

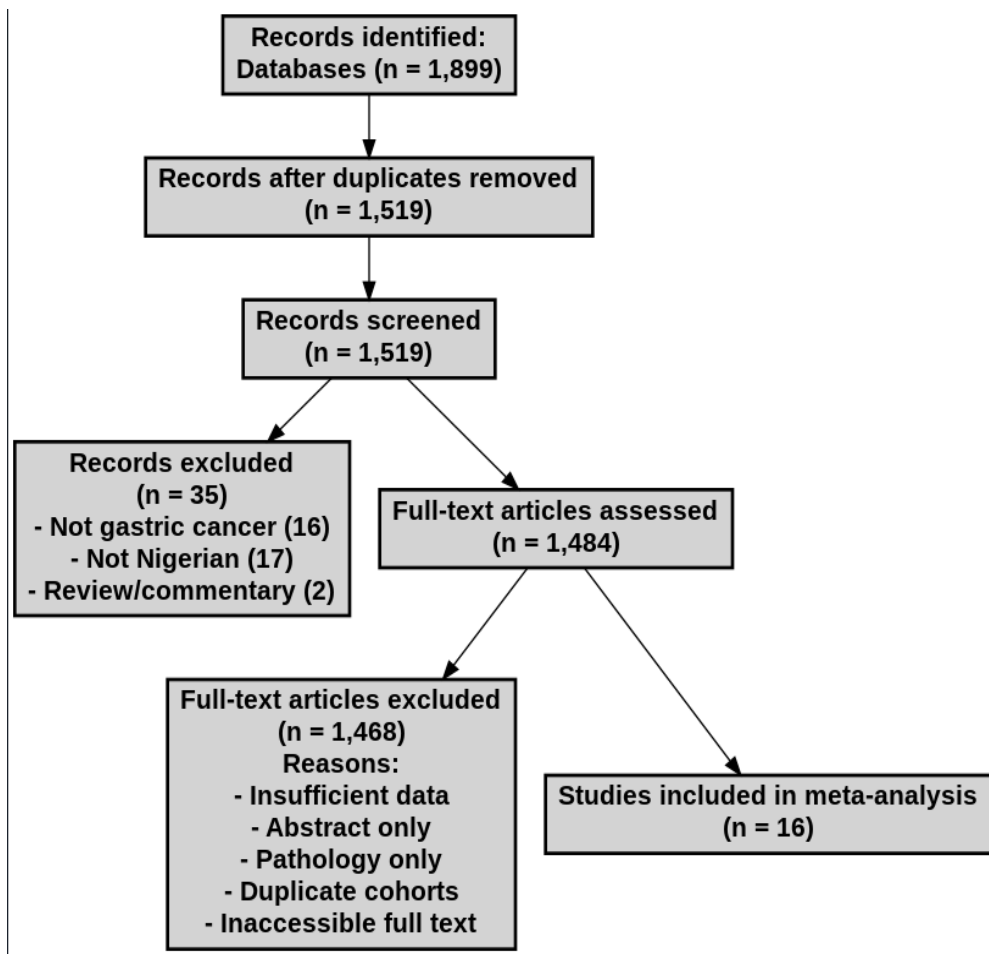
**Supplementary Table 1.** Characteristics of included studies on gastric cancer in Nigeria (1990-2025).

