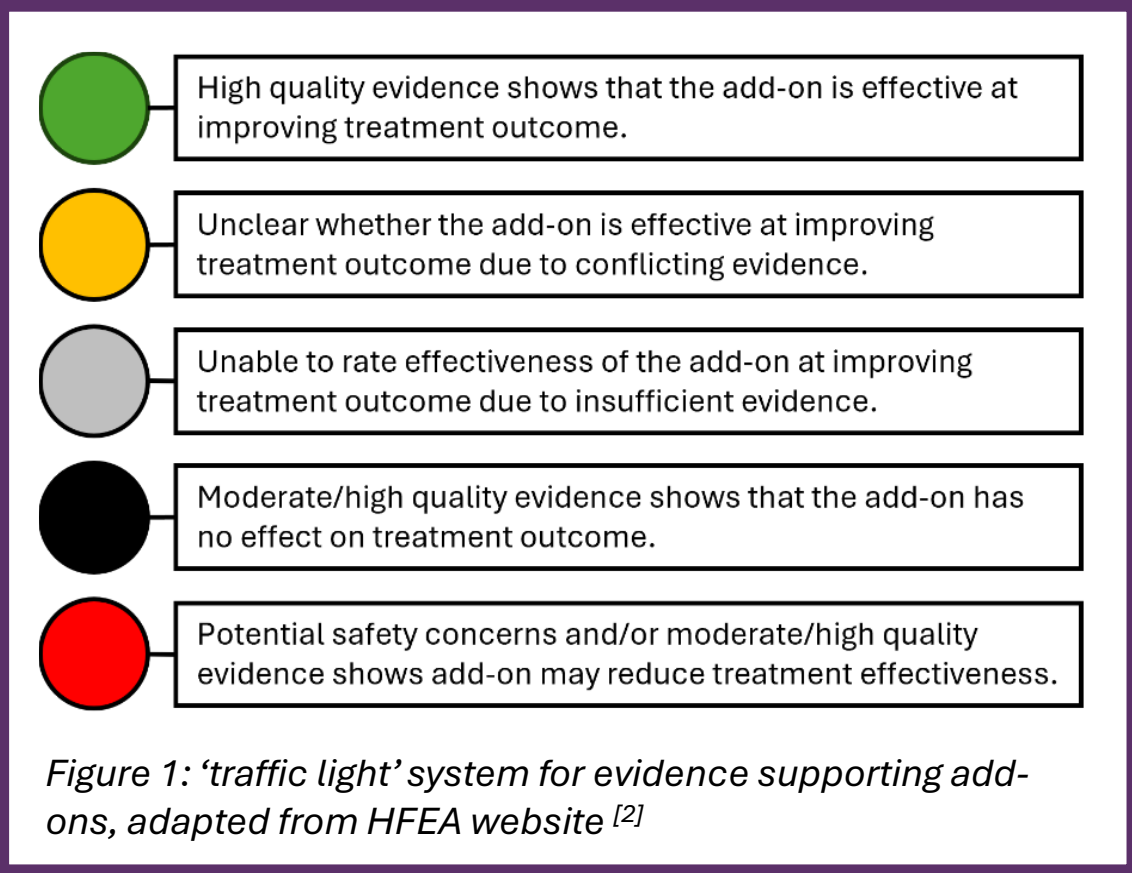


The quality of information about IVF treatment add-ons on UK fertility clinic websites: a systematic website review

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INTRODUCTION

- In vitro fertilisation* (IVF) is an assisted reproductive technology (ART) first successfully utilised in 1978 ^[1]
- Since then, as well as improvements in the standard IVF techniques, new additional treatments which can be used alongside IVF, known as ‘add-ons’ have been developed
- The Human Fertilisation & Embryology Authority (HFEA) have compiled a list of add-ons based on certain criteria including the presence of published scientific studies demonstrating improvement in outcomes, but a lack of evidence of effectiveness for clinical use ^[2]
- The HFEA have developed a ‘traffic light’ system (fig.1) to demonstrate the varying evidence base supporting these treatments, where each add-on is assigned a colour based on the level of evidence and overall observed outcomes
- UK fertility clinics are able to offer these treatments, and therefore many clinics advertise add-ons on their websites with varying levels of information about them



METHODS CONT.

