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ACCRU Applied Communication Collaborative Research Unit

Project Report 2: Promoting Maternal Health - Media Uses and Preferences 30th April 2013

ARC Health-e Baby: Communication Innovation for Improved Neo-Natal Outcomes

The Applied Communication Collaborative Research Unit (ACCRU)

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ARC Health-e Baby Project

This University of Adelaide-based and Australian Research Council-funded project investigates the persistence of poor health amongst so-called special or vulnerable groups despite recent developments in health communication that have helped improve many areas of health for our population as a whole. Previous research suggests that disparities in health literacy, cultural and linguistic differences, and a lack of health information accessible via popular media channels may in part explain disparities in health outcomes. Therefore we will design, implement and evaluate the efficacy of an innovative approach to health communication that uses new digital and mobile media to address the specific needs of patients from vulnerable groups to help reduce inequalities in health outcomes between Australians.

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Section 1: Executive Summary

1.1 Report Aims and Scope

This report forms one of the outputs of the Health-e Baby project. It is designed to present research findings in an accessible manner for circulation within the Health-e Baby team and to other key stakeholders. The report findings and recommendations will guide the refinement of the project objectives and contribute to discussions regarding the focus of the project. Health-e Baby is a health promotion/communication project that is jointly funded by SA Health and the Australian Research Council.

In the first project report we discussed the structure and organisation of antenatal care at the Lyell McEwin Hospital (LMH) and examined the effectiveness of health promotion/communication strategies currently employed in this context. In this report we focus on the information needs and media uses of pregnant women who are cared for by staff at the LMH. The aim of this report is to provide an overview of women's information seeking habits during pregnancy, in particular their access to and use of information and communication technologies (ICTs). We draw on qualitative interviews to analyse the antenatal communication preferences of pregnant women who attend the LMH and to examine the factors that shape their health-seeking behaviours. Based on this evidence we make recommendations that will inform the development of a tailored health promotion strategy to be trialled at the LMH. The design and evaluation of this strategy will form the next phase of the Health-e Baby project.

1.2 Key Findings

All of the individual recommendations made in this report have been analysed and grouped into the following key findings.

Representativeness and Generalisability

The self-selecting nature of our participants and the qualitative nature of research do impact on the generalisability of our findings. Therefore, when we develop and evaluate our intervention it is important that we carefully consider and address any differences between the cohort analysed in this report and the intervention target group.

Health Literacy / Literacy

Our research illustrates that the LMH serves a diverse range of women with different levels of health literacy. Understanding and responding to their different needs will be an important component of our intervention. Future phases of the project could incorporate a formalised assessment of health literacy. A literature review could be conducted to ascertain if any of the existing health literacy measurement tools are appropriate.

Socio-Economic Status

While the vast majority of our participants had extensive access to ICTs and other media forms, socio-economic status was a barrier that restricted some women's access to mediums such as the Internet and therefore, their information seeking options. We must ensure that our intervention does not exacerbate existing health inequities. Therefore, we need to consider health promotion strategies that do not exclude women with limited ICT access. That said, findings to date suggest that women from lower SES backgrounds do have Internet access, particularly on their mobiles. The

potential of mobile phones to bridge gaps in the 'digital divide' could be further substantiated in the pre-testing and evaluation phase of Health-e Baby.

Ethnicity / Cultural Background

Because of limitations in our sample we are unable to identify if women's ethnicity/cultural background or language speaking preferences impact on their access to or their use of ICTs and other pregnancy-related information sources. As such, how the LMH can best serve the antenatal health communication needs of specific cultural/ethnic groups is an important future research priority.

Trust in the LMH

Formative data from our study conclusively demonstrates that pregnant women trust the information provided by the LMH and are more likely to use a source that is recommended to them by the hospital. Furthermore, women often have concerns about the reliability of information that they access from other sources, in particular the Internet. Some women indicated that navigating through all of the available antenatal information was confusing and overwhelming. We make two recommendations based on these findings.

Firstly, that the LMH could use this position of trust to **produce** antenatal information that utilises new communication mediums such as smartphone apps in an innovative way to encourage better health outcomes. Secondly, that the LMH could **promote** existing ICT sources of pregnancy related information that are evidence based and of high quality. We conclude that the LMH could develop their own pregnancy related ICT and/or play a greater curatorial role by guiding women to appropriate information sources and helping them to better understand and apply the information that they consume.

ICT Access and Use

Our study found high levels of access to and use of ICTs and other media forms. 100 percent of our cohort had access to the Internet. This suggests that a health promotion strategy that utilises the Internet would have extensive reach. However, because many of our participants accessed the Internet on their mobile phone we argue that where possible any online content that is produced should be optimised for access on a mobile phone. It is also important to make distinctions between access to these mediums and the corresponding use of these technologies to seek pregnancy related health information.

ICTs used to Access Pregnancy Related Information

ICTs used to access pregnancy related information are listed here by popularity:
Internet Search/Website (89%)
Smartphone Application (40%)
Facebook (31%)
Internet Forum (20%)
Youtube (20%)
Twitter (0%)

Specific recommendations based on each medium are summarised below.

Website:

- Pregnant women are seeking health information online. We strongly suggest that the project should consider how this medium can be better used to educate pregnant women;
- The LMH website could be adapted to include a specific focus on the antenatal services provided by the LMH, the structure of antenatal care at the LMH and more general pregnancy related health information. If this is not feasible within the scope of Health-e Baby, then the team should consider creating their own website or blog where online health communication strategies could be trialled and evaluated;
- If Health-e Baby does not involve the production of a website, then strategies should be put in place to more effectively promote other sites such as CYH to pregnant women.

Smartphone Applications:

- While the cost of producing an app may be prohibitive, our research findings suggest that an app could be an innovative and engaging way to provide women with antenatal health messages. 40 percent of our participants already used a smartphone app to access pregnancy related information and a high number indicated that they would trial an application if the hospital produced or recommended one;
- Apps may be more appealing to women with lower health literacy than other mediums. This is an assumption that would need to be tested. Digital literacy would also need to be considered.

Facebook:

- The reach of Facebook (89% access, 31% for pregnancy related information) makes it an exciting medium to consider for our intervention. In particular, a Facebook group would be an extremely cost effective health communication approach because it is free and relatively simple to set up.
- That said, labour costs for the development of content to post to the group and to monitor group activity also need to be considered. LMH staff attitudes towards Facebook and SA Health Policy must be accounted for in any project design that integrates a Facebook Group. Privacy concerns of both staff and patients would need to be addressed.
- A Facebook page could be relatively easily integrated into a multi-media strategy (i.e. website links to Facebook page etc.).

Youtube & Twitter:

- Given their lower usage rates, we do not recommend that Youtube or Twitter should form the central focus of the Health-e Baby intervention. In particular, the negative sentiment frequently associated with Twitter suggests that it would be a less effective health communication medium than other ICTs. That said, Youtube could be utilised to disseminate media content if it is produced as part of the project.

Health Communication Strategies Utilised in the LMH Family Clinic Waiting Room

Our study found that existing health promotion strategies were well received by the majority of women. However, some areas for improvement were identified:

- Attention could be paid to the placement and presentation of brochures provided in the waiting room to encourage greater usage;
- Individual posters displayed in the clinic would need to be evaluated in more detail before any recommendations about their content/format could be made;

- The televisions that are located in the Family Clinic and currently play free-to-air television could be utilised as an additional source of antenatal health communication. There was strong support from both LMH staff and pregnant women for the production of a power point/video to be displayed on the televisions in the Family Clinic waiting room. If this option is pursued then the cost of producing a video versus a power point presentation will be an important factor. Embedding a short video within a power point may be a cost-effective solution;
- Such a powerpoint/video could play a key role in promoting other aspects of our intervention (i.e. app or website).

Face-to-face Communication:

- Interviews conclusively demonstrated that women highly valued face-to-face interaction with LMH staff members and that these encounters were extremely important opportunities for the discussion and dissemination of pregnancy related information. Numerous positive experiences of interpersonal communication were reported by participants and the majority of negative interactions that were discussed occurred outside the LMH.
- Face-to-face communication should not be replaced by other forms of health communication (i.e. online). However, this does not mean that face-to-face communication cannot be supplemented and strengthened by other communication mediums or that new ICTs do not have a role in health care.
- Women respond positively to health communicators who are viewed as friendly, caring, professional and knowledgeable. They can become distressed and dissatisfied when they feel that their emotional and/or their information needs are not being met and are less likely to listen to health messages if they feel that they are being judged or belittled. These are all valuable lessons that apply to both face-to-face and other communication modalities.

Unmet Information Needs

Our study found that some women had information needs that were not currently met by the antenatal education strategies employed at the LMH. In particular, some women would have liked additional information or more clearly presented/standardised information about the structure of antenatal care at the LMH (i.e. the number of antenatal appointments, and the timing of different antenatal tests). Therefore, we recommend that additional information should be provided to pregnant women outlining the following:

- What the first appointment involves;
- Where they can seek information before their first appointment including important contact numbers;
- A simplified overview of the structure of antenatal care at the LMH
- It should be noted that the LMH has already taken steps to deliver this information to women through a letter, which will be mailed to women before their first appointment. However, this information has not been pre-tested. There is also the opportunity for this information to be reinforced using other platforms (i.e. website);
- The provision of simplified written material that included more pictures and less text was also discussed by some women. Once again, this points to a need for content delivery that meets women's level of health literacy.

