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'There's an app for that' (Apple Inc., 2015) but how do we know if it's a good one?

Abstract

Mobile phone applications or 'apps' are increasingly becoming an integral part of our daily lives with the number of mobile app users in the United Kingdom predicted to exceed 43 million by 2016 (The Statistics Portal, 2015). The App and Play stores are saturated with thousands of apps that claim to cater for all elements of our lives: healthy living, education, entertainment and more. Undoubtedly apps can be a convenient way of accessing information; however in relation to pregnancy and childbirth, how do women know whether the app they're downloading is providing high quality, evidence-based information?

This short article outlines the history of apps; discusses potential quality and credibility issues and provides suggestions for how to navigate the apps minefield to ensure the apps you download or recommend to others are credible and trusted.

Keywords: apps; android; iOS; Health Apps Library; NHS Choices

Apps: What are they and where did they come from?

Mobile applications date back to the end of the twentieth century and were typically things like a calculator or a small arcade game (remember Snake?!). But from around 2007, when Apple released the iOS operating system (the iPhone) things really started to take off. Android came along about a year later. Because the phones were able to connect to the internet, using a WiFi connection or mobile data, it meant that phones were able to synchronise data easily to browse the web, manage your diary, send and receive email and much more.



The Apple App Store was opened in July 2008, where a quarter of the 550 apps available at the time were free. Within 3 months 100 million downloads of the 3,000 available apps had taken place. After 4 months, the Google Play Store (Android Market) opened. Skipping on a couple of years, by July 2013 the Google Play Store had more than 50 billion downloads (Strain, 2015). The rate of growth of this market has been massive to say the least.

So what is the difference between Apple (iOS) and Android?

It comes down to the operating system, the software that drives the device. iOS is Apple's offering, and Android is Google's. Windows also have a phone, as well as some others, however Android and iOS are the most popular. Other than the operating system, essentially they do similar things; you can make calls, send texts, download music and apps, send and receive email, use the camera and so much more. Another notable difference is cost: Apple devices tend to be higher priced than Android and so do the apps, although there are many manufacturers of devices that run Android; whereas Apple limit the design of their devices alongside their operating system. So, there is much more choice in the device options for Android compared to Apple.

When it comes to apps, developers do not always make an app for both iOS and Android. But, you will usually find an alternative on the other platform if not the same app. Android apps do tend to be cheaper than iOS, but anecdotal evidence suggests their reliability of use is variable because of the amount of different devices that Android is delivered to.

So are all health apps good apps?

Health related apps can sometimes be misleading and contain insufficient or even false information. There are laws and regulations in place to attempt to provide consumer safety but they only apply to a limited number of apps (Albrecht *et al.*, 2014). Apps that offer advice according to information that is inputted by the user are on the borderline of being a medical app. For example, something that tells you what dosage of medication to take/prescribe, or calculates your/your patient's heart rate are ones which are classified as medical apps rather than simply 'apps'. Apps that have an administrative purpose such as recording information or booking appointments are not classed as medical apps. Medical apps should be CE marked (which is the abbreviation of the French phrase "Conformité Européene", literally translated it means "European Conformity") to certify that they are credible; however even if they are CE marked it does not necessarily guarantee that the app meets best practice, has been tested for accuracy or benefits in clinical use, or is applicable to the patient/decision for which it is being used (Royal College of Physicians, 2015).

Pregnancy-related apps

The Apple App Store and Google Play currently offer 1,915 and 302 pregnancy related apps respectively - with that many to choose from how do we know which ones are safe? In 2013 The NHS Commissioning Board for England launched the Health Apps Library with the aim of making it simpler for people to easily find safe and trusted apps to help manage their health (NHS England, 2015a). Apps are submitted by the developers to then go through a review process to ensure they are clinically safe; relevant to people living in England; use information from a trusted source (eg NHS Choices) and comply with the Data Protection Act (NHS England, 2015b). Table 1 gives examples of pregnancy apps and other categories on the website include conditions (eg autism, cancer, epilepsy); healthy living (eg mental health, sexual health, nutrition) and health information (eg personal health record, service finder) (NHS England, 2015c). All apps that appear in the library have gone through the review process before they are displayed. The ratings that appear for each app have been assigned by users of the app and you can also read about their experiences. It is important to remember that the ratings are not set by the reviewers. The website also has a useful FAQs page (http://apps.nhs.uk/help/).

