

Appendix 1. Quality assessment of studies included in the review

The major aim of quality assessment was to determine the potential for selection bias (eligibility criteria, sampling strategy, sample size, non-response rate and generalizability) and measurement bias (BP measurement techniques). These two biases are especially important in cross-sectional studies that aim to estimate prevalence. A total of 11 domains were assessed. A score of one was given for fulfilling conditions in each domain, 0.5 for partial fulfilment and zero otherwise. The maximum possible score was 11 and a study scoring seven or more was classified as high quality study and low quality study otherwise.

Domain	Conditions
Objectives	Clearly stated objective
Tribe description	Description of the tribe(s), from which a judgement could be made about the acculturation level and special features that may affect hypertension prevalence.
Study settings	Description of the study setting
Eligibility criteria	Clear description of eligibility criteria for participants (such as age group, sex, place of residence, absence of any ailments).
Sampling strategy	Detailed description of the sampling scheme used, based on which the type of sampling (random or non-random) can be determined. Random sampling was given a score of one and zero otherwise.
Sample size adequacy	Description of sample size calculations. If this was not done the relative precision was calculated (assuming simple random sampling) from the study sample size and estimated proportion. If the relative precision was less than or equal to 20% of the point estimate a score of one was given and zero otherwise.
BP measurement techniques	Detailed description of BP measurement techniques (preparation of the subject before measuring BP, position of the subject, type of apparatus used, number of readings taken, which value was taken as final reading, classification cut-off used) or give a reference of the procedures followed.
Non-response rate	Mention of non-response rate. If it was less than 20%, a score of one was given and zero otherwise.
Descriptive analyses	Description of socio-demographic profile of participants (age, sex, occupation, literacy and income).
Outcome data	Number of subjects classified as having hypertension or atleast the proportion from which number can be back calculated.
Discussion of generalizability	Should provide insights as to whether the findings can be generalized to similar populations elsewhere (discussion on possible biases).

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Appendix 2: Quality Assessment of 56 Included Studies

Authors	Title	Objectives	Tribe description	Study settings	Eligibility criteria	Sampling strategy	Sample Size Adequacy	BP measurement techniques	Non-response rate	Descriptive analyses	Outcome data	Discussion of generalizability	Total
Loh <i>et al.</i> , 2013	The association between risk factors and hypertension in Perak, Malaysia	1	0	1	1	1	0	0.5	0	1	1	1	8.5
Hanachi 2008	The association of hypertension with major risks factors among University Putra Malaysia retirees	1	1	1	1	0	1	0.5	0	1	1	1	7.5
Nazri <i>et al.</i> , 2008	The association of shift work and hypertension among male factory workers in Kota Bharu, Kelantan, Malaysia	0	1	1	0	1	1	0.5	0	1	1	0.5	8.5
Narayan and Khan, 2007	Blood pressure patterns and the prevalence of hypertension and its associated factors in a rural community in Northern Malaysia	1	1	1	1	0	0	0.5	0	1	1	1	7
Gan <i>et al.</i> , 1933	A blood pressure profile of rural Kadazans and Bajaus in Sabah, east Malaysia	1	0	1	1	0	0	1	0	1	1	1	7.5
Azuwani <i>et al.</i> , 2013	Body fat percentage distribution of an orang asli group (aborigines) in cameron highlands, Malaysia	1	1	1	1	0	0	0	1	1	1	1	7
Narayan and Khan, 2007	Body mass index and nutritional status of adults in two rural villages in northern malaysia	1	0	1	1	0	0	0.5	0	1	1	1	8
Hasnah <i>et al.</i> , 2012	Bone health status and lipid profile among post-menopausal Malay Women in Cheras, Kuala Lumpur	1	0	1	1	0	0	0	0	1	1	1	6.5
Lee <i>et al.</i> , 2010	Brief report Do university students have high cardiovascular risk A pilot study from Universiti Malaysia Sarawak (UNIMAS)	0	0	1	1	0	0	0	0	1	1	1	6
Chin <i>et al.</i> , 2009	Cardiovascular disease risk in a semirural community in Malaysia	1	1	1	1	0	0	1	1	1	1	1	5
Ismail <i>et al.</i> , 2016	Cardiovascular risk assessment between urban and rural population in Malaysia	1	1	1	1	0	0	0	0	1	1	1	9
Moy <i>et al.</i> , 2010	Cardiovascular risks among shift and non-shift workers in a public medical centre in Kuala Lumpur	1	1	1	1	0	0	0	1	1	1	1	7
Jamal <i>et al.</i> , 2014	Cohort Profile: The Malaysian Cohort (TMC) project: a prospective study of non-communicable diseases in a multi-ethnic population	1	1	1	1	0	0	0.5	0	1	1	1	8
Nasarudin <i>et al.</i> , 2016	Correlation between prehypertension and obesity indices among young adults	1	1	1	1	0	0	0.5	0	1	1	1	7.5
Nawawi <i>et al.</i> , 2002	Current status of coronary risk factors among rural Malays in Malaysia	1	1	1	1	1	0	1	0	1	1	1	7.5
Shahar <i>et al.</i> , 2011	Determinants of depression and insomnia among institutionalized elderly people in Malaysia	1	1	1	1	0	0	0	0	1	1	1	9
The <i>et al.</i> , 2014	Ethnic and gender differentials in non-communicable diseases and self-rated health in Malaysia	1	0	0	1	0	0	0	0	1	1	0	7
Cheah <i>et al.</i> , 2016	Hypertension and its association with anthropometric indexes among pre-university students	1	1	1	1	0	1	0.5	0	1	1	1	4
Ong <i>et al.</i> , 2010	Hypertension in a residential home for the elderly in Penang, Malaysia	1	1	1	1	0	0	1	1	1	1	1	8.5
Rasihah <i>et al.</i> , 2015	The impact of physical activity on cumulative cardiovascular disease risk factors among Malaysian adults	1	1	1	1	0	0	0	0	1	1	1	9
Lim and Ngah, 1991	The Mentakab Hypertension Study Project. Part III--Detection of hypertension in the outpatient department	1	1	1	1	1	0	0	0	1	1	0	7
Aniza <i>et al.</i> , 2016	Modifiable risk factors of cardiovascular disease among adults in rural community of Malaysia: A cross sectional study	1	1	1	1	1	0.5	1	0	1	1	1	7
Chua <i>et al.</i> , 2017	Obesity indices predict hypertension among indigenous adults in Krau Wildlife Reserve, Peninsular Malaysia	1	1	1	1	0	0	1	0	1	1	1	9.5
Aniza <i>et al.</i> ,	Obesity related hypertension - gender specific analysis among	1	1	1	1	0	1	0.5	0	1	1	1	8

