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Safety and efficacy of early oral feeding for enhanced recovery following gastrectomy for gastric cancer: A systematic review

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ABSTRACT

Background: Early oral feeding (EOF) is believed to be a crucial item of Enhanced Recovery After Surgery (ERAS) programs. Though this is widely accepted for colorectal surgery, evidence for early oral feeding after gastrectomy is scarce. The aim of this review is to assess the evidence of safety and benefits of early oral feeding after gastrectomy in patients with gastric cancer.

Methods: A systematic literature search of Pubmed, Embase and Cochrane was performed for eligible studies published till September 2018. Studies were analyzed and selected by predetermined criteria.

Results: After having assessed 23 eligible articles, a total of four randomized controlled trials (RCT) remained who fully met all requirements to be included in this review. All four RCTs compared early oral feeding (n = 320) with conventional care (n = 334) after gastrectomy. In all four studies, EOF was associated with a decreased length of hospital stay ranging from −1.3 to −2.5 days when compared to conventional care. A faster time to first flatus was recorded in all four studies in the EOF group, ranging from −6.5 hours to −1.5 days. Furthermore, EOF does not increase postoperative complication risk when compared to conventional care.

Conclusion: Current evidence for early oral feeding after gastrectomy is promising, proving its safety, feasibility and benefits. However, most studies have been conducted amongst an Asian population. Well powered and larger randomized controlled trials performed amongst a Western population is needed.

1. Introduction

Gastric cancer is the fourth most common malignancy worldwide, showing a prevalence of 8% and a yearly mortality rate of about 10% of all patients diagnosed with gastric cancer [1,2]. Several authors have proven that surgical resection is the only curative treatment for gastric cancer, assuring long-term survival [3]. Surgical resection with lymph-node dissection is the only treatment that can result in curation or long-term survival, increasing the 5-year survival rate up to 45% [3]. The majority of European patients present with advanced stage gastric cancer, which means stage III or IV (AJCC 7th edition) [4]. These patients have a 5-year survival rate of 25% and advanced stage gastric cancer by the time of diagnosis [5]. Though gastric resection ensures promising results, it is not without risk. Surgical resection of gastric cancer is quite an invasive procedure that comes with a high risk of complications [4,6]. It also requires a lengthily period of recuperation depending on the need of adjuvant therapy or other interventions. On average, patients need six months to a year before regaining full quality of life.

Developments within gastrointestinal surgery practices over the past decades have increasingly focused on the enhanced postoperative recovery of surgical patients. This is done with the intent to improve the postoperative outcomes by promoting fast-track recovery and optimizing perioperative procedures and care [7,8]. Within the Enhanced Recovery After Surgery (ERAS) protocol, early feeding postoperatively is believed to play a crucial role [9,10]. Although widely accepted for colorectal surgery, for patients undergoing gastrectomy, surgeons are still hesitant to implement early oral feeding, fearing postoperative complications such as anastomotic leakage. Benefits might include a shorter hospital stay and a better quality of life, without compromising the safety of the patient [10,11]. In addition, early oral feeding could possibly be cost-effective.

With the increasing use of ERAS programs, evidence supporting early oral feeding after gastrectomy could enable its implementation in Western countries. The aim of this review is to assess the available literature on the safety and benefits of early oral feeding after gastric resection.

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2. Objective

The aim of this review is to assess the evidence of safety and benefits of early oral feeding after gastric resection in patients with gastric cancer.

3. Design

A systematic review was conducted according to the *Cochrane Handbook for Systematic Review of Interventions* version 5.1.0 (The Cochrane Collaboration 2011, Higgins & Green 2011).

4. Methods

4.1. Search strategy

A literature search using PubMed, Embase and Cochrane library databases was performed for studies published up to September 2018. The following search terms along with their synonyms were used: stomach neoplasms, gastric cancer, gastrectomy, enteral nutrition, early feeding, enhanced recovery and fast track surgery (Fig. 1). Bibliographies from selected studies were also screened for potential eligible studies.