Primary outcomes

- For each included website, primary outcomes were clinic demographics (primary method of funding, geographical locations) and quality and readability scores

Secondary outcomes

- Identification of patterns/relationships between quality/readability of website information and clinic demographics
- Tested for significant difference between groups of clinics (e.g. NHS vs private)

Statistical analysis

- Shapiro-Wilk test for normality was applied to all data sets
- Mann-Whitney U test or independent sample t-test was then used to compare data and assess significance
- Spearman’s rank used to test for correlation between quality & readability scores

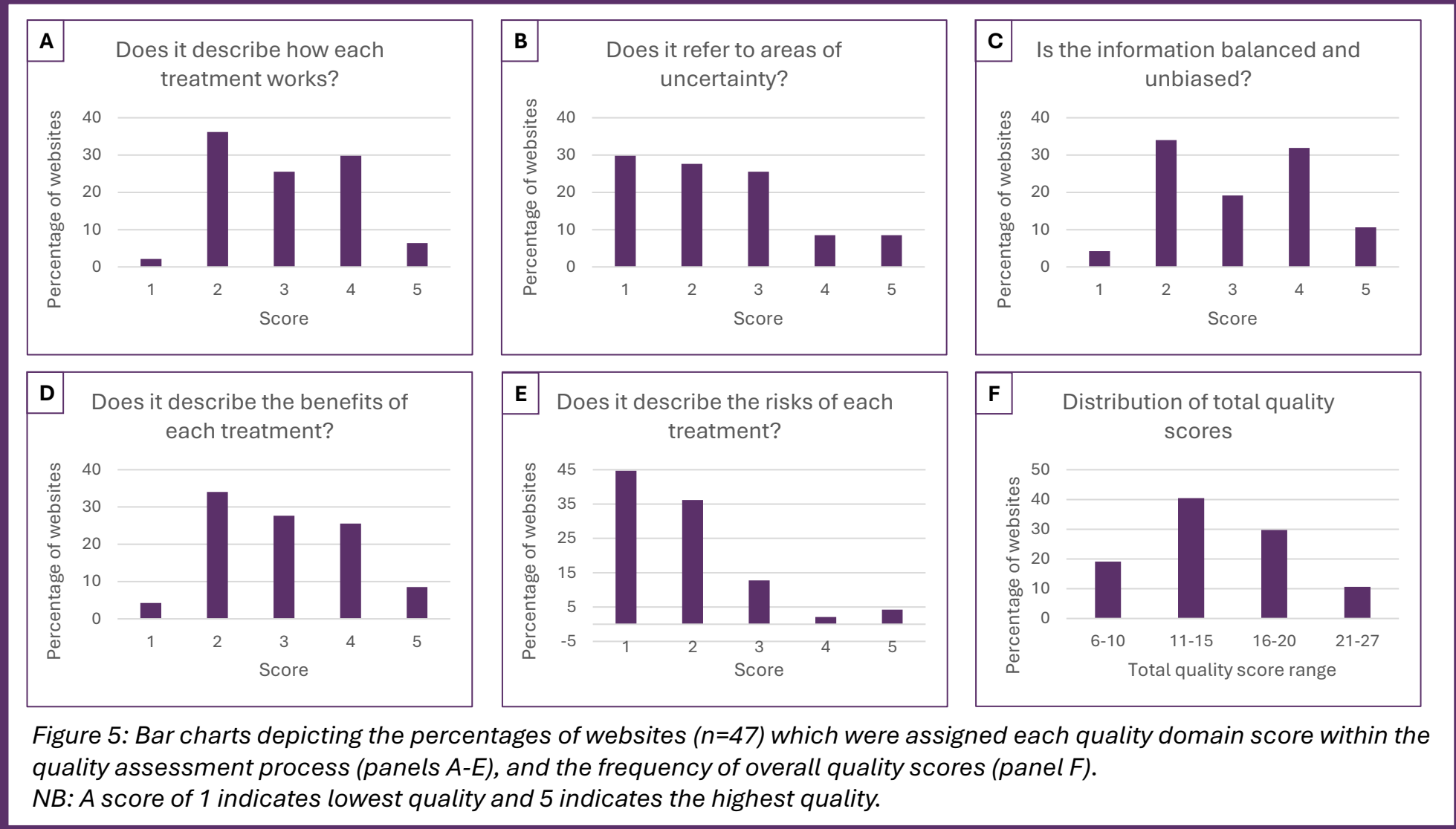


Figure 5: Bar charts depicting the percentages of websites (n=47) which were assigned each quality domain score within the quality assessment process (panels A-E), and the frequency of overall quality scores (panel F). NB: A score of 1 indicates lowest quality and 5 indicates the highest quality.