Section 2: Research Methods and Participant Characteristics

2.1 Methodology

Key Project Statistics

35 face-to-face interviews and 21 short surveys conducted with pregnant women.
19 face-to-face interviews and 18 short surveys conducted with LMH staff members.
Total sample size (n=93)[1]

The research reported in this paper was collected during the first 12 months of the Health-e Baby project. The aim of this research phase was two-fold; 1) to assess the institutional capacity of the hospital to deliver effective health promotion to pregnant women and their greater networks and 2) to assess the information needs, media uses and media preferences of pregnant women who presented at the LMH. Although these aims were initially envisaged as two separate steps, in practice they were completed in parallel. Our assessment of current health communication practices at the LMH included the collection and/or documentation of health promotion material used in the Women's Health Unit (i.e. brochures, posters, etc) and individual or group interviews with key stakeholders (n=19) at the LMH.[2] We interviewed staff members with various levels of seniority who were involved in antenatal and postnatal care, including specialised off-site antenatal services. These qualitative interviews were conducted face-to-face and were semi-structured.

In addition to these interviews we also conducted participant observation at two antenatal appointments, two antenatal and parenting classes and in the hospital waiting area that primarily caters for antenatal patients. We also utilised a short survey with both open-ended and check box responses that was completed by 18 staff members. The anonymous nature of this survey means that we do not know how many unique staff participants were involved in our research. These research activities were designed to gain an understanding of the attitudes of LMH staff to both existing health promotion strategies at the LMH and the perceived strengths and weaknesses of new approaches (i.e. the integration of social media). However, because of time restraints we are unable to explore the beliefs and practices of staff in detail in this report. This is an important consideration that will be addressed in forthcoming Health-e Baby outputs including conference presentations (Dalton 2013) and journal articles. While we recognise that the effectiveness of health promotion interventions relies on the support of the staff who will deliver them, in this report we primarily focus on the experiences and opinions of pregnant women.

In-depth qualitative interviews were utilised with pregnant women (n=35) who presented at the LMH in order to explore their media uses and preferences.[3] Interviews were designed to elicit a detailed understanding of the information that these women sought during pregnancy, where they accessed it and why. Attention was paid to the various barriers and facilitators (i.e. social, cultural, economic) that influenced ICT/media use. We asked women about their use of information sources including the Internet, smartphone applications, television and radio programs, books, face-to-face

[1] This number does not account for participants who completed both a short survey and a face-to-face interview.
[2] We conducted individual interviews with eight staff members and two short group interviews (the first with four participants, the second with eight participants). One staff member was involved in both group interviews meaning that there were 19 unique face-to-face staff participants.
[3] The research was approved by the Central Northern Adelaide Health Service Ethics of Human Research Committee (TQEH and LMH) prior to the commencement of research. We did not have ethics clearance to involve Aboriginal and Torres Strait Islander participants or participants under the age of 18.

communication with health professionals, written material provided at antenatal appointments and advice requested or received from family and friends.
Women were recruited to the study by Midwives working in the LMH Family Clinic during their first antenatal appointment. Midwives discussed the project with women and asked them to fill out a form which included their name and a contact phone number if they consented to being contacted by the research team. Our Research Midwife then contacted these women and those who agreed to participate were interviewed on-site at the LMH, usually before or after their next antenatal appointment. Interviews typically took one hour and were conducted by our Research Midwife, Research Associate or both. Interviews were recorded and transcribed for future reference. In addition to face-to-face interviews we also employed a short survey that could be completed in conjunction with the semi-structured interview or independently. Women were given the short survey at their first appointment and could either fill it out on the spot or mail it back in the provided stamped, self-addressed envelope. 18 women completed the short survey with 10 of these being unique participants (i.e. women who were not also interviewed face-to-face). **All of the statistics cited in this report are based on the responses of the 35 women that we interviewed face-to-face.** In the following section we provide a broad overview of our cohort. For a more detailed breakdown of participant information see Appendix 1.

2.2 Demographics

Participants were recruited over a seven month period from June 2012 to January 2013 and were aged 18 to 40 years old. The mean age of participants was 28 which is lower than the mean age of women who gave birth in South Australia in 2010 (30.1) (Scheil et. al. 2012, p. 10).

- 14 participants (40%) were having their first baby.
- 65.7% of participants lived in a low socio-economic area defined using the Australian Bureau of Statistics Socio-Economic Indexes for Areas (SEIFA) 2006.[4]
- 14.3% of participants stated that they were not in a 'stable relationship' at the time of the interview.
- 17% of participants had private health insurance (extras, hospital cover or both).
- 42.8% had a Health Care Card.
- 54.3% were employed either full or part time.

When asked about their cultural background or ethnicity 32 participants identified as being Anglo-Australian, one as Japanese, one as Indian and one as Romanian. 31 participants were born in Australia. Those who were not born in Australia were born in England, Romania, India and Japan and immigrated to Australia in 1982, 1989, 2007 and 2012 respectively. A small number of participants indicated that they spoke a language other than English. However, the majority of these spoke a very limited amount (i.e. conversational German). Three participants spoke a language other than English at home (Hindi, Romanian and Japanese) and two of these spoke English as a second language. We asked women to indicate their level of English proficiency based on categories obtained from the Australian Census. Participants were asked whether they spoke and read English 'Very Well' (VW), 'Well' (W), 'Not Well' (NW) or 'Not at all' (NA). 32 participants stated that they spoke and read English 'Very Well' (91.42%). Only three participants stated that they spoke/read English 'Well' and no one stated 'Not well' or 'Not at all'. Education levels varied dramatically. The lowest level of formal education was Year 10. Many participants had completed years 10, 11 or 12 and then gone on to further study at TAFE. Seven participants (20%) had completed or were currently enrolled in a University degree including postgraduate qualifications.

[4] We used a list of post codes designated as 'low SEIFA' by the LMH. This list included areas rated as 1,2,5 and 7 of 10 Adelaide Metropolitan areas for low SEIFA (Northern Area Midwifery Group Practice, LMH Trial Form).

2.3 Recruitment and Study Limitations

Because participants were self-selecting and not randomly recruited there are some biases in our cohort. Despite the diverse nature of the population served by the LMH, we found it difficult to recruit women from culturally and linguistically diverse (CALD) backgrounds and other disadvantaged groups including lower socio-economic status (SES). Overall recruitment rates were low and we hypothesise that this may have been because of our reliance on Midwives to approach women to participate in the study.[5] We recognise that recruiting women to our study may have been perceived as an additional time pressure by some staff.[6] This is because the first antenatal appointment is tightly scheduled and full of activity. It involves Midwives collecting a lot of information from women (i.e. medical history, height, weight), assessing their individual needs and delivering a significant amount of health information (i.e. hospital procedures, healthy diet during pregnancy, mental health services etc). As such, informing women about our study may have been a low priority. Other barriers to recruitment included the specific nature of our cohort (pregnant women attending the LMH) and the ability or willingness of women to attend the LMH for the purposes of an interview. In order to improve recruitment rates in September 2009 we implemented a $30 voucher to thank women for their participation. This did increase participation although not significantly. However, we believe that the introduction of the voucher led to increased participation from women from more disadvantaged groups (i.e. SA Housing Trust tenants, lower SES, lower education levels).

Recommendations

Future studies need to carefully consider their recruitment strategies, in particular, **how they will ensure that their cohort is representative.** We believe that we may have been able to attract more diverse participants if we had moved beyond the hospital setting and approached women through contacts in the community (i.e. refugee groups, community housing groups etc.). However, we did not have ethics clearance to conduct research outside of the LMH.

The self-selecting nature of our participants and the qualitative nature of research do impact on the generalisability of our findings. Therefore, when we develop and evaluate our intervention it is important that we **carefully consider and address any differences between the cohort analysed in this report and the intervention target group.** Measures are already in place to achieve this (c.f. Skuse 2013).

[5] Because of ethical concerns we were not able to approach women ourselves.

[6] This does not mean that we do not appreciate the generous support and assistance of staff at the LMH. Simply that we understand the challenges involved in recruiting pregnant women to a study at the first antenatal appointment.

Section 3: Broader Factors that Shape Pregnancy-Related Information Seeking Behaviours

3.1 Introduction

In this section we explore some of the common factors that can influence both women's information needs and their information seeking habits. This section is designed to give a broad overview of some of the issues that the Health-e Baby team should consider when developing our intervention.

3.2 Previous Pregnancy Experience/s

Women's previous pregnancy experience/s were a factor that significantly shaped information seeking behaviour. There was a clear correlation between women's previous pregnancy experience/s and the amount of information that they sought, with first time mothers having much higher information needs and women with two or more children being much less likely to actively search for pregnancy related information. Casey, a 40 year old pregnant woman having her third child said that she accessed less pregnancy information in her third pregnancy than in her first and second pregnancies: 'I think I'm much more relaxed about this pregnancy than I was about the others'. Many women also indicated that they consulted books or websites in their first pregnancy which they did not use in subsequent pregnancies. It can be assumed that this was because they felt confident that they already had a sound understanding of the pregnancy and labour process. As such, some participants indicated that it would be beneficial if the hospital tailored the information supplied to women to meet the different needs of primigravida and multigravida women:

> Having different packs for different pregnancies. The first one, all your information, the second one maybe tailor-make it for what they'd like (Dawn, 29).

Having other children was also identified as a barrier that prevented women from reading the written material supplied to them by the hospital or seeking information from other sources. Child care commitments restricted the time that some women had to available to complete other tasks: 'I've got three children running around. Sitting down and reading, is not something I get to do that often' (Pauline, 27). Pregnant woman with other children were also interested in topics that were not discussed by first time mothers such as how to introduce a new child into an existing family unit. They also tended to have a greater interest in the potential parenting challenges that they might face (i.e. infant sleep patterns) than first time mothers who were primarily interested in addressing more immediate issues such as pregnancy symptoms, their diet and their forthcoming labour.

However, while we note that multigravida women were much less likely to search for pregnancy information and were often confident that they were knowledgeable, there is a clear danger in assuming that all women with previous pregnancy experience/s have high levels of maternal health literacy. It is difficult to evaluate the antenatal education given to women in their previous pregnancies and to establish whether or not they were able to comprehend this information and can recall it. Furthermore, women themselves noted that best practice in the health field changes over time which leads to new health and safety recommendations. Thus, while we note that health communicators should be attendant to the individual needs of different women and to respect and recognise the skills and knowledge levels of women who have previous pregnancy experiences, we should not assume that having one or more children results in a higher level of health literacy.

