Differences between protocol and review

1. We modified the review population from neonates to neonates, infants and children because we found there was no study on specific neonatal population. And there were studies eligible for the review, however, they included neonates, infants and children and did not clearly group them.

2. We removed the intervention of transpyloric tube placement verification as we recognized blind insertion of transpyloric tube is challenging and the successful rate is not satisfactory, with 38% reported in October and Hardart's study (2009). In addition, several studies recently have investigated electromagnetic-guided device in transpyloric tube placement in children and demonstrated high correct position success and decreased time of insertion (Goggans et al., 2017; Koot et al., 2011) which may be used as an alternative to guide transpyloric tube insertion and tube position verification.

3. We added two index tests, i.e., color reading of aspirate and auscultation. We thought these two methods had been discontinued in gastric tube position verification in that most guideline professional organizations (Child Health Patient Safety Organization, 2012; Cincinnati Children's Hospital Medical Center Best Evidence Statement, 2011; Guidelines and Audit Implementation Network, 2015; National Patient Safety Agency, 2011; Western Health and Social Care Trust, 2017) discouraged to use them. However we found they may be useful showed in the literature we searched.

4. We made one modification to QUADAS-2 tool, as following:

Domain 1: patient selection: We rephrased an original signalling question, 'Was a case-control design avoided?' as 'Did all patients pass through a single set of criteria for study admission?'. The 'diagnostic case-control studies' are typically referred to studies in which the disease status is already known before the index test is performed. However, unlike etiologic studies, diagnostic accuracy studies are cross-sectional in nature, and simply reversing the order in which the index test and reference standard are performed will not

change estimates of diagnostic accuracy as long as the same group of patients is included in analysis and all participants receive both the index test and reference standard. Namely, all patients pass through one single set of criteria (Rutjes et al., 2005). We hence made the change to avoid studies of 'reversed-flow design' in which the index test and reference standard are performed in reverse order, e.g. reference standard before index test, to be regarded as high risk in the domain of patient selection.

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