DISCUSSION

Large variance in information

- Obvious differences were observed between both quantity, quality, and type of information between websites
- Many websites listed add-ons on price list, but offered no additional information
- Other websites had in-depth information covering all of the quality assessment domains

No identifiable pattern

- There was no identified pattern to the differences in quality and readability scores (e.g. primary source of funding, geographical locations of clinics)

Inconsistent information presentation

- Discrepancies were found in how the same website presented different add-ons
- E.g. only describing a lack of evidence for some of the available add-ons
- Results in misleading information presentation

Inclusion of add-ons as standard procedure

- Over half of clinics offering add-ons included at least one in their standard IVF treatment at no extra cost
- Many of these clinics did not give any information at all about these, and are therefore including non-essential techniques without explaining how they work or why they are being used

Largest gap: risks and uncertainty of evidence

- Quality domains which most commonly scored poorly (i.e. 1 or 2) were whether the website refers to areas of uncertainty, and whether it describes the risks of treatments
- Provides a skewed perspective of the treatments and does not provide patients with all of the necessary information to make an informed decision

OBJECTIVE

This study aims to systematically assess the quality of information found on UK fertility clinic websites regarding any add-on treatments offered.

METHODS

Compile clinic list

- Used HFEA website ‘Fertility clinic search’ page ^[3] to compile list of all HFEA-licensed UK fertility clinics
- List was initially screened to remove duplicates and ‘spoke’ clinics

Exclusion of websites

- Identified official clinic websites through Google search
- Excluded biobanks, clinics not offering IVF, and consultant websites
- Non-functional websites also excluded

Data extraction

- Microsoft Excel data extraction tool used to capture key clinic information (private vs NHS, clinic locations, NHS-funded care available, which add-ons are offered)

Quality assessment

- Quality of add-on information was assessed using modified DISCERN tool ^[4]
- Information was scored 1-5 based on criteria for 5 domains (fig. 2)
- Readability of information was assessed using the Flesch Kincaid Reading Ease test ^[5], calculated by an online readability tool ^[6]