Recommendations

- We should consider providing tailored information to address the different information needs of first time mothers and pregnant women with two or more children. That said, we must ensure that important health messages and antenatal information is always accessible to all women and that we do not assume that previous pregnancy experiences can be directly correlated with adequate antenatal knowledge.

3.3 Health Literacy / Literacy

As discussed in section 2.3, the self-selecting nature of our participants led to some biases in our cohort. In particular, many of our participants were highly educated and appeared to have high health literacy. Although health literacy was difficult to ascertain in interviews, it was apparent that many participants were able to confidently navigate through the antenatal health system and to understand, analyse and apply antenatal health information. For example, one of our participants stated that the written material that was supplied to her by the LMH could have been more 'in depth', reflecting her own ability to comprehend complex information (Ingrid, 33 year old pregnant woman). While the majority of our participants did not appear to have low health literacy, we did interview some women who had lower levels of literacy, were less able to confidently make decisions about their health and who had misunderstood some of the health information that they accessed. When asked if she had consulted any books about pregnancy, Valerie stated: 'No, I'm not a good reader' and Gail, a 26 year old pregnant woman interviewed with her partner said that she had 'trouble with words and understanding'. Later in the interview Gail and her partner discussed the difficulties that they encountered when searching for pregnancy information online. Although they had conducted numerous Internet searches, Gail and her partner found it difficult to understand the available information:

> Gail: It was so confusing.
>
> Partner: So if we had a…government website that we could have used that would have been easier
>
> Gail: A lot easier.

It is telling that Gail and her partner were unable to locate any government websites when they searched for information about pregnancy, despite the availability of the South Australian Child and Youth Health (CYH) site and other state government sites.

Recommendations

- Our research illustrates that the LMH serves a diverse range of women with different levels of health literacy. Understanding and responding to their different needs will be an important component of our intervention.
- Future phases of the project could incorporate a formalised assessment of health literacy. A literature review could be conducted to ascertain if any of the existing health literacy measurement tools are appropriate.

3.4 Socio-Economic Status

As discussed in section 3, the vast majority of our participants had extensive access to ICTs and other media forms. However, socio-economic status was a barrier that restricted some women's access to mediums such as the Internet and therefore, their information seeking options. For example, while Anna had access to various ICTs including the Internet, she was concerned that not all women living in her area had the same choices that she did:

> ...we're living in Munno Para West, we've got Davoren Park and Smithfield Plains across from us and I think probably not a lot of people in that area, just judging from the area, probably wouldn't have access to the Internet (Anna, 37).

In addition to this second hand data, other participants did discuss how their socio-economic status impacted on their ability to access different ICTs. Kelly, told us that her home phone had been disconnected and that she was unable to reconnect it because 'they [telecommunications company] wanted an extra $100 for the line fee' (Kelly, 19). Kelly also said that her household had been robbed and that she had been unable to replace a lot of her stolen electronic equipment. Olivia, stated that she could access the Internet using her mobile but did not because she was 'under the impression it costs too much' (Olivia, 33) and Alison only uses the Internet when she can afford credit: 'We've got pre-paid internet, so it's when we can afford credit' (Alison, 26). Finally, when asked if there were any sources that she would like to use to access information about pregnancy but couldn't because of their cost, Dmity replied:

> Internet…It all comes down to money doesn't it, I can't afford to buy these new smartphones and have these, it's just money.

Recommendations

- Health messages cannot be effective if women are unable to access them. We must ensure that our intervention does not exacerbate existing health inequities. As such we need to consider health promotion strategies that do not exclude women with limited ICT access. That said, findings to date suggest that women from lower SES backgrounds do have Internet access, particularly on their mobiles. This finding could be further substantiated in the pre-testing and evaluation phase of Health-e Baby.

3.5 Ethnicity/Cultural Background

In section 2.3 we outlined the challenges we faced when recruiting CALD participants. As such, we are unable to identify if women's ethnicity/cultural background or language speaking preferences impact on their access to or their use of ICTs and other pregnancy-related information sources. While we interviewed four women who were not born in Australia, three of these women had high levels of English proficiency and the fourth, Reiko a recent Japanese immigrant, was married to a partner who was highly educated (currently completing his PhD in Asian Studies at the University of Adelaide) and able to help Reiko navigate the Australian health system. When asked if they would have liked antenatal health material to be provided in Japanese, Reiko said 'yes', however her partner mused: 'I wonder how many Japanese are in Australia?' He went on to say that translating antenatal health materials into Japanese may be a low priority for the LMH because there are not many Japanese immigrants in Australia and many speak a high level of English compared to other migrant groups. Of course, this single example in no way means that the LMH should not explore the production of translated health material for different language speaking groups. Rather, it highlights a gap which future research needs to address. That is, **how the LMH can best serve the antenatal health communication needs of specific cultural/ethnic groups.**

Recommendations

- Future projects that build on the findings of Health-e Baby could focus exclusively on a specific ethnic/cultural groups whose members attend the LMH in high numbers such as Sudanese, Khmer or Vietnamese women.

3.6 Trust in the LMH

Formative data from our study conclusively demonstrates that pregnant women are more likely to use a source recommended to them by the LMH:

> I would probably, more likely, use it if the hospital recommended it. At least you know you're looking at, the right one...or it's something that they maintain. (Belinda, 33).

27 year old Pauline stated that she places the most trust in information provided by the hospital: 'Generally what the hospital provides' while 18 year old Margaret said: 'you know if the Hospital gave it to you it's true'.

Recommendations

- Our findings suggest that the high level of trust placed in the information provided by the LMH may result in pregnant women trialling technologies or health communication materials that they would not normally use (i.e. smartphone apps). The LMH should use this position of trust to help women to better understand and apply the antenatal health information that they consume.

Section 4: Media Access and Preferences

4.1 Introduction

In this section of the report we provide an overview of pregnant women's access to and use of various media sources including ICTs.

4.2 ICT Access and Use

Our study found high levels of access to and use of ICTs. All women in our study had access to the Internet either at their own home, on their mobile phone or both, with 91% accessing the Internet on their phone. Some women also used the Internet in other locations such as at work or the library. While some women utilised pre-paid services for both mobile and/or Internet usage, the majority received monthly bills that were part of a capped plan. Phone (mobile or land line) and Internet services were often bundled together in packages. Below we provide some key statistics that give an overview of the ICT habits of our cohort before exploring the particularities of each medium in more detail.

100% of participants had Internet access.
97% of participants had a mobile phone.
89% of participants used Facebook.
88% of participants' phones were smartphones.
82% of participants had a computer in their household.
65% of participants used Youtube
6% used Twitter.

Mobile Phone

A total of 34 out of 35 participants owned a mobile phone and the one participant who did not stated that she had recently stopped using her own phone and was currently sharing her partner's. 88% of these phones can be classified as 'smartphones' based on the criteria applied during interviewing. 68% of participants indicated that they used smartphone applications (apps), however, this result is not reliable because women were often unsure about what constituted a smartphone app. Many women stated that they did not use apps, even though it emerged in interviews that they were accessing platforms such as Facebook through an app. Facebook was the most popular smartphone application. Other apps used by women included banking apps, weather apps, ebay, email apps and pregnancy related apps. The use of pregnancy related apps is discussed in section 5. The websites that women visited on their phones tended to mirror their app usage. Once again this highlights the conflation of smartphone apps and websites accessed through a smartphone, although some women did use their phones for much more extensive Internet browsing including reading blogs, conducting internet searches and watching Youtube video clips.

Smartphone games were frequently used by many participants. Game use was discussed separately from app use in interviews. Many participants had games on their phones and/or apps that were solely used by their children. Mobile phones were most commonly used to send text messages, with many women indicating that they sent several text messages each day. Women tended to make and receive phone calls on their mobiles less frequently than they sent and received text messages, however, this did depend on individual preferences. Other mobile phone functions that were commonly used included the camera, with pictures often shared with family and friends either via email, SMS or social networking sites such as Facebook, calendar and alarm clock functions.

Home Phone (Land Line)

Home phone (land line) ownership was highly variable with younger participants being less likely to have a land line. Indeed, some of the women in our cohort indicated that they had never had a land line installed in their home: 'never found a use, to have one' (Belinda, 33). Mobile phones and land lines were often used for different purposes, with women indicating that they reserved particular phone calls for their land line (i.e. long distance calls, potentially lengthy calls to organisations such as Centrelink).

Household Computer and/or Tablet

82% of participants had a computer or tablet in their household. These devices were most commonly used for Internet access including sending and receiving emails but also for word processing: 'when I'm studying and type letters and stuff' (Laura, 24) and gaming activities that were not always reliant on an Internet connection. Because women accessed the Internet on multiple devices (i.e. mobile phone, household computers and/or tablets) in this report we have condensed findings pertaining to the use of the Internet and in particular, social media, into this section. When women used both their mobile phones and a household computer for Internet access they tended to use the device with the larger screen for specific tasks like reading text heavy articles or accessing sites that did not display correctly on a mobile phone. Very few participants reported reading blogs or participating in Internet forums. When women did discuss accessing forums and/or blogs they were usually related to a special interest such as cooking, pet ownership or art. Very few participants used the Internet to make phone calls (i.e. using services such as Skype of a VOIP phone. Social media use was highly dependent on the particular platform. While 89% of participants used Facebook, 65% used YouTube and even less used Twitter (6%). Each of these social networking sites is discussed in more detail below.