4.2. Selection procedure

The study screening was conducted by two independent reviewers (TT & YE). The following inclusion criteria were used; selected studies were limited to randomized controlled trials (RCT), who compared early oral feeding with conventional postoperative care (nil per os for a determined period) in patients receiving gastrectomy for gastric cancer. Comparative studies that included patients undergoing early enteral nutrition via nasojejunal tubes or jejunostomies were excluded. All articles which researched surgical interventions other than gastrectomies for gastric malignancies, non-English text or unavailability of the full text were also excluded.

4.3. Outcomes

The primary outcome was length of hospital stay. Secondary outcomes were time to first flatus, hospitalization costs, mortality (within 30 days) and morbidity defined as postoperative complications (anastomotic leakage, surgical site infection, wound dehiscence, postoperative ileus, pneumonia, urinary tract infection).

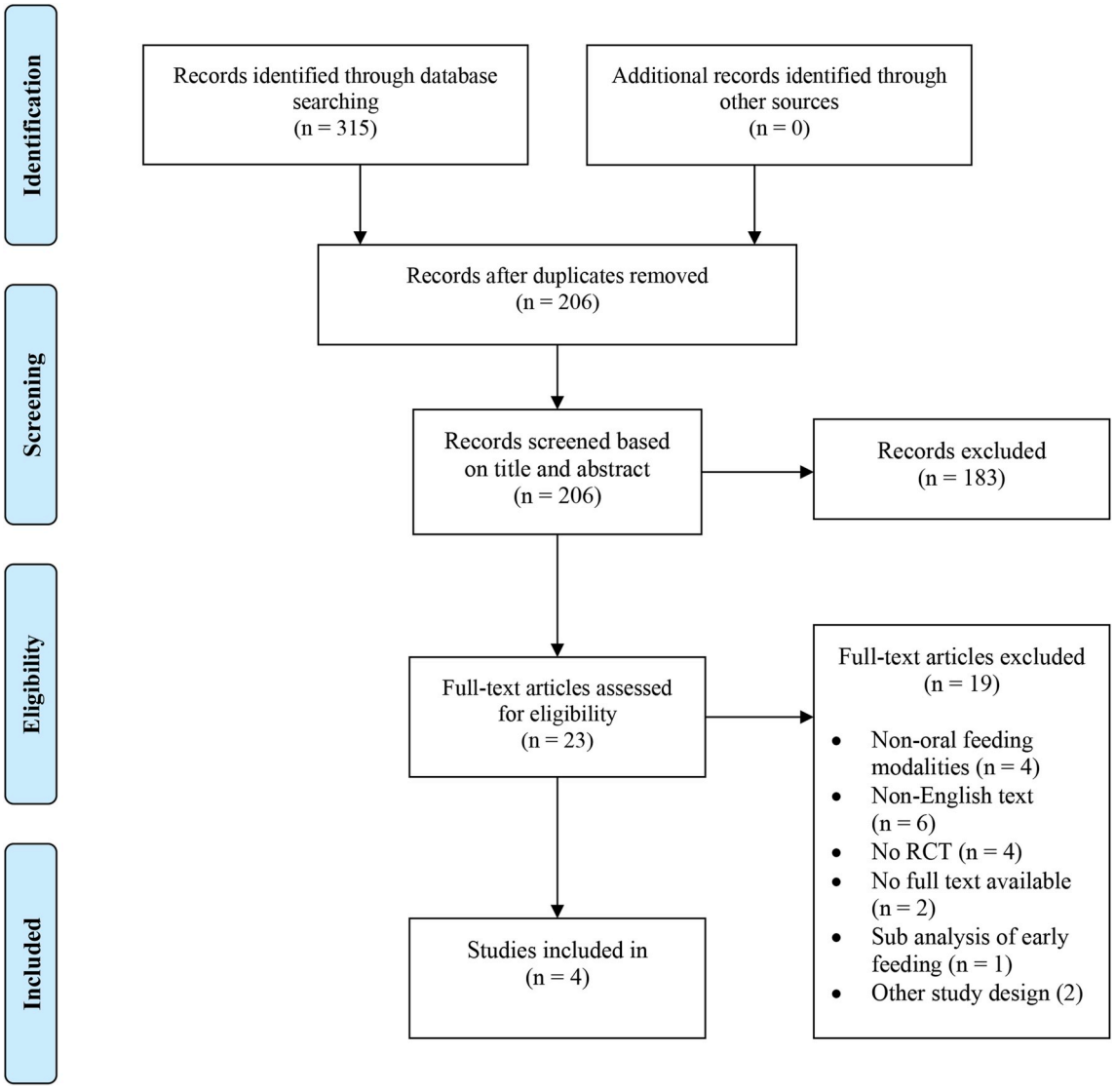

Fig. 1. Flow chart.

4.4. Quality assessment

Quality of evidence was assessed by two reviewers independently (TT & YE) and categorized according to the 2011 levels of evidence and grades of recommendation as used by the Oxford center of Evidence-based Medicine [12]. If there was disagreement on the inclusion of studies, a third reviewer (JS) was asked to determine the inclusion of the study.

4.5. Assessment of bias

All included studies were examined for quality and risk of bias in accordance with the Cochrane Risk of Bias Tool for Randomized Controlled Trials [13]. Each article was examined across all domains of selection, allocation concealment, selective reporting, performance, detection, attrition and other bias.

5. Results

5.1. Selected studies

The initial search resulted in a total of 315 studies from all databases. After the removal of duplicates, a total of 206 references were screened and assessed for eligibility. Each of the remaining 23 articles were thoroughly assessed based on full text. After application of the inclusion- and exclusion criteria, a total of four studies remained. Fig. 1 shows a flowchart detailing the process of study identification and selection according to the PRISMA statement.