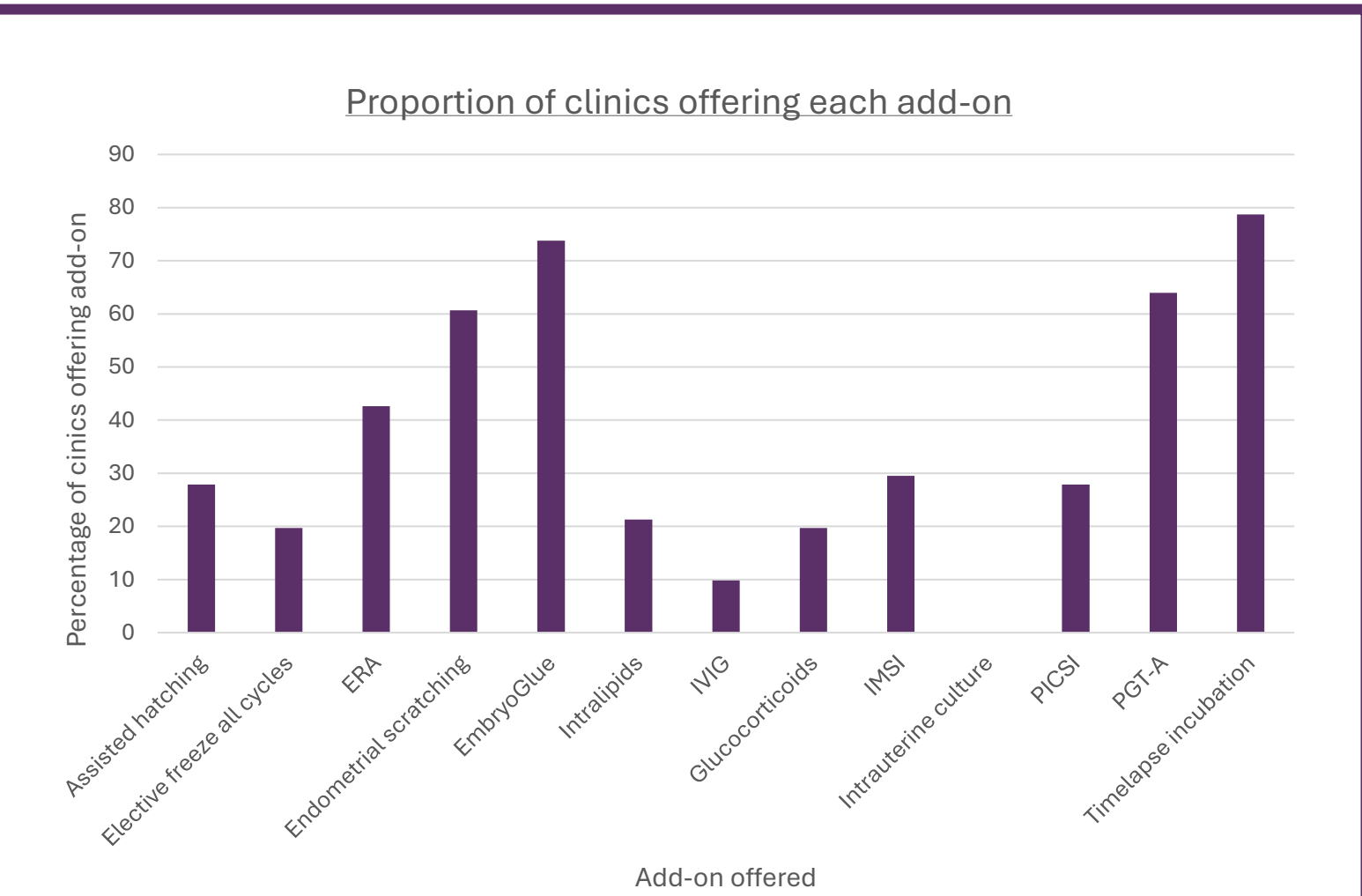


Figure 4: Bar chart showing the percentage of clinics offering each type of add-on; n=61.