Facebook

Facebook was primarily used to connect with friends and family. When asked who they would 'add' as a 'friend' on Facebook all women except two stated that they would need to 'know' the individual: 'I don't add random people. It's people I know or have met' (Gwen, 32). One of the women who did add people who they did not have an 'offline' relationship with was a woman named Elliot who had created several Facebook accounts solely for the purpose of playing Facebook games. Elliot and her sister Dmity were both pregnant and were interviewed together. Both of them had distinct Facebook habits including the creation of multiple accounts.[7] Women were often unable to recall specific details about their Facebook usage which made it difficult to gain an accurate overview of how they used the platform. In particular, when we asked women if they participated in any Facebook 'groups' or 'liked' many Facebook pages they were often unable to remember the names of groups or pages that they had liked, or to accurately describe them. It appeared that very few women actively participated in Facebook groups and that when they 'liked' pages this did not typically result in a sustained engagement with the page. It was rare for women to 'like' the pages of organisations, although some women did discuss 'liking' a page such as the Liberal Party of Australia Facebook page, craft pages and business pages such as cake decorating. The most common groups that women spoke about joining or content that they 'liked' were humorous pages/groups.

[7] In addition to multiple accounts created for gaming, Elliot had a page that she set up in her son's name where she shared family photos. She did this so that she did not have to add her ex-partner to her personal Facebook page. Similarly, Dmity had a page that she created with a highly restricted friends list that included her in-laws and other relatives. She carefully constructed what she posted on this account including monitoring her language use.

Youtube

Women typically used Youtube to access music video clips and to watch humorous content such as Internet memes and short videos. Some participants also discussed watching television episodes that were available on Youtube (either legally or illegally) and/or webisodes (an episode of a series that is accessed via Internet television). Youtube content was frequently accessed and shared via other social networking sites, in particular Facebook. No participants indicated that they commented on content uploaded to Youtube and only one participant produced Youtube content. Reiko, a 40 year old pregnant Japanese woman and her Anglo-Australian husband had their own Youtube channel where they uploaded videos. These videos often featured their travels in Japan.

Twitter

Twitter was often viewed quite negatively and this is reflected in its low usage. Significantly, some women stated that they had created a Twitter account but had never used it. Reasons cited for not using Twitter included the perceived complexity of the site with many women indicating that they did not 'understand' Twitter and the lack of relevance/need for the service. Twitter was frequently described using negative adjectives like 'stupid'. One participant specifically stated that Twitter was redundant because of her Facebook usage: 'I don't want another network, social network. I think Facebook is enough' (Bernadette, 19). The low number of their peers who used Twitter as opposed to Facebook was also a factor that shaped women's lack of interest in Twitter.

4.3 Other Media Access and Use

All women except one had a television in their household. A small percentage of women had Pay TV with the majority utilising free-to-air services. One participant reported living in a Housing Trust property where the television signal was so poor that they were unable to watch TV. Television watching practices differed significantly from person to person and were reflective of individual preferences and circumstances including: the interests and ages of other household members, the number of televisions in the house and the individual appeal of different content/genres (i.e. reality television programs). Television usage was also shaped by access to other mediums such as DVD players, gaming consoles and the Internet. For example, some women downloaded media content from the Internet which they then viewed on their televisions via a network or portable hard drive. Others watched downloaded content directly on their household computers, usually laptops. Television content was also accessed via sites such as ABC iView. While several of our participants said that they had gaming consoles in their houses, they typically indicated that their children and/or partners were the primary users of these technologies. Gaming consoles used ranged from 'retro' gaming systems such as Atari and Super Nintendo to current consoles such as the Playstation 3. Finally, many women listened to the radio either at home or in their cars. It should be noted here that we did not ask women about their reading habits. This information would have enabled us to compare women's use of written antenatal materials (i.e. brochures and books) which we did discuss in interviews with their broader reading preferences.

4.4 Section Overview

The above description of women's media access and use suggest that our cohort has extensive access to ICTs and other media forms. However, it is critical to make distinctions between access to these mediums and the corresponding use of these technologies to seek pregnancy related health information. In section 5 we specifically explore when, why and how women used the above media sources and other mediums (i.e. face-to-face communication) to access information about their pregnancy. To avoid repetition we draw on the evidence from both sections 4 and 5 to make the project recommendations that are listed in section 5.

Section 5: Sources Used to Access Pregnancy-Related Information

5.1 Introduction

In this section of the report we provide an overview of the sources that pregnant women used to locate pregnancy-related information. We use this information in conjunction with data introduced in section 4 to identify the barriers and facilitators that shape the information seeking behaviours of our cohort. We draw on this evidence to make recommendations for antenatal health promotion strategies at the LMH.

5.2 Statistical Overview

89% of participants used an Internet search to locate pregnancy related information with 74% of women specifically naming the 'Google' search engine. No one named another search engine.

- 89% of participants used websites to access pregnancy related information.
- 51% of participants accessed the Baby Center website.
- 40% of participants used a pregnancy related smartphone application. These apps included the Baby Center app (My Pregnancy Today), What to Expect When You're Expecting app, ipregnancy and the Essential Baby weekly pregnancy guide app.
- 31% of participants used Facebook to access pregnancy related information.
- 28% of participants believed that they had used the CYH website, one woman was unclear and was classified as a Maybe.
- 20% of participants used an Internet forum for pregnancy related information. One woman was not asked about her forum usage.
- 20% of participants used Youtube to access pregnancy related information.
- 17% of participants accessed the LMH website.
- No participants used Twitter to access pregnancy related information.

5.3 In the Waiting Room

As discussed in the first report, numerous health promotion strategies are employed in the LMH Family Clinic Waiting Room. In this section we discuss how women used these existing health communication approaches and identify opportunities for further antenatal education that could be employed in this context.

Posters

Women had varied levels of engagement with the posters displayed in the Family Clinic. Pauline, a 27 year old pregnant woman 'stared out the window' while she waited for her appointment and didn't look at any of the posters. She said that she did not interact with the posters because:

> I'd already pretty much looked up everything I wanted to know [before the first appointment] and I figured talking to the Midwife was going to be the best.

This quote demonstrates that while the posters may appeal to some women, individual preferences play a role in determining which sources women utilise for health information. In interviews many women were able to recall the content/topic of several posters, in particular the Caffeine poster discussed in Report 1. It was clear that women were very interested in learning about the recommended levels of caffeine consumption during pregnancy. However, when asked if they 'learnt' anything from the posters displayed in the waiting room, women often found it difficult to

identify any key messages that they had taken from the posters. Gwen indicated that the content of many of the posters were not relevant to her, in particular naming the posters that promote smoking cessation. Nonetheless, she recognised that the posters would be helpful for other women:

> I think that they serve their purpose for what they're trying to get out there…like I said I think they're area appropriate so, to the demographic around here (Gwen, 32).

Overall, women were satisfied with the design of the posters, typically indicating that they were easy to read. Although some women did indicate that the font size of some posters needed to be larger.

Recommendations

- Posters are a simple and cost-effective way to provide additional health promotion messages to women who are waiting for their antenatal appointments. While they are not utilised by all women, they provide another avenue for the dissemination of health messages that can benefit pregnant women. Further research would need to be conducted to fully evaluate the impact of individual posters used in the clinic. This is probably beyond the scope of the Health-e Baby project.

Brochures/Pamphlets

Very few women reported taking any of the written material provided in the Family Clinic (see report 1 for a more detailed discussion of this material). Indeed, one woman stated that she was not aware than any brochures were available in the waiting room. That said, women who did take brochures found them extremely helpful. Brochures that women in our cohort took from the waiting room included information provided by the Australian Breast Feeding Association, information about neo-natal abstinence syndrome and information about infant sleep and nutrition. Rather than suggesting a deficiency in the brochures provided in the Family Clinic, we argue that the low number of women who take brochures is reflective of the high level of patient satisfaction with the written material provided in the first antenatal appointment and the Bounty Bag.

Recommendations

While interviews and participant observation illustrated that the written material provided in the waiting room was not frequently used, we believe that its provision is important. The specialised nature of these brochures will always mean that they do not appeal to all women. Nonetheless, they should be available for those women who find them helpful. Attention could be paid to the placement and presentation of this material to promote usage. However, it should also be noted that health professionals such as Midwives do give women additional written material that is tailored to their needs in their appointments.

Television

In the first report we discussed the televisions that are located in the waiting room. We found that many LMH staff members believed that the televisions could be utilised for antenatal health education if a power point presentation or video was produced that could run on these televisions on a loop. Currently the televisions are solely used to play free-to-air television programs. Our research found that women did not find this engaging and rarely watched the televisions. Since completion of the first report, the LMH have replaced the smaller televisions that were fixed in the waiting room with two larger televisions. This means that any programs/material displayed on the televisions can be easily viewed from various vantage points in the waiting room. In interviews there was strong support for the production of an educational pregnancy video/power point. Melanie indicated that this could be an important additional source of information that she would view and that it might help

her to overcome some of her fears about pregnancy. She stated that she would like it to be a general overview of pregnancy:

An 'overall thing about pregnancy. Like there's so much you need to know. It doesn't matter how many times like you've been pregnant or somebody tells ya, you always stop and think "Oh my God, what did they say?", cos' like it's a bit overwhelming sometimes (Melanie, 23).

Similarly, Nora said that she would watch this video/power point and that it would be extremely helpful: 'I still feel like I'm in the deep end and I need information coming through, so yeah it would make it all that worthwhile I think' (Nora, 29). She would like the content featured on the video to include the physical changes experienced during pregnancy, how to involve your partner and relaxation techniques. She noted that this information should not 'overload you' which was a concern that was also highlighted by other participants. Olivia said that such a video should not include 'scary stuff' but should focus on 'where you can go for advice' (Olivia, 33). Pauline also emphasised the need for referrals to support staff stating that the video should feature: 'what to expect, how to keep yourself comfortable, any information, if you've got any worries or anything, who to speak to (Pauline, 27) and Bernadette thought that many women would rather watch a video than read written material (Bernadette, 19).