The study and baseline characteristics of the included studies are shown in Tables 1 and 2, respectively. All four studies were performed in an Asian country between 2011 and 2015, with a level of evidence ranging from I to III. Three of the four included studies were analyzed as 'fair quality' [14–16]. One study was analyzed as 'poor quality' [17]. In each of the four studies, early oral feeding was commenced on postoperative day one. Feeding in the conventional care groups were commenced on either postoperative day three, after first flatus or according to conventional care of the participating centers. Relevant outcomes such as length of hospital stay, time to first flatus and postoperative complications were analyzed in all four studies. However, not all outcomes of interests were evaluated by all four studies (stage of disease, reconstruction, cost analysis). In addition, Shimizu et al. analyzed the "allowable discharge day", which was defined as the day that each patient met the following 7 criteria: no intravenous infusions needed; a caloric intake of 700 kcal or more; all drains removed; extradural anesthesia not required; no pyrexia; confirmation of postoperative flatus and defecation.

Baseline characteristics in each of the four studies were similar between the early oral feeding groups and conventional care groups (see Table 2). Hong et al. included only patients who underwent a laparoscopic distal gastrectomy with Billroth-II reconstruction. The other studies, all included patients who received either a subtotal gastrectomy or a total gastrectomy. Shimizu et al. separately analyzed their results for each resection type. No difference was found in the baseline characteristics in neither of the resection type groups. Neither Hur et al. nor Li et al. found a difference in type of resection (subtotal versus total) between the early oral feeding group and the conventional feeding group. Moreover, Hur et al. found no difference between the two groups concerning the Roux-en-Y, Billroth I & Billroth II reconstruction.

5.2. Non-included studies

Articles that did not meet the inclusion criteria were excluded from this systematic review. From these 19 excluded articles, eight were unavailable either because of no available full text or non-English text (Chinese, Korean, Portuguese, Polish, Spanish) [18–25]. Based on their titles and abstracts, it was not clear whether enteral nutrition was used via an oral route in these articles. From the remaining excluded articles, four of these did not research the effects of direct oral feeding, but made use of feeding tubes [26–29]. Four other articles were excluded because of non-randomization [30–33]. One article was excluded because early oral feeding was a subgroup analysis [34]. Lastly, two articles were excluded based on their study design. Both studies researched the effects of a ERAS program in its whole versus conventional care [16].