App What's it for? Current User Rating
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My Pregnancy Today	BabyCentre My Pregnancy Today is the most comprehensive pregnancy app from trusted parenting website www.babycentre.co.uk. Enter your baby's due date, and My Pregnancy Today turns your phone into a daily expert guide.	5 stars
Tiny Beats - baby heartbeat monitor	Are you pregnant and want to hear the heartbeat of baby at home? Experience this amazing bonding moment with an App.	5 stars
Pregnancy +	Pregnant? Get the worldwide No.1 Pregnancy App Want to see beautiful, interactive images for every week of pregnancy? Join more than 2 million users who already use this App to follow their pregnancy.	5 stars
Total Baby	Total Baby is one of the most popular Baby logging and tracking application on the App Store. It will help you log and time all aspects of your child's care through a smart and sleek interface that makes tracking easy and fun.	5 stars
Milk Maid	Helps pumping moms track their pumping and manage their stash of breast milk. View pumping charts which help you figure out the most efficient way to pump. Track your stash of milk, see total volume stored and expiration dates for your milk.	5 stars
Squeezy	The physiotherapist designed app to support women doing their pelvic floor muscle exercises	3.5 stars
RSB! the Ready Steady Baby App	Ready Steady Baby! is now available as a free smartphone app. So it's even easier for you and your partner to find out about pregnancy, birth and early parenthood from the NHS	3.5 stars

Table 1

Taken from NHS Choices health apps library http://apps.nhs.uk/?s=pregnancy&submit=Search&paged=1

The future of apps

Apps are ubiquitous, cheap (or even free) and here to stay - the question is whether this is a good or a bad thing for maternity care. The Code (NMC, 2015) stipulates that midwives must prioritise women by making their care and safety a priority and practise effectively using the best available evidence. There are thousands of apps available and whilst the Health Apps Library is an excellent resource identifying safe and trusted apps there still remain thousands of apps that have not be scrutinised in this way. In terms of use by healthcare professionals, The Royal College of Physicians (2015) suggests they should always exercise professional judgement before relying on information from an app. In turn midwives should ensure women in their care are aware that not all apps are good apps and signpost them to the Health Apps Library as a trusted resource.

And finally...

As a society we are gadget rich and time poor and consequently convenience is king. This is not an issue for tasks such as booking theatre tickets or navigating the London Underground; however in relation to pregnancy and childbirth convenience should not take precedence over the safety, health and wellbeing of mother and baby. Women should be made aware that apps are not a like for like

replacement for the advice and support offered by their midwife. High quality, individualised midwifery care is priceless, irreplaceable and definitely not available from the App Store!

References

Apple Inc. (2015), *Apple Trademark List.* [online] 30 March 2015. Available from: <u>https://www.apple.com/legal/intellectual-property/trademark/appletmlist.html</u> [Accessed 13 May 2015]

Albrecht, U. V., Pramann, O., Ute von, J. (2014), Synopsis for Health Apps: Transparency for Trust and Decision Making. In: M. Househ, ed. 2014. *Social Media and Mobile Technologies for Healthcare* Medical Information Science Reference; 1 edition. pp. 94-108

Dishwar, Y. (2015) Google Play vs App Store: Top App Markets Comparison. *Techsnapr,* [online image] 12 Feb 2015. Available from: <u>http://www.techsnapr.com/2015/02/12/google-play-vs-app-store-top-app-markets/</u> [Accessed 14 May 2015]

NHS England (2015a) NHS Commissioning Board launches library of NHS-revised phone apps to help keep people healthy. *NHS England* [online]. Available from: <u>https://www.england.nhs.uk/2013/03/12/nhs-apps/</u>. [Accessed 15.05.15]

NHS England (2015b) Review Process. *NHS Choices* [online]. Available from: <u>http://apps.nhs.uk/review-process/</u> . [Accessed 15.05.15]

NHS England (2015c) Health Apps Library. *NHS Choices* [online]. Available from: <u>http://apps.nhs.uk/apps/pregnancy/</u>. [Accessed 15.05.15]

NMC (2015) *The Code: Professional standards of practice and behaviour for nurses and midwives.* London: NMC

Royal College of Physicians (2015), *Using apps in clinical practice*. [online] April 2015. Available at: <u>https://www.rcplondon.ac.uk/sites/default/files/apps_guidance_factsheet_revised_april.pdf</u> [Accessed 13 May 2015]

Strain, M. (2015), 1983 to today: a history of mobile apps. *The Guardian*, [online] 13 Feb 2015. Available from: <u>http://www.theguardian.com/media-network/2015/feb/13/history-mobile-apps-future-interactive-timeline</u> [Accessed 13 May 2015].

The Statistics Portal (2015) Number of mobile app users in the United Kingdom (UK) from third quarter 2013 to second quarter 2016 (in million users) *The Statistics Portal* [online]. Available from: http://www.statista.com/statistics/277672/forecast-of-mobile-app-users-in-the-united-kingdom-uk/ [Accessed 15 May 2015]

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