2015	adults in Tanjung Karang, Selangor, Malaysia												
Yusoff <i>et al.</i> , 2010	Obstructive sleep apnea among express bus drivers in Malaysia: Important indicators for screening	1	0	1	1	1	1	0	0	1	1	1	8.5
Liao <i>et al.</i> , 2010	Outcomes of cardiovascular risk factors screening programme among employees of a Malaysian public university	1	1	1	1	0	0	0.5	0	1	1	1	8
Lian <i>et al.</i> , 2015	Physical activity and cardiovascular risk factors among Malays in selected rural and urban communities in Sarawak	1	1	1	1	0	0	0.5	0	1	1	1	7.5
Sidik <i>et al.</i> , 2004	Physical and mental health problems of the elderly in a rural community of Sepang, Selangor	1	1	1	1	0	0	0	1	1	1	1	7.5
Mohamed <i>et al.</i> , 2005	A preliminary result of the cardiovascular risk factors intervention study (Pikom study): Diabetes mellitus, hypertension and their associated factors	1	1	1	1	0	0	0.5	0	1	1	1	8
Amiri <i>et al.</i> , 2014	Prevalence and determinants of cardiovascular disease risk factors among the residents of urban community housing projects in Malaysia	1	1	1	1	1	1	0.5	0	1	1	1	7.5
Ong <i>et al.</i> , 2013	Prevalence and risk factors for proteinuria: the National Kidney Foundation of Malaysia Lifecheck Health Screening programme	1	0	1	1	0	0	1	0	1	1	1	9.5
Goh <i>et al.</i> , 2013	Prevalence and risk factors of non-alcoholic fatty liver disease in a multiracial suburban Asian population in Malaysia	1	0	1	1	0	0	1	0	1	1	1	7
Amplavanar <i>et al.</i> , 2010	Prevalence of Cardiovascular Disease Risk Factors Among Attendees of the Batu 9, Cheras Health Centre, Selangor, Malaysia	1	0	1	1	0	0	1	0	1	1	1	7
Shomad <i>et al.</i> , 2016	The prevalence of cardiovascular disease risk factors among students of international islamic university Malaysia, Kuantan Campus	1	0	1	1	1	1	1	0	1	1	1	7
Thon <i>et al.</i> , 2012	The Prevalence of Cardiovascular Risk Factors in the Young and Middle-Aged Rural Population in Sarawak, Malaysia	1	1	1	1	1	0	1	1	1	1	1	9
Samsudin <i>et al.</i> , 2016	The prevalence of diabetes mellitus and hypertension and its effects on healthcare demand among elderly in Malaysia	1	1	1	1	0	0	0	0	1	1	1	10
Khan <i>et al.</i> , 2008	The prevalence of hypertension among the elderly in fourteen villages in Kedah, Malaysia	1	1	1	1	0	0	1	0	1	1	1	7
Rshid and Azizah, 2011	Prevalence of hypertension among the elderly Malays living in rural Malaysia	1	1	1	1	0	0	1	1	1	1	1	8
Rampal <i>et al.</i> , 2011	Prevalence of hypertension and its associated factors among university staff	1	0	1	1	1	0	1	1	1	1	1	9
Ghazi <i>et al.</i> , 2017	Prevalence of hypertension and its association with nutritional factors among university students in Shah Alam, Malaysia	1	1	1	1	0	0	1	0	1	1	1	9
Zainuddin <i>et al.</i> , 2011	The prevalence of metabolic syndrome according to various definitions and hypertriglyceridemic-waist in Malaysian adults	1	1	1	1	0.5	0	1	0	1	1	1	8
Tan <i>et al.</i> , 2008	Prevalence of Metabolic Syndrome among Malaysians using the International Diabetes Federation, National Cholesterol Education Program and Modified World Health Organization Definitions	1	1	1	0.5	1	0	1	0	1	1	1	8.5
Nazri <i>et al.</i> , 2008	Prevalence of overweight and self-reported chronic diseases among residents in Pulau Kundur, Kelantan, Malaysia	1	1	1	1	1	0	0	0	1	1	1	8.5
Sherina <i>et al.</i> , 2011	Prevalence of urban poor and its health related factors in the state of Selangor, Malaysia	1	1	1	1	1	1	0	1	1	1	1	8
Annamalai <i>et al.</i> , 2011	Prevalence, awareness and control of hypertension in estate workers in Malaysia	1	1	1	1	1	0	0.5	0	1	1	1	10
Chow <i>et al.</i> , 2013	Prevalence, awareness, treatment, and control of hypertension in rural and urban communities in high-, middle-, and low-income countries	1	1	1	1	0	0	1	0	1	1	1	8.5