5.3. Primary outcome

The differences in length of hospital stay between early oral feeding and conventional care reported by Hur et al. and Li et al. were -1.3 days with $p = 0.044$ and -2.04 days with $p = 0.002$, respectively. Hong et al. found a difference of -1.41 days with $p = 0.048$. In the distal gastrectomy group, Shimizu et al. found no difference in hospital stay, both the early oral feeding group and conventional care group had a median length of hospital stay of 10 days ($p = 0.921$). Similarly, no difference was found in "allowable hospital discharge" day, both the early oral feeding group and conventional care group had a median length of hospital stay of 6 days ($p = 0.458$). In the total gastrectomy group, a difference of - 2 days with $p = 0.007$ was found in favor of the

Table 1
Characteristics of the included studies.

	Study Characteristics			
	Hur et al., 2011	Li et al., 2015	Hong et al., 2014	Shimizu et al., 2018
Level of evidence	II	II	III	I
Assessment of bias	Fair quality	Fair quality	Poor quality	Fair quality
Country	Korea	China	China	Japan
Study design	RCT – single center	RCT – single center	RCT – single center	RCT – multicenter
Outcomes	Primary: Duration of hospital stay Secondary: Postoperative mortality and morbidity. Recovery of bowel function. Postoperative symptoms. Intensity of pain. Cost of hospitalization. QoL.	Postoperative fever duration, anal exhaust time. Length of hospital stay. Hospitalization cost.	Primary: First passage of flatus (days). Hospital stay (days). Secondary: Reoperations. Complications. QoL	Primary: Length of hospital stay (days) Secondary: Allowable discharge day. Oral energy intake, change in body weight, vital signs, laboratory changes, pain rating, morbidity and mortality.
Early oral feeding (EOF)	POD1	POD1	POD1	POD 1
Conventional care (CC)	POD3	After 1st flatus	POD3	According to CC of each participating center

RCT = randomized controlled trial. EOF = early oral feeding. CC = conventional care. POD = postoperative day. QoL = quality of life.

Table 2
Baseline characteristics.

	Hur et al., 2011			Li et al., 2015			Hong et al., 2014			Shimizu et al., 2018					
	EOF (n = 28)	CC (n = 26)	p -value	EOF (n = 150)	CC (n = 150)	p -value	EOF (n = 40)	CC (n = 44)	p -value	EOF(n = 70)	CC(n = 84)	p -value	EOF(n = 32)	CC(n = 30)	p -value
										Distal gastrectomy			Total gastrectomy		
Age[a] (mean)			**0.724**	59.2	60.4	**0.553**	55.54	52.14	**0.325**	64.5	64.0	**0.487**	68.5	68.5	**0.556**
< 65	24 (86%)	21 (81%)		–	–		–	–		–	–		–	–	
≥65	4 (14%)	5 (19%)		–	–		–	–		–	–		–	–	
Sex			**0.107**			**0.995**			**0.666**			**0.107**			**0.660**
Male	20 (71%)	13 (50%)		76	78		29	30		36	54	–	25	22	
Female	8 (29%)	13 (50%)		74	72		11	14		34	30		7	8	
BMI (mean)			**0.872**	22.3	22.4	**0.965**	24.16	23.38	**0.353**	–	–	–	–	–	–
< 25 kg/m2	21 (70%)	19 (73%)		–	–						–	–			
≥25 kg/m2	7 (25%)	7 (27%)		–	–										
ASA score			**0.089**	–	–	–	–	–	–	–	–	–	–	–	–
0	10 (36%)	4 (15%)													
1,2	18 (64%)	22 (85%)													
Stage disease	–			EGC			ECG + AGC			ECG + AGC			EGC + AGC		
Procedure			**0.841**			**0.206**									
TG	6 (21%)	5 (19%)		31	25		–	–	–	–	–	–	32	30	–
SG	22 (79%)	21 (81%)		119	125		40	44		70	84		–	–	
Reconstruction			**0.873**									**0.141**			
R&Y	6 (21%)	5 (19%)		–	–	–	–	–	–	7	33		32	30	–
B-I	3 (11%)	4 (15%)								49	47		0	0	
B-II	19 (68%)	17 (65%)								4	4		0	0	

