Assessment of Interactivity, Quality, and Content of Websites Promoting Health Behaviours during Infancy: A Six-Year Update

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INTRODUCTION

- As of 2021, 89% of the Australian population are active internet users (1).
- Although internet usage has been widely utilized, there remains an impotence of judging quality, accuracy, and credibility of health-related websites.
- A 2015 systematic assessment of infant feeding websites and apps available in Australia found that 61% of websites were of poor quality, with minimal coverage of infant feeding topics, lack of authors credibility, and abstruse readability of content (2).
- Provision of inadequate or incomplete infant health information online could result in parental confusion and poorer care for infants, when parents are unable to evaluate credibility of online information resulting in adverse health consequences in infants' later life (3).
- Since the 2015 assessment of infant feeding websites, there have been significant advancements in digital health and technology which is why it is imperative to update the review

AIMS

- The aim of this study was to update and expand on the 2015 systematic assessment (2) by examining interactive features in addition to quality, readability, and comprehensibility of web-based information targeting infant feeding, active play, screen time, and sleep behaviours

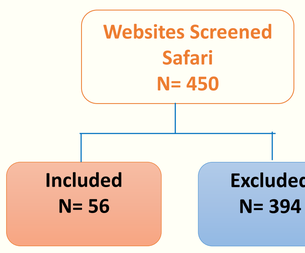
METHODOLOGY

Website Selection

The first 30 websites generated from every search term were screened.

The search terms consisted of:

- Infant feeding
- Baby food
- Breast feeding
- Infant feeding to appetite
- Infant formula feeding
- introducing solid foods to baby
- Good foods to start baby with no teeth
- Best puree for babies
- Solids and fussy babies
- Solids and milk feeding
- Infant active play
- Tummy time
- Screen time,
- Infant sleep
- Baby co-sleep



Tool is based on the Australian Government's guidelines on infant feeding, physical activity, and sleep

To score ownership, authorship, author qualification whether, purpose, attribution, interactivity, and currency

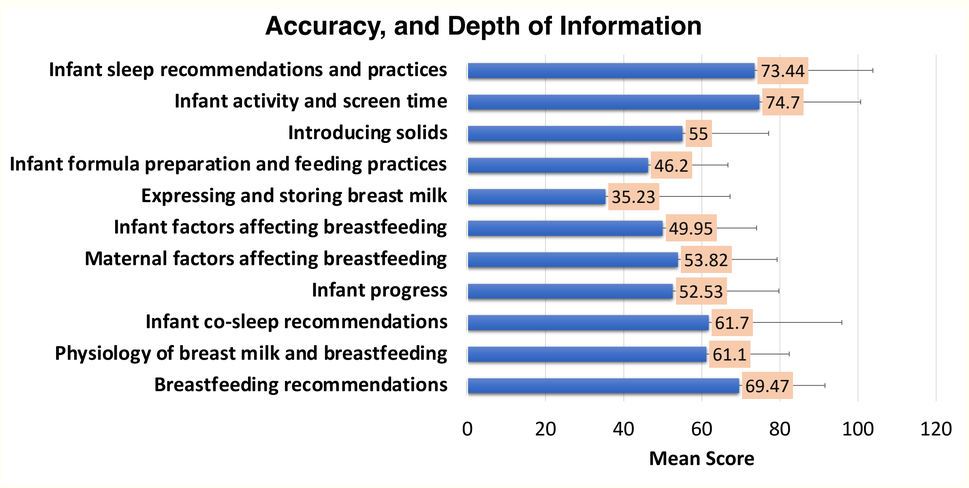
To assess the appropriateness of health information materials by considering characteristics such as content, graphics, literacy level, layout/typography, and cultural appropriateness of the websites

To measure Active Control, Two-Way Communication, and Synchronicity

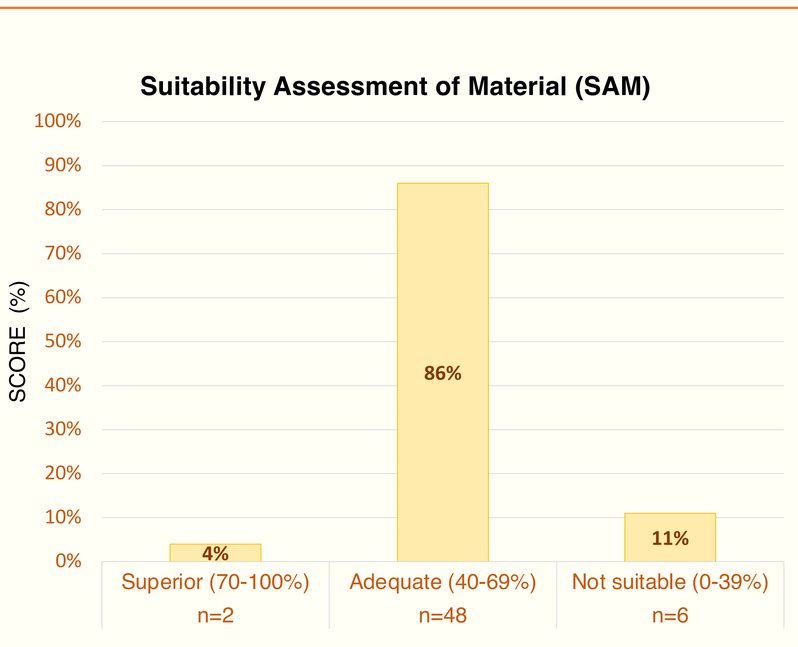
- Functional on a smartphone screen
- App associated with the website
- Addressed ethnicity
- Included language options
- Paid features
- Search functions
- Games, videos etc