Despite the support for the video it should also be noted that some women indicated that they might not watch a video in the waiting room because they would be engaged in other tasks such as checking their mobile phone: 'I must say actually that I was sitting in the waiting room downstairs and I wasn't watching TV actually I was on my phone anyway [laughs]' (Belinda, 33). Ingrid indicated that she did not think the waiting room was an ideal location to absorb health information because of the noise and other distractions. Therefore, if a video was produced how to best engage women would be an important consideration.

Recommendations

There was strong support from both LMH staff and pregnant women for the production of a power point/video to be displayed on the televisions in the Family Clinic waiting room. If this option is pursued then the cost of producing a video versus a power point presentation will be an important factor. Embedding a short video within a power point may be a cost-effective solution. Whatever the format, the issues identified in Skuse (2013) will need to be considered if this content is designed (i.e. relevance, attractiveness, pre-testing and so on).

A powerpoint/video could play a key role in promoting other aspects of our intervention (i.e. app or website).

5.4 Face-to-face Communication

Interviews conclusively demonstrated that women highly valued face-to-face interaction with LMH staff members and that these encounters were extremely important opportunities for the discussion and dissemination of pregnancy related information. While one participant did state that face-to-face interaction with LMH staff members was not important to her (Jane, 21) the vast majority of women that we interviewed viewed face-to-face communication as an essential component of their antenatal care. Melanie, a 23 year old pregnant woman indicated that the personal nature of face-to-face communication appealed to her: 'Because you feel like they actually listen to you that way, so you're actually classed as a person, not just a number'. Below we explore in more detail some of the strengths and weaknesses of face-to-face health promotion strategies employed at the LMH as discussed by our participants.

Experiences of Positive Communication

Overall, the women that we interviewed were extremely satisfied with the interpersonal communication provided by LMH staff, in particular Midwives. Women rarely made negative comments about their interactions with health professionals and this suggests that the quality of interpersonal communication at the LMH is very high. Midwives were described by participants using adjectives including 'friendly' 'approachable' and 'easy to talk to'. On the whole, they were consistently viewed as demonstrating 'empathy' and 'respect' for their clients:

> She [Midwife] was very nice, she was quite thorough and asked lots of questions....very helpful really (Laura, 24).
>
> She'd explain something and then she'd ask if you had any questions afterwards, all the important phone numbers and stuff she highlighted for us so we could remember, all the appointments, she either gave us a card or wrote it down on that book so that it's easier to keep track of. She was really good with my partner cos' he wants to quit smoking too and she gave him all the Quitline stuff (Melanie, 23).

The above quotes are examples of Midwives meeting the information needs of pregnant women in a professional and friendly manner.

Experiences of Poor Communication

As discussed above, the majority of our participants indicated that the face-to-face communication with LMH staff was positive. However, some women did identify instances of poor interpersonal communication from health professionals. Typically these encounters occurred outside the LMH. For example, Reiko and her husband discussed their dissatisfaction with the care that they received from their GP and contrasted this with the service that they received at the LMH:

> Reiko had a miscarriage and we had to explain it again, had to keep going over things [with their GP]. We were surprised that [the Midwife] already had the paperwork and knew that Reiko had a miscarriage, because we don't have to explain it (Reiko's partner).

Similarly, Margaret compared the care that she received at a rural hospital with care provided at the LMH:

> At first we were going to the Angaston Hospital and I said about my pump [insulin pump, Margaret is a Type 1 Diabetic] and they didn't know what it was. So when you come down here and…they can answer all your questions...this hospital is so good...I think I feel safe having my baby here (Margaret, 18).

While the above examples refer to care provided by health professionals outside of the LMH, some women were critical of the communication skills of LMH staff. When asked how she would like the LMH staff to treat her during her pregnancy, 29 year old Dawn said:

> Probably ask more emotional related questions cos' they don't tend to do that. They forget that part of you. I felt neglected today [after an antenatal appointment before the Health-e Baby interview].

Later in the interview when asked what qualities or traits she would like LMH staff to have Dawn replied: 'Just the appearance that they want to listen, and not be rushed' (ibid). 25 year old pregnant woman Elliot was also extremely critical of the bedside manner of one LMH doctor who she described as being 'callous':

> I went and seen the doctors the other week, but I don't know, she basically told me whatever happens happens, you're at a high risk of miscarriage and if you miscarriage well, too bad. It's not very reassuring, it's a bit callous too (Elliot, 25).

She went on to describe how she had struggled to get information about a medical condition (perisac hematoma) that she was experiencing and the trauma that this had caused her:

> I still don't even know 100 percent what it is. I bled for like 16 days, I rang the hospital up three times and they told me don't even worry about it, cause it's brown blood so don't worry. So I'm sitting here [in the interview] not even knowing if my baby is ok. So it just stresses you out (ibid).[8]

The above examples suggest that there are times when LMH staff do not adequately describe medical conditions in terms that women can understand and may act in a way that is perceived as dismissive or uncaring.

Elliot and her sister Dmity also went on to say that they would not listen to health advice given by LMH staff members and other health professionals if they were made to feel 'bad' or 'guilty' about their choices. Both Elliot and Dmity smoked cigarettes and while they said that they were open to being informed about the risks of smoking they didn't want 'to be made to feel like a low-life' (Dmity, 27).

Recommendations

- Face-to-face communication is highly valued by women and should not be replaced by other forms of health communication (i.e. online). However, this does not mean that face-to-face communication cannot be supplemented and strengthened by other communication mediums or that new ICTs do not have a role in health care.
- Women respond positively to health communicators who are viewed as friendly, caring, professional and knowledgeable. They can become distressed and dissatisfied when they feel that their emotional and/or their information needs are not being met.
- Regardless of their format, health messages will be less effective if they are perceived to be didactic or paternalistic. The case study of Elliot and Dmity illustrates that when women feel judged or belittled they become disengaged.

Continuity of Care

In the first report we demonstrated that many LMH staff identified several benefits of continuity of care. Participant interviews confirm that pregnant woman also value continuity of care:

> I was really happy to find out that I only had the two Midwives and I was happy to find out that they'd come out to the house after the pregnancy, because, yeah I'd rather get to know the one...I'm happier just to meet one or two people and feel more, you know, confident. Be a bit weird being a stranger (Jane, 21).
>
> If something happens to you or you need to ring them for advice, you always seem to be able to talk to them, like if it's the same Midwife instead of having different ones and getting

[8] At this point in the interview our Research Midwife discussed the condition with Elliot and helped to allay some of her fears.

> swapped to someone else that doesn't even know you or your body or the baby, so I think that's better (Bernadette, 19).

The above two quotations are from women who were in antenatal care models where they did have continuity of care. Women in other antenatal care models without continuity of care indicated that they would prefer to deal with the same staff member or a small team of staff members. In particular, they stated that a lack of continuity of care resulted in having to repeat information which was frustrating: 'I get annoyed if everyone is asking the same question' (Hailey, 23).

Recommendations

- Continuity of care has many benefits but is also costly. Our project could explore if the advantages of continuity of care can be fostered using other mediums ICTs that build on face-to-face communication (i.e. through email, smartphone app etc.).

Understanding of the Structure of Antenatal Care

Interviews found that many women were confused about the structure of antenatal care at the LMH including the number of antenatal appointments and the timing of different antenatal tests and procedures:

> …there is not a lot of information they sort of tell you at each appointment, what is happening next but until that next appointment you really don't get much information of what is happening. The scans have been different with each pregnancy, the time between appointments have been different with each pregnancy (Laura, 24).

In particular, women were often unsure about what the first antenatal appointment would involve. Many women assumed that the first appointment would include an ultrasound and were surprised and/or disappointed when this was not the case:

> At the first appointment I thought that they [appointments] were a lot more frequent. When I first got pregnant I thought that you had a lot of appointments at the beginning, I thought that you had a lot of ultrasounds. I didn't realise that you only had about two or three and that's it unless there was problems (Jane, 21).

Recommendations

Additional information should be provided to pregnant women outlining the following:

What the first appointment involves.
Where they can seek information before their first appointment including important contact numbers.
A simplified overview of the structure of antenatal care at the LMH.

It should be noted that the LMH has already taken steps to deliver this information to women through a letter which will be mailed to women before their first appointment. However, this information has not been pre-tested. There is also the opportunity for this information to be reinforced using other platforms (i.e. website).

5.5 Written Material

In the first report we discussed the written material that is provided to pregnant woman at their first antenatal appointment and at other points in time including during the glucose challenge test.

Interviews with participants suggest that overall, women are very satisfied with the written material that they are given by the LMH although their use of the written material did vary dramatically. We conclude that despite some of the limitations of the written material discussed below, the provision of these hard copy brochures is an important component of antenatal health communication at the LMH.

Attractiveness

Women were divided about whether or not the design of the written material was important. See for example the two conflicting opinions below:

> Having a nice glossy brochure is fine, but even if it's just photocopied. If it's really important information and it's all laid out well. A photo copy instead of a [glossy brochure] it's much cheaper I'm sure to get a photocopy (Casey, 40).
>
> Everyone hates photocopies. I know it costs a lot more to print coloured things but you just skim over a photocopied piece of paper rather than something colourful (Gwen, 32).

These differences in opinion make it difficult to ascertain the significance of the attractiveness of health promotion materials. We hypothesise that the attractiveness and design of written material may be less important for those with high levels of health literacy and more important for those with lower health literacy. For example, Casey cited above had two Bachelor degrees and spoke about how she was confidently able to assess the quality of the health information that she accessed. Yet, not all women were as confident. Interviews illustrated that some women had misunderstood information provided in the brochures while others thought that they were too text heavy or complex:

> Dmity: A lot of people from around here [pause] maybe aren't
>
> Elliot: They can't read
>
> Dmity: Aren't really readers…they might find it difficult to read so many pages
>
> Elliot: Or understand
>
> Dmity: And stuff like that. But for me personally, I'm a nerd so it's really not an issue at all. But I do think that a lot of people, they don't like to read a whole lot and they get bored, they do have trouble with most of the words.