[a] Data presented as median (range) in Shimizu et al. EOF = early oral feeding. CC = conventional care. ASA = American Society Anesthesiologist. ECG = early gastric cancer. AGC = advanced gastric cancer. TG = total gastrectomy. SG = subtotal gastrectomy. R&Y = Roux-en-Y. B-I = Billroth-I. B-II = Billroth-II.

early oral feeding group. For the "allowable hospital discharge", a difference of - 2.5 days with $p = 0.003$ was found in favor of the early oral group. With exception of the distal gastrectomy group in one study, in all 4 studies, the length of hospital stay was significantly lower for the early oral feeding group than the conventional care group.

5.4. Secondary outcomes

For the time to first flatus, only Li et al. recorded the results in hours, reporting a difference of −6.5 h following early oral feeding ($p = 0.011$). The other three studies recorded this outcome in days. Hur et al. found a difference of −1 day ($p = 0.036$). Hong et al. found a difference of −1.5 days ($p = 0.044$). Shimizu et al. found no difference in the distal gastrectomy group, both the early oral feeding group and conventional care group had a median time to first flatus of 2 days ($p = 0.333$). As for the total gastrectomy group, a difference of - 1 day ($p = 0.003$) was found in time to first flatus. With exception of the distal gastrectomy group of Shimizu et al. in all studies, early oral feeding resulted in a shorter time to first flatus when compared to conventional care.

Each study defined morbidity differently and looked at different complications throughout their individual studies. Hur et al. defined morbidity as postoperative complications occurring within 30 days; complications were reported in 25% of patients in the early oral feeding group and in 31% of patients in the conventional care group ($p = 0.636$). In the early oral feeding group, no cases of anastomotic leakage or reoperations were recorded. In the conventional care group, two patients required reoperations for anastomotic leakage and intra-abdominal bleeding, respectively. Similar results were obtained by Li et al. who included gastrointestinal symptoms (nausea, vomiting, bloating, diarrhea) as postoperative complications as well. Complications were reported in 21% of patients in the early oral feeding group and in 26% of patients in the conventional care group ($p = 0.233$). Separate analyses of complications were not conducted in this study. Following the same trend, Hong et al. described morbidity as postoperative outcomes entailing the occurrence of; reoperations, anastomotic leakage, fever, wound infection, wound bleeding and wound dehiscence. Early oral feeding was associated with a lower incidence of postoperative complication risk ($p < 0.05$). As for Shimizu et al., morbidity was defined as postoperative complications of Clavien-Dindo classification grade II or higher. In the distal gastrectomy group, complications were reported in 21.3% of patients in the early oral feeding group and in 9.0% of patients in the conventional care group ($p = 0.045$). In the total gastrectomy group, complications were reported in 26.8% of patients in the early oral feeding group and in 18.2% of patients in the conventional care group ($p = 0.379$). All four studies, with exception of the distal gastrectomy group in Shimizu et al. found that early oral feeding does not increase the postoperative complication risk (Table 3).

Two studies provided analyses on hospital admission costs, see Table 3. The average hospitalization costs did not differ between groups. In Hur et al. the average hospitalization cost for early oral feeding was $7.749 US dollars compared to $8.415 US dollars after conventional care ($p = 0.294$). In contrast, Li et al. did find significantly reduced hospitalization costs after early oral feeding. Hospitalization costs for the early oral feeding group were $4800 US dollars and for conventional care group $5500 US dollars ($p < 0.001$).

6. Discussion

This systematic review evaluated the safety and benefits of early oral feeding after gastric resection for patients with gastric cancer, assessing its effects on postoperative outcomes. The results show that early oral feeding leads to a shorter length of hospital stay and faster recovery of bowel function. In addition, early oral feeding does not seem to increase the risk of postoperative complications and mortality,

Table 3
Results.