Appendix 3: Characteristics of Included studies								
Author/Year	Study Setting	Study Design	States	Geographical area	Mean age, years	No. of patient with hypertension	Total Sample Size (n)	Prevalence of hypertension, %
Abdul-Razak <i>et al.</i> , 2016	Community	CS	Malaysia	Both	53.02	5409	11288	47.9
Adrian <i>et al.</i> , 2008	Community	CS	Malaysia	N/A	N/A	86	213	40.4
Akter <i>et al.</i> , 2010	Community	CS	Pahang	Rural	44.9	78	219	35.6
Amiri <i>et al.</i> , 2014	Community	CS	Selangor	Urban	41.5	431	1096	39.3
Amplavanar <i>et al.</i> , 2010	Clinic	CS	Selangor	N/A	46.9	1286	3765	34.2
Aniza <i>et al.</i> , 2015	Community	CS	Selangor	Urban	N/A	266	1107	24.0
Aniza <i>et al.</i> , 2016	Community	CS	Selangor	Rural	44.9	588	1489	39.5
Annamalai <i>et al.</i> , 2011	Community	CS	Johor	N/A	N/A	243	903	26.9
Azuwani <i>et al.</i> , 2013	Community	CS	Pahang	Rural	N/A	58	138	42.0
Bee <i>et al.</i> , 2008	Community	CS	Selangor	N/A	N/A	36	109	33.0
Chang <i>et al.</i> , 2012	Community	CS	Sarawak	Rural	44.3	36	260	13.9
Cheah <i>et al.</i> , 2015	Community	CS	Sarawak	N/A	18.2	16	218	7.3
Chee <i>et al.</i> , 2002	Community	CS	Selangor	N/A	30.5	17	968	1.8
Chin <i>et al.</i> , 2009	Community	Cohort	Selangor	Rural	65.4	743	1417	52.4
Chow <i>et al.</i> , 2013	Community	CS	Malaysia	Both	51.13	5321	11324	47.0
Chua <i>et al.</i> , 2017	Community	CS	Pahang	Rural	35.4	123	482	25.5
Gan <i>et al.</i> , 1993	Community	CS	Sabah	Rural	N/A	105	648	16.2
Ghazi <i>et al.</i> , 2017	Community	CS	Selangor	Urban	21.73	41	410	10.0
Goh <i>et al.</i> , 2013	Hospital	CS	Selangor	Urban	46	358	1621	22.1
Hasnah <i>et al.</i> , 2012	Community	CS	Selangor	Urban	N/A	43	125	34.4
Hazmi <i>et al.</i> , 2015	Hospital	CS	Kelantan	N/A	43.5	44	308	14.3
Ministry of Health Malaysia, 2015	Community	CS	Malaysia	Both	N/A	7225	23845	30.3
Ismail <i>et al.</i> , 2016	Community	CS	Selangor	Both	51.1	1386	5505	25.2
Jamal <i>et al.</i> , 2015	Community	Cohort	Malaysia	Both	N/A	49418	106527	46.4
Loh <i>et al.</i> , 2013	Community	CS	Perak	Rural	N/A	1076	1961	54.9
Khan <i>et al.</i> , 2008	Community	CS	Kedah	Rural	69.8	140	240	58.3
Latiffah <i>et al.</i> , 2008	Community	CS	Selangor	Urban	60	29	73	39.7
Latiffah <i>et al.</i> , 2008	Community	CS	Selangor	Urban	73.49	47	92	51.1
Lee <i>et al.</i> , 2010	Community	CS	Sarawak	Urban	23.1	29	226	12.8