Similarly, 19 year old pregnant woman Felicity stated that the brochures could be improved through the use of more pictures.

Frequency of Use and Relevance

Once again, frequency of use varied dramatically from woman to woman. Thus, while one participant stated that she looked at the brochures every week, another stated that she had never used them. Women were also selective about the material that they chose to read. Frances stated that she read some brochures in full but did not 'bother' with information that she felt she already knew such as the brochure about papsmears. Like the written material provided in the waiting room, the perceived relevance of the written material given directly to women differed from person to person. However, as 23 year old pregnant woman Melanie discussed, the provision of this material is important because women themselves are often unable to predict what information they may need:

> If you're focused on like just a couple of questions, like you wouldn't bother looking at other brochures, but in the Bounty Bag they give you like the whole lot, so it makes you read about everything not just things you think you're gonna need.

The provision of hard copies also means that the LMH has reassurance that woman have received the information and can consult it in the future if they keep it.

Recommendations

- Altering the written material provided to pregnant women is beyond the scope of this project. Our research suggests that overall, women are satisfied with the written material that they are given. Additional research would need to be conducted to further evaluate the strengths and weaknesses of each individual brochure.

5.6 ICTs used to Access Pregnancy-Related Information

Internet Searches and Websites

Internet searches and websites were by far the most popular ICTs utilised by our cohort to access pregnancy-related information. The vast majority of our participants not only used Internet searches but stated that the Internet would be the first place that they would look for pregnancy information. The accessibility and convenience of these searches was emphasised by participants who frequently referred to 'Google' when talking about how they accessed health information:

…if I've got questions [about pregnancy] I just type it in [to Google search engine] and look for the closest answer (Pauline, 27).

When coupled with the portability of Internet access on a mobile phone, search engines were powerful tools that women used to seek information when and where it suited them:

It's convenient on my phone. I can look anywhere I am you know like I'm at work and I'll say "I don't know what to have for lunch today" and my friend goes "Do you want to go to Cafe Primo for lunch?" and I'll go "only if I can have prawns", "I wonder if I can have prawns at this stage of my pregnancy". I don't have to wait until I get home, I can Google it straight away (Jane, 21).

Indeed, some women relied so heavily on Google searches that they were unable to recall the names or details of specific websites that they used: 'I don't know [which sites accessed] because I just Google' (Frances, 24). This lack of awareness regarding which sites they used suggests that some women may have been using websites with inaccurate or unreliable information. However, as we discuss below, the majority of women in our cohort were very wary about the potential biases of online information.

Reliability of Online Information

Women utilised many strategies to verify the reliability of information that they located online. Most commonly, they checked the author of the information with preference given to material that was produced by a government source or a health professional:

> I prefer an Australian Federal Government one [website], or a State one because I believe that they've got more, proper update information. And hospital websites too, rather than just [pause] anything! [laughs] (Anna, 37).

It was also common for women to state that they compared and contrasted information to make judgements about the accuracy of different sites:

> I generally cross-check things, that comes from having a science background I think that you don't necessarily trust the first thing you hear, you go and check. Multiple sources saying the same thing is generally a lot better than listening to one source (Casey, 40).

Women also got people that they knew and trusted, including both health professionals and relatives to screen information that they obtained online. When asked what they would do if they encountered websites with contradictory information Bernadette's partner stated that he would: 'Talk to the GP on all the different answers and questions that we asked' (Partner of Bernadette, 19). Yet, he went on to say that: 'It gets confusing sometimes. Too much stuff to take in' (ibid).

In this quote it is apparent that the amount of information available online can become overwhelming and is difficult for some people to navigate. This view was echoed by Wendy who said:

I'm not one to go on the internet to look up things...there is too much to look at on the internet...confused by all the information (Wendy, 24).

The confusion of participants such as Wendy, Bernadette and her partner points to the need for organisations such as the LMH to play a **curatorial role by supporting women searching for pregnancy-related information online**. It is troubling that despite many women's assertions that they prefer Government or Hospital based websites, only 28% of participants believed that they had used the CYH website and 17% of participants accessed the LMH website. This can be contrasted with a popular commercial website, www.babycentre.com.au which approximately 50 percent of our participants had used. The high usage of commercial sites compared to government sites and the hospital site suggests that the LMH needs to play a more active role in guiding women to websites that are evidence-based. As we will discuss below, there are also some improvements that they could make to their own website.

LMH Website

In the first report we discussed the limitations of the LMH website, in particular, we highlighted that the current site has no information regarding pregnancy, labour and child birth and that this was a missed opportunity for health promotion. Our interviews demonstrate that women who did access the LMH site thought that it could be improved. Ingrid compared the website negatively with a site that she had consulted when she lived in Queensland during the early stages of her pregnancy, she said that the LMH site had 'not enough information, nothing up to date' (Ingrid, 33). When asked how the hospital could best communicate with her, Olivia stated: 'Something I can access when I want to, so yeah something on the internet. Is there actually a Lyell McEwin Hospital Website?' (Olivia, 33). It is telling that Olivia did not know that there was a LMH website. Furthermore, her response indicates a clear demand for a site that is produced by the hospital. One participant who did use the website said that she had checked the site to find out where to go for her first appointment but that was all. This was a missed opportunity for the hospital to engage with this patient and to provide further health information. Finally, Dawn stated that she had to use the LMH website for work and found it very confusing so she did not attempt to use it to access pregnancy information and Gwen said that 'they could do a lot with the Lyell McEwin website because it's [pause] just to try and get a number off of the damn thing it's hard' (Gwen, 32). Significantly, many women also identified a need for pregnancy related information online that was Australian based and not American. The hospital site would an ideal space for the communication of hospital specific, or at the very least, South Australian specific pregnancy information.

Recommendations

- Pregnant women are seeking health information online. We strongly suggest that the project should consider how this medium can be better used to educate pregnant women.

- The LMH website could be adapted to include a specific focus on the antenatal services provided by the LMH, the structure of antenatal care at the LMH and more general pregnancy related health information. If this is not feasible within the scope of Health-e Baby, then the team should consider creating their own website or blog where online health communication strategies could be trialled and evaluated.

- If Health-e Baby does not involve the production of a website, then strategies should be put in place to more effectively promote other sites such as CYH to pregnant women. As discussed, in section 3.4 the hospital is an information source that women trust. They can use this role to guide women's information seeking habits and promote evidence-based material.

Smartphone Applications

As discussed earlier, 40% of participants used a pregnancy related smartphone application. The perceived benefits of smartphone apps were clearly articulated by Gwen who said that the hospital should produce their own app:

Instead of giving you 8 million pieces of paper they [the LMH] could just direct you somewhere, where all the information is for you to look at when you want. Yeah it'd just be easier. I know some people don't have Internet and that there are a lot of language barriers here, so that makes it hard but you can still do something…it could just be for South Australia instead of just the Lyell McEwin Hospital…because a lot of Mums say it would be nice just to have like an SA app where you can find things out (Gwen, 32).

In this quote Gwen summarises many of the issues that we have explored throughout this report. Namely, that while some barriers (i.e. language barriers, access barriers, cost of production) may make it difficult, the hospital should consider using ICTs to deliver health information to pregnant women. Similarly, Laura, a pregnant woman who checked her pregnancy smartphone app every two days, argued that the LMH should use this technology. Laura was one of the few women that we interviewed who did not use the Internet as her first source of pregnancy-related information. Rather, she said that she would consult her phone app. She thought that many women would utilise an app promoted or developed by the LMH, placing a high level of trust in information endorsed by the hospital:

> Laura: If there was like an app that was like a health professional, like Lyell McEwin pregnancy service or something like that...I know that all my friends would check that first because obviously if it was done by Midwives or something you could access it would be…
>
> Research Midwife: So if we provided an app you'd like that?
>
> Laura: Definitely...people don't mind paying for them you know what I mean, information that is…
>
> Research Midwife: So you would trust what would come from the hospital?
>
> Laura: From a Government health professional, yes.

Once again, this highlights the scope for the hospital to play a curatorial role in the provision of pregnancy related information via ICTs and/or to produce their own content for these mediums. This would help women like Belinda who stated that she was confused by the number of available apps: 'I just find looking for apps, there's so many out there and which ones are relevant?' (Belinda, 33). This confusion meant that Belinda did not attempt to use smartphone apps to locate pregnancy information.

While a 40 percent usage rate is not overly high, smartphone apps were the second most consulted ICT source used for pregnancy information after the Internet. It should also be noted that many women who did not currently use pregnancy related smartphone apps stated that *they would do* so if the hospital produced their own app or recommended an app to them. When asked about the possibility of an LMH smartphone app, Jane, a 21 year old pregnant woman stated that this 'would be a very good idea. I'd be more interested than all these brochures'. The format of smartphone apps was also identified by one participant as being easier to use and to understand than other sources of information such as written material: 'Yeah, like it's got bigger writing [than brochures] and not much writing on it' (Bernadette, 19). This suggests that a phone app may be better suited to women with low health literacy than other mediums.

Yet, despite the positive attitude of many women to the idea of a LMH smartphone app, it should be noted that several women did indicate that they would not be interested in this medium: 'No I can't be bothered with that' (Pauline, 27). Women also made it clear that they would not use a smartphone app in certain situations like an emergency. Some information was viewed as being too important to access via a phone app and in these circumstances women indicated that they would utilise existing avenues such as making a voice call to the Birthing and Assessment Unit.

Recommendations

While the cost of producing an app may be prohibitive, our research findings suggest that an app could be an innovative and engaging way to provide women with antenatal health messages.