<b>Author (year)</b>	<b>Location</b>	<b>Study period</b>	<b>Sample size</b>	<b>Design</b>	<b>Key findings</b>	<b>Quality assessment</b>
Osinowo et al. (2023) <sup>23</sup>	Lagos, Southwest Nigeria	1991–2018	91	Retrospective cohort (2 time periods)	Mean age 56.4y, M:F 1.8:1; advanced disease; survival modestly improved over time	Moderate – Reasonable sample size, temporal comparison, but retrospective and hospital-based
Ebili et al. (2015) <sup>18</sup>	Ibadan, Southwest Nigeria	2000–2011	117	Retrospective pathology review	Mean age 55y, M:F 1.7:1; 93% advanced stage; mostly antral tumors	Moderate – Adequate sample, pathology-confirmed, but no survival or treatment outcome data
Manuel & Okigbeye (2020) <sup>26</sup>	Port Harcourt, South-South	2008–2017	26	Retrospective case series	Mean age 54.7y, M:F 1.2:1; 54% Stage IV; 69% antral; 11.5% operative mortality	Low – Very small sample size, single institution, limited external validity
Ray-Offor & Obiorah (2021) <sup>24</sup>	Port Harcourt, South-South	2012–2021	17	Endoscopy-based retrospective review	Mean age 60.7y, M:F 1.1:1; 2.7% prevalence among endoscopies; 60%	Low – Endoscopy-based, very small

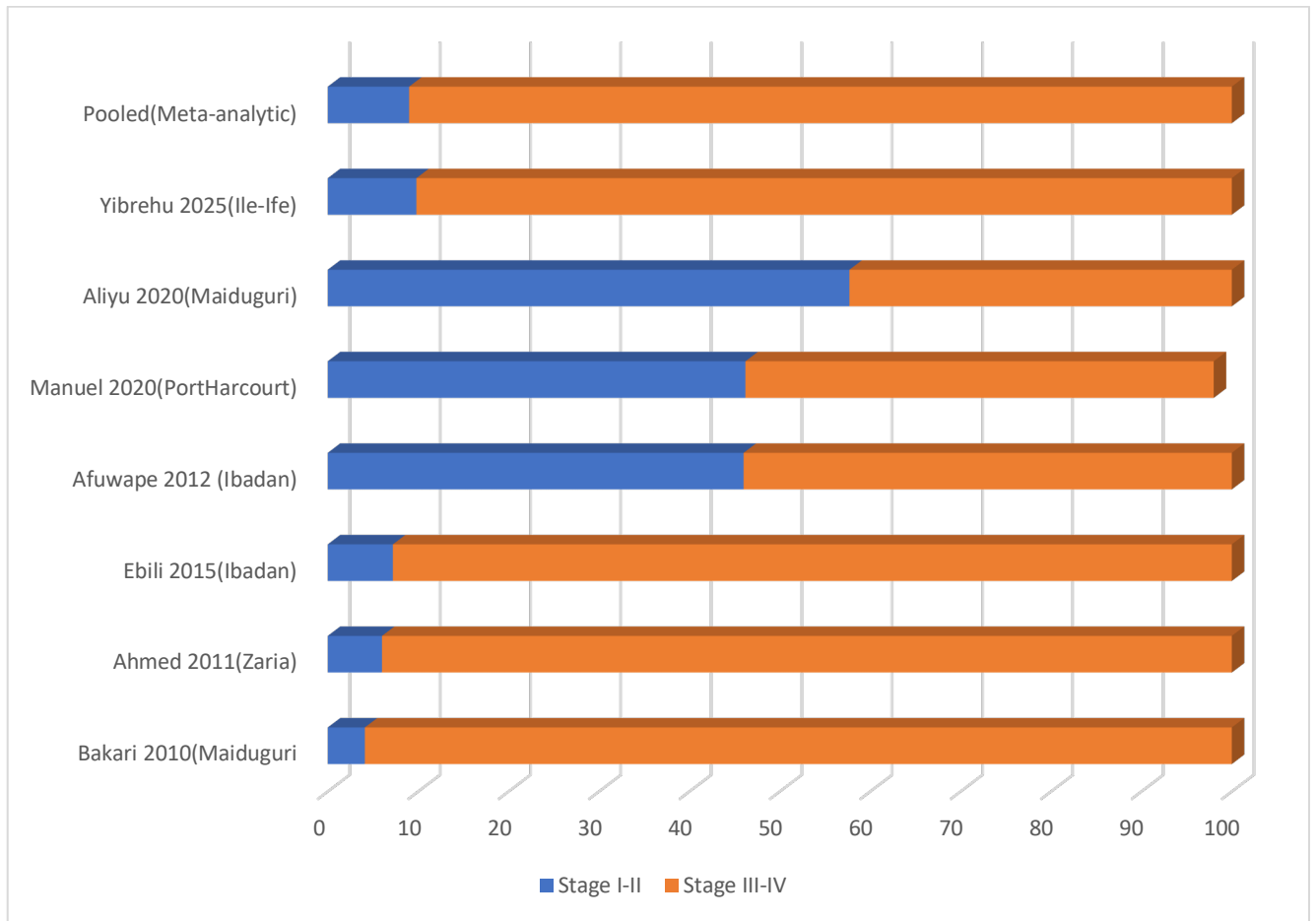
					antral, mostly adenocarcinoma	sample, risk of selection bias
Yibrehu et al. (2025) <sup>25</sup>	Ile-Ife, Southwest Nigeria	2007–2022	138	Registry-based retrospective cohort	Mean age 55.3y; 90% metastatic disease; 79% received treatment; 51% mortality at follow-up	High – Registry-based, treatment and survival outcomes reported, relatively large sample
Gbaa et al. (2025) <sup>19</sup>	Makurdi, North-Central	2016–2024	19	Retrospective descriptive study	Peak age 51–60y; M:F 2:1; adenocarcinoma 74%; gastric cancer 12% of GI malignancies	Low – Small sample, descriptive only, limited generalizability
Bakari et al. (2010) <sup>17</sup>	Maiduguri, Northeast	1989–2005	72	Retrospective case series	Median age 51y, M:F 1.2:1; 96% advanced disease; adenocarcinoma 90%; 2-yr survival 8%	Moderate – Reports survival outcomes, but retrospective, limited sample
Irabor & Afuwape (2012) <sup>20</sup>	Ibadan, Southwest Nigeria	1990–2008	286	Retrospective review	Mean age 55y, M:F 1.4:1; 89% adenocarcinoma; other gastric tumors rare	High – Large sample, pathology-confirmed, robust histology data