Lian <i>et al.</i> , 2015	Community	CS	Sarawak	Both	45.6	56	223	25.1
Liau <i>et al.</i> , 2010	Community	CS	Penang	Urban	N/A	41	206	19.9
Lim <i>et al.</i> , 1991	Hospital	CS	Selangor	N/A	N/A	112	368	30.4
Ministry of Health Malaysia, 2006	Community	CS	Malaysia	Both	43.7	661	2572	25.7
Mohamad Isa <i>et al.</i> , 2010	Hospital	CS	Selangor	Urban	49.4	77	380	20.3
Mohamed <i>et al.</i> , 2005	Community	CS	Malaysia	Rural	N/A	1358	4117	33.0
Mohd Nazri <i>et al.</i> , 2008	Community	CS	Kelantan	Urban	31.95	20	148	13.5
Mohd Nazri <i>et al.</i> , 2008	Community	CS	Kelantan	Urban	40.7	44	348	12.6
Mohd Yusoff <i>et al.</i> , 2010	Community	CS	Selangor	Urban	43.8	87	289	30.1
Narayan <i>et al.</i> , 2007	Community	CS	Kedah	Rural	45.5	161	479	33.6
Narayan <i>et al.</i> , 2007	Community	CS	Kedah	Rural	45.5	142	431	33.0
Nawawi <i>et al.</i> , 2001	Community	CS	Pahang	Rural	44.5	184	608	30.3
Ng <i>et al.</i> , 1995	Community	CS	Perak	Urban	N/A	90	427	21.1
Ong <i>et al.</i> , 2010	Community	CS	Penang	Urban	N/A	74	205	36.1
Ong <i>et al.</i> , 2013	Community	CS	Malaysia	N/A	41	12148	40400	30.1
Raihan <i>et al.</i> , 2013	Community	CS	Selangor	N/A	N/A	36	251	14.3
Rampal <i>et al.</i> , 2011	Community	CS	Selangor	Urban	42.86	156	454	34.4
Rashid <i>et al.</i> , 2011	Community	CS	Kedah	Rural		228	418	54.6
Rasiah <i>et al.</i> , 2015	Community	CS	Malaysia	N/A	51.8	2502	6690	37.4
Shahar <i>et al.</i> , 2011	Community	CS	Negeri Sembilan	N/A	69.5	23	71	32.4
Shamzaeffa <i>et al.</i> , 2016	Community	CS	Malaysia	N/A	N/A	599	1414	42.4
Sherina <i>et al.</i> , 2011	Community	CS	Selangor	Urban	N/A	25	202	12.4
Shomad <i>et al.</i> , 2016	Community	CS	Pahang	Urban	22.5	2	56	4.0
Sidik <i>et al.</i> , 2004	Community	CS	Selangor	Rural	69.7	49	223	22.0
Siti Hasnah <i>et al.</i> , 2016	Community	CS	Selangor	Rural	N/A	113	535	21.1
Teh <i>et al.</i> , 2014	Community	CS	Malaysia	Both	N/A	1219	3406	35.8
Zainuddin <i>et al.</i> , 2011	Community	CS	Kelantan	Rural	N/A	111	298	37.3

Note: CS= Cross-section, N/A=Not available.