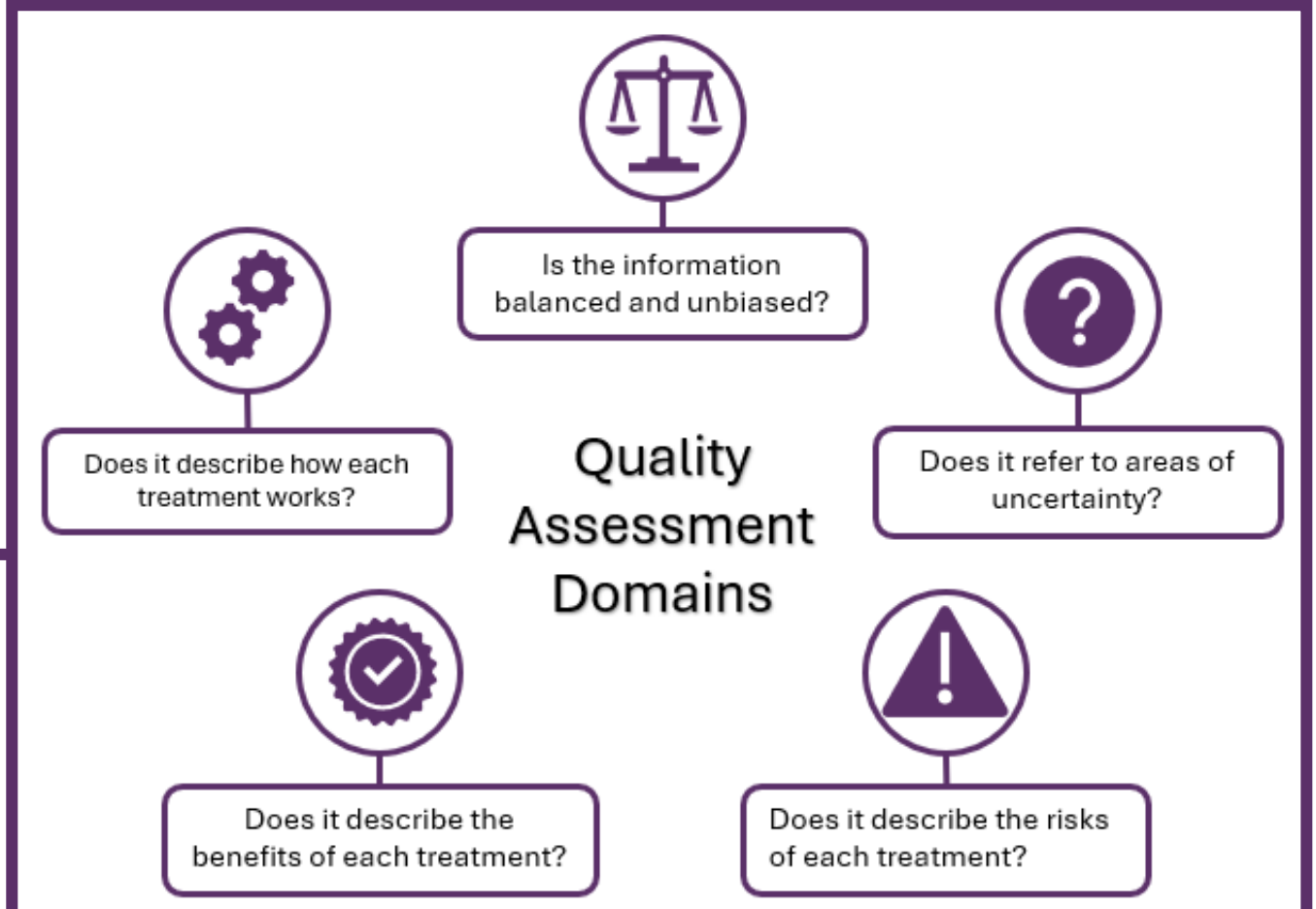


Figure 2: The five domains used to assess information quality, each scored 1-5 based on pre-determined criteria

RESULTS

- Initial clinic search returned 214 clinics, of which 80 were included in the study (fig. 3)

Primary Outcomes

- Clinic locations were distributed across all 9 regions of the UK, with the greatest proportion found in London (28%, n=170)
- 76% (n=80) of clinics offered at least one add-on, the most commonly available was timelapse imaging and incubation
- Of the clinics offering add-ons, 23% (n=61) of websites had no actual information about the add-ons offered