Afuwape et al. (2012) <sup>21</sup>	Ibadan, Southwest Nigeria	2004–2009	49	Retrospective review	Mean age 56y, M:F 1.45:1; 54% advanced; 51% proximal tumors; adenocarcinoma 74%	Moderate – Moderate sample, reports anatomical shift, but limited outcomes
Mandong et al. (2010) <sup>22</sup>	Jos, North-Central	1985–2004	205	Retrospective registry review	M:F 2.4:1; antrum+cardia 79%; intestinal type commonest (51%); adenocarcinoma dominant	High – Registry-based, long study period, robust pathology classification
Ahmed et al. (2011) <sup>16</sup>	Zaria, Northwest Nigeria	1995–2009	179	Retrospective clinical review	Mean age 51y, M:F 1.4:1; 94% advanced; 56% resectable; 16% operative mortality; 5-yr survival 21.8%	High – Large sample, surgical outcomes, survival reported
Aliyu & Ningi (2020) <sup>27</sup>	Maiduguri (North-East)	2004–2012	52	Prospective cohort	36.6% proximal tumors; 34.6% H. pylori+; 57.7% early disease; 5-yr survival 5.7%; high surgical morbidity	Moderate – Adds proximal trend, survival
Abdulkareem et al. (2010) <sup>30</sup>	Lagos (South-West)	1995–2007	105	Retrospective pathology review	Mean age ~55; M:F ~2:1; 90% adenocarcinoma; H. pylori in 15%; all	Moderate – Pathology focus, H. pylori data

