported	Follow up until delivery	Length of follow-up after delivery	ECG	Blood test	Pregnancy outcomes reported
Adam, 2012 Sudan 2007-2008 [50]	PK study DP: 12 (control: 12 matched non-pregnant women)	2,3	LMP+ ultrasound	Parity	Weekly	1 year	Not reported	Urea, AST and ALT at baseline and on day 14	Stillbirth/miscarriage Preterm birth Birth weight Congenital abnormality Child development (up to 1 year)
Onyamboko, 2011 DRC 2007-2008 [51]	PK ASSP: 26 (control: 25 non-pregnant women)	2,3	Ultrasound	Parity	Yes	1 year	Not reported	Creatinine, albumin, ALT, AST and alpha-1-acid glycoprotein at baseline and after the first dose of artesunate	Stillbirth/miscarriage Birth weight / low birth weight (%) Congenital abnormality Child development (1 year)
McGready, 2012 Thailand 2008-2009 [52]	PK AS: 20	2,3	Ultrasound	Both	Weekly	1 year	Not reported	CBC and biochemistry at baseline	Stillbirth/miscarriage Estimated gestational age at delivery / preterm birth Birth weight / low birth weight (%) Congenital abnormality Child development
Rijken, 2011 Thailand 2008 [53]	PK DP: 24 (control: 24 matched non-pregnant women)	2,3	Ultrasound	Both	Weekly	1 months	Not reported	CBC and biochemistry at baseline and on day 14	Stillbirth/miscarriage Congenital abnormality Neonatal mortality
Valea, 2014 Burkina Faso 2008-2009 [54]	PK ASMQ: 24 (control: 24 non-pregnant women)	2,3	LMP or fundal height	Parity	Passive follow-up	Not followed	Not reported	Total WBC count, total bilirubin, ALT, AST, creatinine at baseline and on day 14	Stillbirth/miscarriage Birth weight / low birth weight (%) Congenital abnormality

Additional file 3 continued.

Study Country Study year	Study design Treatment: N	Trimester	Estimation of gestational age	Parity or gravidity reported	Follow up until delivery	Length of follow-up after delivery	ECG	Blood test	Pregnancy outcomes reported
Juma, 2014 ^a Kenia 2012 [55]	PK AL: 45 (control: 25 non-pregnant women)	2,3	Not specified	INA	Not followed	Not followed	INA	Not reported	Not planned
Mosha, 2014 Tanzania 2012 [56]	PK AL: 33	2,3	LMP + fundal height	No	Not followed	Not followed	Not reported	WBC count with differential, platelet count, creatinine, ALT and AST at baseline, on day 14 and 28	Stillbirth/miscarriage within 42 days
Nyunt, 2016 Uganda 2013-2014 [57]	PK AL: 30 (control: 30 non pregnant adults)	2,3	LMP + ultrasound	No	Not followed	Not followed	Not reported	Not reported	None
Mutagonda, 2017 Tanzania 2014-2015 [58, 59]	PK AL: 60	2,3	Not specified	Gravidity	Not followed	Not followed	Not reported	Urea, creatinine, albumin and bilirubin at baseline	None
Adam, 2004b Sudan 2000-2002 [60]	Single-arm Q: 26	1	Ultrasound	Parity	Every 2 weeks	1 year	Not reported	Urea, creatinine, albumin and bilirubin at baseline	Stillbirth/miscarriage Preterm birth Birth weight Congenital abnormality Child development (up to 1 year) Infantile mortality

Additional file 3 continued.

Study Country Study year	Study design Treatment: N	Trimester	Estimation of gestational age	Parity or gravidity reported	Follow up until delivery	Length of follow-up after delivery	ECG	Blood test	Pregnancy outcomes reported
Adam, 2004c Sudan 1997-2001 [61]	Single-arm AM im: 28	1,2,3	Ultrasound	Parity	Every 2 weeks	1 year	Not reported	Urea, creatinine, albumin and bilirubin at baseline	Stillbirth/miscarriage Preterm birth Birth weight Head circumference Congenital abnormality Child development (up to 1 year) Perinatal mortality Maternal mortality
Adegnika, 2005 Gabon 2003-2004 [62]	Single-arm Q: 50	2,3	Not specified	Both	Monthly	Not followed	Not reported	Not reported	None
Adam, 2006 Sudan 2004-2005 [63]	Single-arm ASSP: 32	2,3	Ultrasound	Parity	Every 2 weeks	1 month	Not reported	Not reported	Stillbirth/miscarriage Preterm birth Birth weight Head circumference Congenital abnormality Child development (up to 1 month) Perinatal mortality Maternal mortality
Ndiaye, 2011 ^a Senegal 2009-2011 [64]	Single-arm ASAQ: 28	2,3	Fundal height + Dubowitz	INA	At delivery	9 months	Not reported	WBC count with differential, creatinine, ALT, and bilirubin at baseline, on day 7, 14, 28, 42 and at delivery. Blood glucose at baseline.	Stillbirth/miscarriage Gestational age at delivery Birth weight / low birth weight Height Congenital abnormality Child development (up to 9 months) Perinatal mortality

Additional file 3 continued.