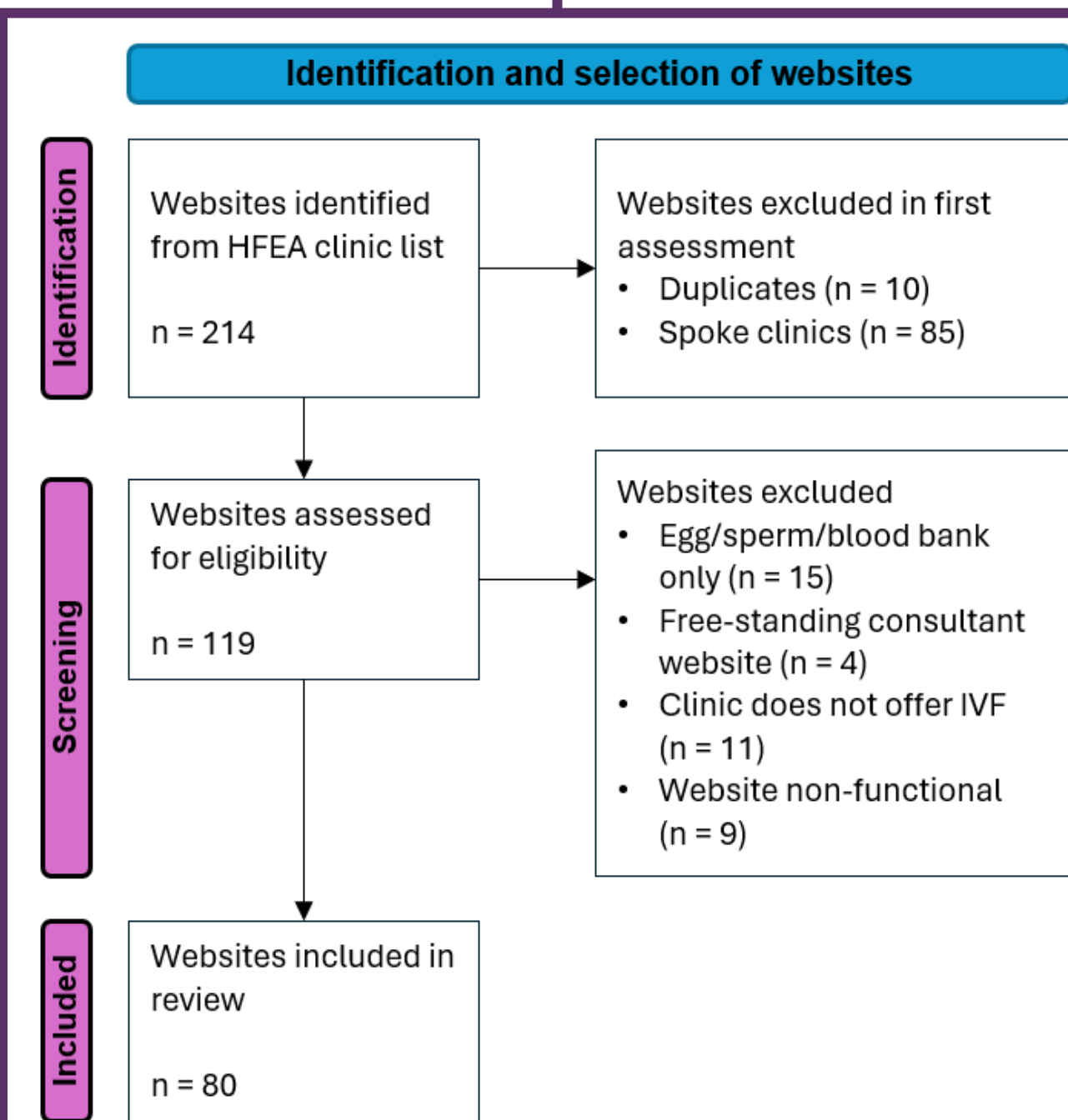


Figure 3: Flowchart for exclusion/inclusion process for clinic websites. NB: ‘spoke’ clinics are branches of a central hub clinic and therefore do not have their own website; for this reason they were excluded from this study.

- Information quality scores ranged from 7 (minimum score 6) up to 27 (maximum score 27)
- Readability scores ranged from 24.4/100 to 71.3/100

Secondary Outcomes & Statistical Analysis

- No significant difference found between NHS and private clinic websites for the quality (median 10 vs 13, $p=0.212$) or readability (mean 54.2 vs 50.1, $p=0.168$) of information
- No correlation found between quality and readability scores for all websites with add-on information ($r(43) = 0.061$, $p = 0.698$)

REFERENCES

- Dow K. Looking into the Test Tube: The Birth of IVF on British Television. Medical History. 2019;63(2):189-208.
- HFEA. Treatment add-ons with limited evidence [Available from: <https://www.hfea.gov.uk/treatments/treatment-add-ons/>].
- HFEA. Fertility clinic search [Available from: <https://www.hfea.gov.uk/choose-a-clinic/clinic-search/>].
- Charnock D, Shepperd S, Needham G, Gann R. DISCERN: an instrument for judging the quality of written consumer health information on treatment choices. J Epidemiol Community Health. 1999;53(2):105-11.
- Flesch R. A new readability yardstick. Journal of Applied Psychology. 1948;32(3):221-33.
- WebFX. Readability Test [Available from: <https://www.webfx.com/tools/read-able/>].

CONCLUSION

- The quality of information about add-ons varies hugely between fertility clinic websites
- The main areas frequently not mentioned are uncertainty of evidence behind add-ons and potential risks
- Medical professionals have a duty to inform patients of these facts to empower them to make informed decisions about their care
- This study therefore highlights the need for standardisation of information provision on clinic websites regarding add-ons