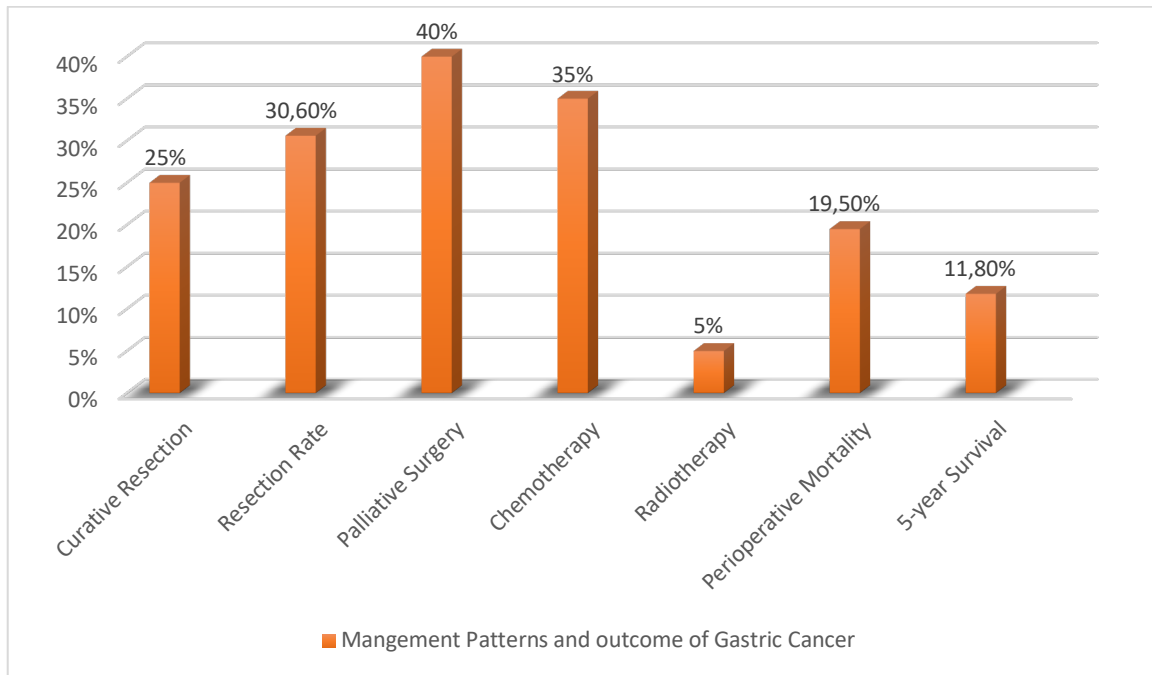
					symptomatic at late stage	
Alatise et al. (2007) <sup>28</sup>	Ile-Ife (South-West)	1990–2006	230	Retrospective clinical series	Peak 41–60 yrs; M:F 3:2; 97% advanced; distal 76%; resection ~25%; 5-yr survival 14%	High – Large sample, long outcomes
Ojo et al. (2010) <sup>31</sup>	Ile-Ife (South-West)	1997–2006	107	Pathology review	95% carcinoma; adenocarcinoma subtypes varied; 60% H. pylori positive; 95% antral location	Moderate – Histology depth, no outcomes
Osime et al. (2010) <sup>29</sup>	Benin City, South-South Nigeria	2004–2008	23	Retrospective clinical review	Mean age 53.7y; M:F 2.3:1; 78% antral; adenocarcinoma 91%; 43.5% partial gastrectomy, 39% gastrojejunostomy; 39.1% mortality (two-thirds within 1 yr); follow-up poor (26% lost)	Low–Moderate: Small sample size, but reports clinicopathology, risk factors, management, and outcomes



*Appendix 1.* This PRISMA 2020 flow diagram illustrates the process of study selection for the meta-analysis of gastric cancer in Nigeria (1990-2025).



**Appendix 2.** Stage at diagnosis of gastric cancer in Nigeria: study-level distributions and meta-analytic pooled estimate (1990-2025). Bars show study-level stage distribution where reported; the final bar ('Pooled, meta-analytic') displays the pooled estimate (91% Stage III-IV; 9% Stage I-II) from the meta-analysis model.



**Appendix 3.** Pooled management pattern and outcomes of gastric cancer in Nigeria (1990-2025). This pooled bar chart summarizes management patterns across 16 Nigerian studies of gastric cancer.