Study Country Study year	Study design Treatment: N	Trimester	Estimation of gestational age	Parity or gravidity reported	Follow up until delivery	Length of follow-up after delivery	ECG	Blood test	Pregnancy outcomes reported
Iribhogbe, 2017b Nigeria INA [65]	Single-arm ASAQ: 42	2,3	Not specified	Both	No	No	Not reported	WBC count with differential, total and conjugated bilirubin, ALT, AST, ALP, cholesterol) on day 4	None
McGready, 1998a Thailand 1992-1996 [66]	Observational cohort AS: 55 AMMQ: 2 ASMQ: 23	1,2,3	LMP + fundal height + Dubowitz	No	Weekly	1-2 year	Not reported	Not reported	Stillbirth/miscarriage Gestational age at delivery Congenital abnormality Child development
McGready, 1998b Thailand 1991-1996 [67]	Observational cohort Q: 204	1,2,3	Dubowitz or LMP	Gravidity	Weekly	Not followed	Not reported	Total WBC count and platelet count at baseline	Stillbirth/miscarriage Gestational age at delivery Birth weight Congenital abnormality
McGready, 2001b Thailand 1992-2000 [68]	Observational cohort artemisinins: 539	1,2,3	Fundal height + Dubowitz or LMP	Both	Weekly	Not followed	Not reported	Not reported	Stillbirth/miscarriage Estimated gestational age at delivery Birth weight / low birth weight (%) Congenital abnormality Placental weight Maternal mortality

Additional file 3 continued.

Study Country Study year	Study design Treatment: N	Trimester	Estimation of gestational age	Parity or gravidity reported	Follow up until delivery	Length of follow-up after delivery	ECG	Blood test	Pregnancy outcomes reported
Rijken, 2008 Thailand 2006-2007 [73]	Observational cohort DP: 62	1,2,3	Not specified	Both	Weekly	1 month	Not reported	Not reported	Stillbirth/miscarriage Preterm birth Birth weight / low birth weight (%) Congenital abnormality Neonatal mortality
Rulisa, 2012 Rwanda 2007-2009 [74]	Observational cohort AL: (1072) †	1,2,3	LMP + fundal height + ultrasound(some)	Both	Monthly	Not specified	Not reported	Not reported	Stillbirth/miscarriage Preterm birth Birth weight Length, head circumference Congenital abnormality Neonatal mortality Maternal mortality
Kalilani, 2013 Malawi 2009-2010 [75, 76]	Observational cohort AL: 56	1,2	LMP + fundal height + Ballard score	Gravidity	Monthly	14weeks	Not reported	Not reported	Anaemia at delivery Stillbirth/miscarriage Estimated gestational age at delivery / preterm birth (%) Birth weight / low birth weight (%) / small for gestational age (%) Neonatal death

AAP: artesunate-atovaquone-proguanil, AC: artesunate-clindamycin, AL: artemether-lumefantrine, ALT: alanine aminotransferase, AQ: amodiaquine, AS: artesunate, AST: aspartate aminotransferase, CBC: complete blood count, CD: chlorproguanil-Dapsone, CHQ: chloroquine, DP: dihydroartemisinin(DHA)-piperaquine(PPQ), DRC: Democratic Republic of Congo, ECG: electrocardiography, LMP: last menstrual period, MQ: mefloquine, N: number of pregnant women who completed the follow-up, NA: data not available, PCR: polymerase chain reaction, PK: pharmacokinetic study, Q: quinine, QC: quinine-clindamycin, RCT: randomised controlled trial, SP: sulfadoxine-pyrimethamine. WBC: white blood cell.

† This number includes patients without parasitological confirmation. The exact number of parasitologically confirmed patients is not known. ‡ This study included patients enrolled in other studies. ^a: Conference abstract. ^b: Registered clinical trial. Planned number of participants is shown. NCT01054248 included *P. vivax* cases.