Criteria	2015 Systematic Assessment	2021 Systematic Assessment
Topic areas		
Milk feeding practices (breastfeeding and formula)	X	X
Solid feeding behaviours'	X	X
Infant active play		X
Infant screen time		X
Infant sleep		X
Scope, Accuracy, and Depth of Information		
Excel spreadsheet built with an assessment criterion of 8 topics and 22 subtopics	X	
Comprehensive REDCap tool built with an assessment criterion of 9 topics and 65 subtopics		X
Quality Assessment		
Quality Component Scoring System (QCSS)	X	X
Health-Related Website Evaluation Form (HRWEF)	X	X
Adherence to the Health on the Net code (HONcode)	X	X
Suitability of Information		
The Suitability Assessment of Material (SAM)	X	X
Readability		
Flesch-Kincaid (F-K)	X	X
Simple Measure of Gobbledygook (SMOG)	X	X
Consensus based on 7 readability formulas		X
Website Interactivity and Features		
The interactivity scale (15 items)		X
Interactive features on websites		X
Addresses culture		X

ANALYSIS & FINDINGS

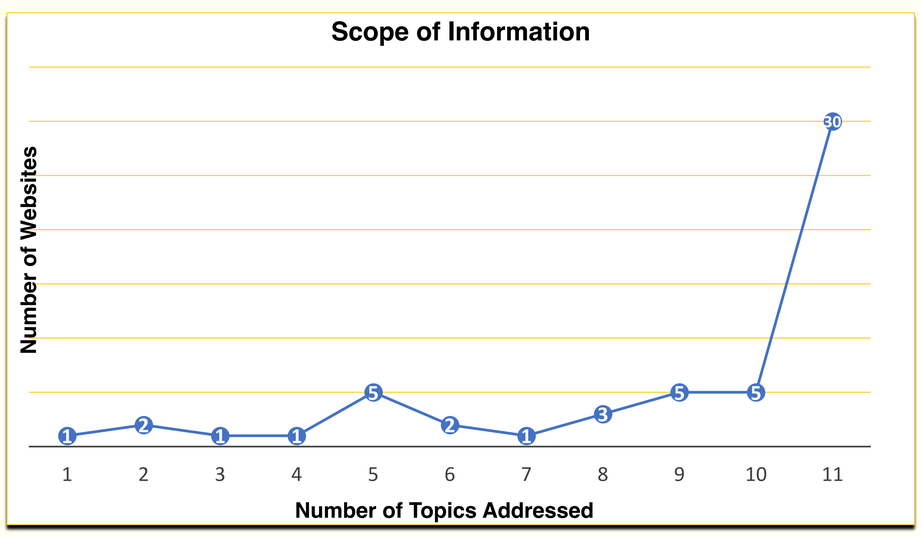


The mean overall Accuracy, and Depth of Information across all websites was 56.96 (N= 11 topics, n = 65 subtopics across 56 websites)

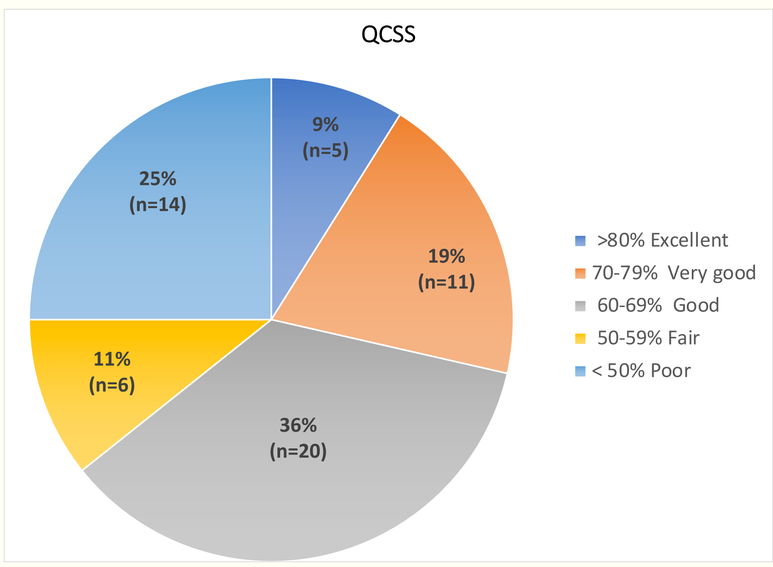


Readability scores	Median	IQR
Flesch-Kincaid score	9	8-10
Simple Measure of Gobbledygook score	8	7-10
Readability Consensus based on 7 readability formulas	10	8-11

Only a couple of websites met the South Australian government's recommended level of Grade 8 level reading and below: 19 websites (using the F-K online tool), 28 websites (SMOG), or 18 websites (readability consensus)



The most common topics not addressed by websites were expressing and storing breastmilk, infant activity/screen time, and infant co-sleep recommendations respectively



Quality of websites
- ❖ The median rating was 61.5% (IQR 52%-77%)

CONCLUSION

- In comparison to the 2015 systematic assessment, the quality of the information in websites has not greatly improved over time. However, the suitability of health information has significantly improved. This may be due to advancements in digital health considerations such as graphics and layouts of online platforms over the years.
- Low scope/coverage of information on expressing and storing breastmilk, infant activity/screen time, and infant co-sleep recommendations was evident across the websites
- Many websites lack authorship and date of original posting and latest revision
- A vast majority of websites don't meet the required reading grade of 8 or below similar to the 2015 assessment finding

❖ As more parents' resort to online sources to seek infant health information, it is imperative for resources on the internet to reflect the latest infant and child health guidelines

❖ Proliferation and use of web-based health information sources among individuals across the globe emphasises the need for websites to embed reliable and credible health information while considering health literacy to proactively empower parents to make informed decisions related to their infants health.

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