	Hur et al., 2011			Li et al., 2015			Hong et al., 2014			Shimizu et al., 2018					
	EOF (n = 28)	CC (n = 26)	p - value	EOF (n = 150)	CC (n = 150)	p - value	EOF (n = 40)	CC (n = 44)	p - value	EOF (n = 70)	CC (n = 84)	P-value	EOF (n = 32)	CC (n = 30)	P-value
										Distal Gastrectomy			Total gastrectomy		
Hospital stay[a] (in days, mean ± SD)	7.2 ± 1.7	8.5 ± 2.9	**0.044**	7.73 ± 2.13	9.77 ± 1.76	**0.002**	6.28 ± 1.26	7.69 ± 1.53	**0.048**	10 (5–7)	10 (5–31)	**0.921**	10 (7–16)	12 (7–14)	**0.007**
Allowable hospital discharge (in days, median(range))	–	–	-	–	–	-	–	–	-	6 (3–69)	6 (4–17)	**0.458**	6.5 (3–15)	9 (4–45)	**0.003**
Time to first flatus[a] (in days[b], mean ± SD)	1.9 ± 1.2	2.9 ± 0.8	**0.036**	78.8 ± 9.3 h	85.5 ± 8.4 h	**0.011**	2.06 ± 1.47	3.56 ± 1.04	**0.044**	2 (1–3)	2 (1–6)	**0.333**	2 (1–4)	3 (1–6)	**0.003**
Cost analysis	$ 7749 ± 1250	$ 8415 ± 2945	**0.294**	$ 4.800 ± 0.84	$ 5.500 ± 0.75	**< 0.001**	–	–	–	–	–	–	–	–	–
Morbidity[c] n (%)	7 (25%)	8 (31%)	**0.636**	21 (14.0%)	26 (17.3%)	**0.233**	2 (5.0%)	3 (6.82%)	**> 0.05**	17 (21.3%)	8 (9.0%)	**0.045**	11 (26.8%)	6 (18.2%)	**0.379**

[a] Data presented as median (range) in Shimizu et al.
[b] Time to first flatus in Li et al. recorded in hours.
[c] Percentages were calculated for data Shimizu et al. EOF = early oral feeding. CC = conventional care.

and may be cost-effective when compared to conventional care. There were only four eligible randomized controlled trials, three of fair quality and one of poor quality, who were all conducted amongst an Asian population with a relatively small research population. This review highlights the lack of studies, specifically randomized controlled trials, regarding early oral feeding after gastrectomy for gastric cancer.

Early oral feeding is widely accepted for colorectal surgery with proven safety and efficacy. It is associated with shorter hospital stays, faster recovery of gastrointestinal function with no increased risk for postoperative complications or death [35–37]. For major upper gastrointestinal (GI) surgery, Lassen et al. showed in a randomized controlled trial, that starting early oral feeding does not increase the postoperative morbidity when compared to the conventional nil per os protocol. However, this study included all major upper GI surgery making it a heterogeneous study population. Thus, this conclusion may not be entirely representative for subtotal and total gastrectomies for gastric cancer [38].

In this current study, all four studies were conducted amongst Asian populations, limiting the applicability of the obtained results. Not all outcome measures of interest were equally reported in these four studies. The outcome measurements that were reported in all four studies were; length of hospital stay, time to first flatus and complications. Baseline characteristics such as the ASA-score, stage of disease and type of surgical procedure gives valuable information on the pre- and postoperative state of a patient. However, none of the four included studies evaluated all three of the afore mentioned components. This results in an incomplete overview of the studied populations. Furthermore, only two studies. intentionally included advanced stage gastric cancer [16,17]. One study on the other hand intentionally excluded advanced stage gastric cancer [15]. Of note, advanced stage gastric cancer is more common in the Western population and early stage gastric cancer is more common in the Asian population. Upon reviewing the differences between the studies with respect to the reported baseline characteristics, there is undoubtedly a factor of heterogeneity. This is mainly due to the difference in the sample size, surgical technique and stage of disease. The lack of information in these studies regarding the type of reconstruction is also a possible important factor of heterogeneity. As this review is only composed of these four studies, the information extracted hereof is limited to the Asian population and cannot easily be extrapolated to a Western population.