Apps may be more appealing to women with lower health literacy than other mediums. This is an assumption that would need to be tested. Digital literacy would also need to be considered.

Facebook

Although 31% of participants used Facebook to access pregnancy related information, this usage was often quite minimal. For example, many women used Facebook to access services related to child care such as purchasing nursery furniture, seeking child photographers or signing up for 'tickers' or 'counters' that displayed how many weeks pregnant they were on their own Facebook page. These kinds of 'counters' provided very minimal information about pregnancy, usually a line or two about the babies' development. However, while very few women actively sought pregnancy information using Facebook, there was a high level of interest in the creation of a LMH monitored Facebook Group. Even women who did not have a personal Facebook account stated that they would access such a group if the LMH provided one: 'I don't have a Facebook account but you can look at people's Facebook without having one. So I would do that' (Ingrid, 33). One woman stated that although she would not personally use the group she thought it would be helpful for other women. She did not have any objections to the idea as long as she wasn't excluded because of her non-participation:

> I guess me personally it's not going to affect me but the way the world seems to be going, everything is Facebook so it would probably benefit a lot of other people. I guess as long as you have a choice that if you weren't a Facebook member you're not missing out (Olivia, 33).

Belinda indicated that she might not post on the site but she would like to read other people's questions and answers:

> I'm sure that other people would have the same questions and stuff, you could just go on there and read other peoples questions and from that, I'm not necessarily a poster, I like to read and see what other people's answers are…

However, she was somewhat concerned that it would be difficult to maintain her privacy if she joined a Facebook group:

> …the only thing I don't like about Facebook is you can't be anonymous if you want to go to certain sites or you want to 'like' something, everyone has to know about it. (Belinda, 33).

Here Belinda is referring to the fact that your friends may be able to see that you have joined a group and 'liked' a page. 23 year old Melanie was more enthusiastic about a Facebook group. She was one of the few women that we interviewed who already participated in a Facebook group that provided antenatal health information:

> I follow 'Birth Without Fear' [https://www.facebook.com/birthwithoutfear] it's really good because it just answers questions about things about if you have a caesarean, if you can have natural birth and things like that and…actual mothers share their stories.

Here we see the potential for peer-to-peer support that could be fostered utilising a Facebook group. 19 year old pregnant woman Felicity also emphasised the importance of peer-to-peer communication via a Facebook group:

> Cos there's a lot of other Mums who have their own experiences, so you can pretty much see how they dealt with certain things and what they've been through.

Both of these quotes highlight the potential for peer-led behaviour change and emotional support facilitated through Facebook. However, it should be noted that Melanie went on to say that many Facebook groups can be spaces where negative interactions occur if they are not adequately monitored:

> Rude and crude comments would have to be monitored...Facebook's horrible like that. Nobody really monitors it…so there are some groups I stay away from (Melanie, 23).

If the LMH were to trial a Facebook Group monitoring the page would be absolutely critical to its success. LMH staff attitudes towards the development of a Facebook page were also quite sceptical with many staff members dismissing the idea as being overly risky. Why this is the case and how this can be overcome need to be further examined.

Recommendations

- The reach of Facebook (89% access, 31% for pregnancy related information) makes it an exciting medium to consider for our intervention. In particular, a Facebook group would be an extremely cost effective health communication approach because it is free and relatively simple to set up. That said, labour costs for the development of content to post to the group and to monitor group activity also need to be considered.

- LMH staff attitudes towards Facebook and SA Health Policy must be accounted for in any project design that integrates a Facebook Group. Privacy concerns of both staff and patients would need to be addressed.
- A Facebook page could be relatively easily integrated into a multi-media strategy (i.e. website links to Facebook page etc.).

Youtube

20% of participants used Youtube to access pregnancy-related information. The most common antenatal content viewed on Youtube was birthing videos. Other participants used Youtube to watch videos that described their babies' development at different weekly increments and to view tours that people had shared of their child's nursery in order to get decorating ideas. One participant reported that she used Youtube to watch video blogs that pregnant women had shared. No one reported accessing content produced by health professionals or health organisations. The use of Youtube for pregnancy-related information mirrors the everyday usage of Youtube discussed in section 4 in that our participants did not comment on pregnancy related videos and were consumers not producers of this content. It is worth noting here that women also used other mediums to access video content, in particular week by week developmental videos. These videos were very popular and were typically accessed through websites such as baby centre and pregnancy smartphone applications.

Recommendations

Given its lower usage rates, we do not recommend that Youtube should form the central focus of the Health-e Baby intervention. However, Youtube could be utilised to disseminate media content if it is produced as part of the project.

The popularity of week-by-week information about neonatal development could be utilised in the Health-e Baby intervention. The attractiveness of this type of content was not restricted to videos. When asked which brochure supplied by the hospital they liked the best, the vast majority of women said the Johnson's and Johnson's Health Diary which includes week-by-week information about the symptoms that pregnant woman may be experiencing, the changes in their body and a pictorial representation of their babies development. Women also subscribed to weekly emails from sites such as Kidspot (www.kidspot.com.au) that included this kind of information. The Health-e Baby team could capitalise on the popularity of this information by linking health messages to information about neonatal development supplied on a weekly or fortnightly basis.

Twitter

Given its extremely low reach and the negative connotations associated with this medium: 'I hate twitter. I'm not a twitter fan at all' (Pauline, 27), we do not recommend that the Health-e Baby intervention should include Twitter.

Text Messages

The implementation of text message reminders for appointments was viewed very positively by women who indicated that SMS reminders would encourage them to keep their antenatal appointments. This is a simple but effective way that the LMH could promote appointment attendance and save the resources that are wasted when women fail to attend their appointments.

5.7 Other Sources Used to Access Pregnancy-Related Information

In this section we briefly examine other sources used by women to access information about their pregnancy including television and radio programs, books and magazines, friends/family and

antenatal classes. We do not discuss these sources in detail because the development of health communication materials for these platforms is beyond the scope of the Health-e Baby project.

Television and Radio Programs

22 women (62%) reported watching television programs about pregnancy but none of our participants had listened to radio programs that featured pregnancy. Television programs that women did watch fell into two categories, reality TV programs such as 16 and Pregnant and I Didn't Know I Was Pregnant and medical documentaries such as One Born Every Minute. Some women reported that they specifically avoided this kind of content because of its 'graphic' nature. Many of our participants had concerns about viewing the labour process. For example, when asked what kind of content they would like to see featured on an educational antenatal video many women said that they would not want such a video to include depictions of child birth.

Books and Magazines

A high number of our participants had sought information from pregnancy and/or child care books including Up the Duff and What to Expect When You're Expecting. In particular, Up the Duff was a book title that women often praised, citing its relaxed style and use of humour. The majority of multigravida women used books in their first pregnancy only. Books were frequently handed down or borrowed from friends or family.

Magazines were less frequently used than books. Most women who read pregnancy-related magazines accessed them through the Bounty Bag and indicated that they would not purchase additional editions or subscribe to these publications. Some women discussed reading free magazines provided by supermarket chains Woolworths and Coles.

Friends/Family

Friends and family members were common sources of pregnancy and child care advice. However, the perceived relevance and helpfulness of information provided by friends and family varied from person to person. While some women indicated that their relatives and friends gave them valuable information and support, others told us that information from these sources could be unreliable or unwanted. These differences reflect the various levels of trust that women and their partners place in their social networks. Thus, while some pregnant women were guided and influenced by information provided by relatives (particularly their mothers or mothers-in-law), and friends (particularly those who already had children), others dismissed information from these sources. The perceived experience of these people was an important factor used to establish whether or not they were reliable. For example, 19 year old Kelly stated that her mother had eight children and was a trusted source of pregnancy related information: 'If I find something unusual going on with the pregnancy I talk to Mum' (Kelly, 19). Kelly also indicated that she had played a role in raising her brothers and sisters and so felt confident about many aspects of child care. Two of our participants also stated that their work colleagues were trusted sources of pregnancy information. Significantly, both of these women were employed in the health field. Jackie, a 39 year old pregnant woman was employed as a nurse in a rural hospital and told us that this position gave her increased access to health professionals:

> If I have any questions about something that I've seen or read I'll always ask my Midwife or, and I work with doctors as well so…working in the field it's a lot easier to access them. So that is probably where I can access my information the most, is working as a nurse (Jackie, 39).

Perhaps unsurprisingly, our research tended to attract participants with a health background, in particular nurses.

Antenatal Classes

15 of our participants had attended antenatal classes in the past, were booked in to attend classes at the time of interview or indicated strongly that they were planning to attend classes. 7 participants were undecided if they would attend classes, 12 indicated that they had no desire to attend and one woman was not asked about antenatal classes. Attitudes towards antenatal classes were mixed with some participants indicating that they were an extremely valuable source of information while others had reservations about the group format of the classes. Gail stated that she wouldn't attend classes because she preferred to get information from other sources and the group format of classes did not appeal to her:

[I would prefer to get information]…from my friends, my friends that have just had babies. [They] have given me a lot of information. And I'd get embarrassed sitting in a group I don't know (Gail, 26).

Conversely, Pauline did attend antenatal classes and found them to be very helpful:

> They made me feel a lot better about giving birth, I was getting all the scary stories from everyone (Pauline, 27).

Some women indicated that they would have liked to attend antenatal classes but found this difficult given their work schedules and other commitments such as child care. Very few women were aware that they could make a one-on-one appointment with the Antenatal Educators.