Current practices in Western countries vary with respect to postoperative feeding after gastrectomy. The usual start of oral intake varies between postoperative day one and postoperative day four, depending on the surgeon, procedure and reconstruction that has been performed. The distinction between gastric resection types and reconstruction is of importance due to several contributing factors. Subtotal gastrectomy is usually performed on gastric cancer that is located in the lower two thirds of the stomach. Total gastrectomy is usually performed on advanced gastric cancer or gastric cancer involving the upper third of the stomach and sometimes the lower part of the esophagus, leading to a esophagojejunostomy reconstruction. When compared to total gastrectomy, subtotal gastrectomy has been associated with fewer complications, morbidities and mortalities [39–41]. The most feared complication is anastomotic leakage, which on average is seen more in total gastrectomy than subtotal gastrectomy [41]. Such complication usually leads to re-intervention either via (laparoscopic) surgery or endoscopy, pared with prolonged intravenous antibiotic treatment. A study showed that the average start of oral intake after subtotal gastrectomy is 1–3 days compared to 2–4 days after total gastrectomy, most after a swallow study has been performed [42].

As previously mentioned, in this study the majority of the performed gastric resections were subtotal gastrectomies. Shimizu et al. was the only one of the four included studies who performed separate analyses for subtotal- and total gastrectomies. However, the calculated target sample size for the total gastrectomy group was not met, decreasing the external validity of the found results. None of the remaining studies performed separate sub analyses for subtotal and total gastrectomy. Because of the heterogeneous character of these results, no clear separate conclusion can be drawn with respect to early oral feeding for subtotal and total gastrectomies.

Especially for gastric cancer surgery patients, their nutritional status before and after surgery is of utmost importance. Because of the mechanical and pathological processes of gastric cancer, patients tend to eat less and lose weight faster. After surgery, the eating capacity of these patients are significantly decreased, depending on the type of resection, and their caloric intake is hereby depleted. The European Society for Clinical Nutrition and Metabolism (ESPEN) has several recommendations for the pre- and postoperative management of the nutritional status of the cancer patient undergoing surgery [43,44]. Shimizu et al. found that patients in the early oral feeding group, for both types of resection, showed significantly higher oral energy intake on POD 1–7 ($p < 0.001$). Currently, the chosen outcome in literature to asses early oral feeding in gastric cancer surgery patients is length of hospital stay. That is why our systematic review focused on this outcome as our primary outcome measure. However, it is important for future studies to also analyze the caloric intake of the patient receiving early oral feeding after gastrectomy, to assess the effects and benefits hereof.

From the studies included in this review, one can conclude that early oral feeding does not increase the postoperative complication risk. On the contrary, it shortens postoperative hospitalization, and can be cost effective. Adding to the already known benefits of ERAS, such early feeding protocol may improve the overall quality of life of gastric cancer patients.

In this systematic review, a few limitations were noted. First, we only included articles written in English, thus possibly excluding relevant studies written in another language. Second, as previously mentioned, the heterogeneity of the included studies is another limitation of this study. This could possibly limit the strength of the conclusions drawn from the included studies. Third, a meta-analysis was not conducted with the included studies. There was not enough pliable data in the published articles to conduct a meta-analysis, and unfortunately, we received no reply after contacting the authors for original data. Furthermore, though we attempted to include homogeneous studies, a few outcomes were not calculated with equal measurements, leading to heterogeneity of data in these four studies and thus, decreasing the chance of conducting a meta-analysis. Last, this review lacks studies regarding early oral feeding after gastrectomy in the Western population as these have not yet been performed. As a result, Western surgeons may not be convinced of the safety of early oral feeding after gastrectomy, especially after total gastrectomy. To thoroughly assess the benefits and effects of early oral feeding after gastrectomy specifically for gastric cancer, well powered Western randomized controlled trials are needed. A Dutch multicenter randomized trial evaluating early oral feeding after esophagectomy (NUTRIENT-II) might provide useful information regarding the safety of this feeding regimen for major upper GI procedures [45]. However, unfortunately no trials on early oral feeding after gastrectomy are currently running. This review therefore provides the most recent data on early oral feeding after gastrectomy for cancer.

7. Conclusion

From this review, early oral feeding might be a safe and feasible postoperative method after gastrectomy for gastric cancer. However, a well powered and larger randomized controlled trial performed in a Western population is needed.

Declarations of interest

None.

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Appendix A. Supplementary data

Supplementary data to this article can be found online at https://doi.org/10.1016/j.suronc.2018.11.017.

Appendix 1. Search strategies

Search PubMed		
#13	#12 AND #7	121
#12	#8 OR #9 OR #10 OR #11	25431
#11	early nutrition [tiab]	560
#10	early feeding [tiab]	790
#9	Enteral nutrition [tiab] OR Enteral Feeding [tiab] OR Tube Feeding [tiab] OR Feeding Tube*[tiab]	15366
#8	"Enteral Nutrition" [Mesh]	17562
#7	#3 AND #6	17652
#6	#4 OR #5	39824
#5	gastrectom*[tiab]	26768
#4	"Gastrectomy" [Mesh]	31194
#3	#1 OR #2	100352
#2	Stomach Neoplasm*[tiab] OR Gastric Neoplasm*[tiab] OR Cancer of Stomach [tiab] OR Stomach Cancer*[tiab] OR Gastric Cancer*[tiab] OR Cancer of the Stomach [tiab]	62717
#1	"Stomach Neoplasms" [Mesh]	85702
Search Embase		
#11	#7 AND #10	145
#10	#8 OR #9	35977
#9	'enteral feeding':ti,ab OR 'enteral nutrition':ti,ab OR 'enteric nutrition':ti,ab OR 'enteric feeding':ti,ab OR 'intragastric feeding':ti,ab OR 'intestinal feeding':ti,ab OR 'intragastric nutrition':ti,ab OR 'intraintestinal feeding':ti,ab OR 'tube feeding':ti,ab OR 'feeding tube':ti,ab OR 'early feeding':ti,ab OR 'early nutrition':ti,ab	24156
#8	'enteric feeding'/exp	26408
#7	#3 AND #6	17548
#6	#4 OR #5	52775
#5	'gastric resection':ti,ab OR 'gastric resections':ti,ab OR gastroresection*:ti,ab OR hemigastrectom*:ti,ab OR 'stomach extirpations':ti,ab OR 'stomach extirpations':ti,ab OR 'stomach resection':ti,ab OR 'stomach resections':ti,ab	5420
#4	'gastrectomy'/exp	51181
#3	#1 OR #2	116323
#2	'stomach cancer':ti,ab OR 'gastric cancer':ti,ab OR 'stomach neoplasm':ti,ab OR 'stomach neoplasms':ti,ab OR 'gastric neoplasm':ti,ab OR 'gastric neoplasms':ti,ab OR 'cancer of the stomach':ti,ab OR 'cancer of stomach':ti,ab	74029
#1	'stomach cancer'/exp	96172
Search Cochrane		
#11	#7 and #10	48
#10	#8 or #9	4400
#9	"enteral nutrition" or "enteral feeding" or "Tube feeding" or "feeding tube" or "early feeding" or "early Nutrition":ti,ab,kw (Word variations have been searched)	4400
#8	MeSH descriptor: [Enteral Nutrition] explode all trees	1817
#7	#3 and #6	1124
#6	#4 or #5	2130
#5	gastrectom*:ti,ab,kw (Word variations have been searched)	2130
#4	MeSH descriptor: [Gastrectomy] explode all trees	975
#3	#1 or #2	4424
#2	MeSH descriptor: [Stomach Neoplasms] explode all trees	4424
#1	"Stomach Neoplasm*" or "Gastric neoplasm*" or "Cancer of stomach" or "Stomach cancer*" or "Gastric cancer*" or "cancer of the stomach":ti,ab,kw (Word variations have been searched)	2086

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