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Appendix 1: Basic Demographic Information

Name	Age	Post Code	First Pregnancy	Gestational Age	Ethnicity/Cultural Background	Birth Place	LOTE	English Proficiency	Education	Relationship Status
Belinda	33	5109	N	12	Anglo-Australian	Australia	N	VW	TAFE DIP	Married
Anna	37	5115	N	11	Anglo-Australian	England	N	VW	TAFE & Current UNI	Married
Casey	40	5109	N	14+4	Anglo-Australian	Australia	S	VW	UNI UG (2 Bach)	Married
Elizabeth	40	5112	Y	13	Anglo-Australian	Australia	N	VW	UNI UG	De Facto
Frances	24	5114	Y	13	Anglo-Australian	Australia	N	VW	YR 11	Never Married
Gail	26	5113	Y	14	Anglo-Australian	Australia	N	W	YR 12, TAFE	Married
Ingrid	33	5112	Y	36	Anglo-Australian	Australia	N	VW	UNI UG	Married
Kelly	19	5112	Y	14+1	Anglo-Australian	Australia	N	VW	YR 11	De Facto
Laura	24	5110	N	13	Anglo-Australian	Australia	N	VW	YR 11, TAFE DIP	Married
Melanie	23	5112	N	14	Anglo-Australian	Australia	N	VW	YR 10, TAFE DIP	De Facto
Nora	29	5114	Y	14	Romanian	Romania	Y Romanian	VW	UNI PG	Married
Olivia	33	5120	N	12	Anglo-Australian	Australia	N	VW	YR 12	De Facto
Pauline	27	5113	N	13	Anglo-Australian	Australia	S	VW	TAFE	Separated
Rebecca	27	5352	N	31	Anglo-Australian	Australia	N	VW	TAFE CERT	Married
Stacey	29	5115	N	19	Anglo-Australian	Australia	N	VW	YR 11	Married
Tanya	27	5114	N	23	Anglo-Australian	Australia	N	VW	YR 12	Never Married
Wendy	24	5089	Y	36+5	Anglo-Australian	Australia	N	VW	YR 12	Never Married
Yasmin	23	5112	N	23+3	Anglo-Australian	Australia	N	VW	YR 11	Married
Hailey	23	5108	N	26+6	Anglo-Australian	Australia	N	VW	YR 11	De Facto
Dawn	29	5108	N	22	Anglo-Australian	Australia	N	VW	UNI PG	Married
Jackie	39	5401	N	27+3	Anglo-Australian	Australia	N	VW	TAFE DIP	Married
Abigail	30	5108	N	28	Anglo-Australian	Australia	N	VW	YR 12, TAFE DIP	De Facto
Bernadette	19	5112	Y	21+2	Anglo-Australian	Australia	N	W	Yr 11, TAFE DIP	De Facto
Reiko	40	5034	Y	13	Japanese	Japan	Y Japanese	W	TAFE	Married
Dmity	27	5113	N	32+6	Anglo-Australian	Australia	N	VW	YR 11	De Facto
Elliot	25	5113	N	15+5	Anglo-Australian	Australia	N	VW	YR 11	De Facto
Faith	34	5501	N	21+5	Anglo-Australian	Australia	N	VW	YR 11, TAFE DIP	Married
Gwen	32	5501	N	16	Anglo-Australian	Australia	N	VW	YR 11, TAFE CERT	Married
Jane	21	5112	Y	25	Anglo-Australian	Australia	N	VW	YR 10, TAFE DIP	De Facto
Alison	26	5113	Y	12+6	Anglo-Australian	Australia	N	VW	YR 11	Never Married
Susan	25	5085	N	22	Anglo-Australian	Australia	N	VW	YR 11	De Facto
Padma	33	5097	Y	27	Indian	India	Y Hindi	VW	UNI PG (MA)	Married
Valerie	24	5112	N	26+1	Anglo-Australian	Australia	N	VW	YR 12	Separated
Margaret	18	5353	Y	18	Anglo-Australian	Australia	N	VW	YR 12, TAFE CERT	Married
Felicity	19	5112	Y	21+5	Anglo-Australian	Australia	N	VW	Current YR 12	De Facto

Appendix 2: Basic Summary of Women's Media Access

Name	Mobile Phone	Smartphone	Internet Access	Smartphone Apps	Twitter	Facebook	Youtube	Television
Belinda	Y	Y	Mobile & Household Computer	N	N	Y	N	Y
Anna	Y	N	Mobile & Household Computer	N	N	Y	Y	Y
Casey	Y	Y	Mobile & Household Computer	Y	N	N	Y	Y
Elizabeth	Y	Y	Mobile & Household Computer	Y	N/A	Y	N/A	Y
Frances	Y	Y	Mobile & Household Computer	Y	N	Y	N	Y
Gail	Y	Y	Mobile & Household Computer	Y	N	Y	Y	Y
Ingrid	Y	Y	Mobile & Household Computer	Y	N	N	Y	Y
Kelly	Y	Y	Mobile Only	N	N/A	Y	N	Y
Laura	Y	Y	Mobile & Household Computer	Y	N	Y	N/A	Y
Melanie	Y	Y	Mobile & Household Computer	Y	N	Y	N	Y
Nora	Y	Y	Mobile & Household Computer	Y	N	Y	Y	N
Olivia	Y	Y	Household Computer	N	N	Y	N/A	Y
Pauline	Y	Y	Mobile & Household Computer	N	N	Y	N	Y
Rebecca	Y	Y	Mobile & Household Computer	Y	N	Y	Y	Y
Stacey	Y	Y	Mobile & Work	N	N	Y	N	Y
Tanya	Y	Y	Mobile Only	Y	N	Y	Y	Y
Wendy	Y	Y	Mobile Only (Library Internet)	N	N	Y	N	Y
Yasmin	Y	Y	Mobile & Household Computer	Y	N	Y	Y	Y
Hailey	N	N	iPad & Household Computer	N	N	Y	N	Y
Dawn	Y	Y	Mobile & Household Computer	Y	N	Y	Y	Y
Jackie	Y	Y	Mobile & Household Computer	N	N	N	Y	Y
Abigail	Y	Y	Mobile Only (Work Internet)	Y	N	Y	Y	Y
Bernadette	Y	Y	Mobile Only	Y	N	Y	Y	Y
Reiko	Y	N	iPad & Household Computer	Y (iPad Apps)	N	Y	Y	Y
Dmity	Y	N	Mobile Only	Y	N	Y	Y	Y
Elliot	Y	Y	Mobile and Household Computer	Y	N	Y	Y	Y
Faith	Y	Y	Mobile & Household Computer	Y	N	Y	N	Y
Gwen	Y	Y	Mobile & Household Computer	Y	N	Y	Y	Y
Jane	Y	Y	Mobile Only	Y	Y	Y	Y	Y
Alison	Y	Y	Mobile & Household Computer	Y	N	Y	Y	Y
Susan	Y	Y	Mobile & Household Computer	Y	N	N	Y	Y
Padma	Y	Y	Mobile & Household Computer	Y	N	Y	Y	Y
Valerie	Y	Y	Mobile & Uses Ipod to access Internet	N	N	Y	N	Y
Margaret	Y	Y	Mobile & Household Computer	N	N	N	N	Y
Felicity	Y	Y	Mobile & Household Computer	Y	Y	Y	Y	Y

Appendix 3: ICTs used to Access Pregnancy-Related Information

Name	Search Engine	Website	CYH	LMH Website	Baby Center	Forum	Youtube	Twitter	Facebook	Smartphone App
Belinda	Y Google	Y	N	N	Y	Y	N	N	N	N
Anna	Y Google	Y	Y	Y	Y	N/A	N	N	N	N
Casey	Y	Y	Y	N	Y	Y	N	N	N	Y (1st)
Elizabeth	Y Google	Y	N	N	N	N	N	N	N	N
Frances	Y Google	Y	N	N	N	N	N	N	N	Y
Gail	Y Google	Y	N	N	Y	N	Y	N	N	Y
Ingrid	Y Google	Y	Y	Y	Y	Y	N	N	N	N
Kelly	Y	Y	Y	N	Y	N	N	N	N	N
Laura	Y	Y	N	N	Y	N	N	N	Y	Y
Melanie	Y Google	Y	N	N	Y	N	N	N	Y	N
Nora	Y Google	Y	Y	N	Y	N	Y	N	N	N
Olivia	Y	Y	Y	N	N	N	N	N	N	N
Pauline	Y Google	Y	M	Y	Y	N	N	N	Y	N
Rebecca	Y Google	Y	N	N	N	N	Y (1st)	N	N	N
Stacey	Y Google	Y	Y	Y	N	N	N	N	N	N
Tanya	Y Google	Y	N	N	N	Y	Y	N	Y	Y
Wendy	Y	Y	N	N	N	N	N	N	N	N
Yasmin	Y Google	Y	N	N	Y	N	N	N	N	Y
Hailey	Y Google (1st)	Y (1st)	N	N	Y	N	N	N	Y	N
Dawn	Y Google	Y	N	N	Y	N	N	N	Y	Y
Jackie	N	N	N	N	N	N	N	N	N	N
Abigail	Y Google	Y	N	N	N	N	N	N	N	N
Bernadette	Y Google	Y	N	N	Y	N	Y	N	Y	Y
Reiko	Y Google	Y	Y	Y	Y	Y	N	N	N	N
Dmity	N	N	N	N	N	N	N	N	N	N
Elliot	Y Google	Y	N	N	N	Y	N	N	Y	N
Faith	Y Google	Y	N	N	Y	N	N	N	N	N
Gwen	Y Google	Y	Y	Y	N	N	N	N	N	Y
Jane	Y Google	Y	Y	N	N	N	N	N	N	Y
Alison	N	N	N	N	N	N	N	N	Y	Y
Susan	Y Google	Y	N	N	N	N	N	N	N	Y
Padma	Y Google	Y	N	N	Y	Y	Y	N	N	N
Valerie	Y Google	Y	N	N	Y	N	N	N	Y	N
Margaret	Y Google	Y	N	N	N	N	N	N	N	Y (iPad)
Felicity	N	N	N	N	N	N	Y	N	Y	Y