

UCSF

UC San Francisco Previously Published Works

Title

Women's experiences of their preabortion ultrasound image printout

Permalink

<https://escholarship.org/uc/item/47z2256r>

Journal

Contraception, 97(4)

ISSN

0010-7824

Authors

Kimport, Katrina
Johns, Nicole E
Upadhyay, Ushma D

Publication Date

2018-04-01

DOI

10.1016/j.contraception.2017.12.002

Copyright Information

This work is made available under the terms of a Creative Commons Attribution-NonCommercial-NoDerivatives License, available at <https://creativecommons.org/licenses/by-nc-nd/4.0/>

Peer reviewed

1
2
3
4
5
6
7
8
9
10
11
12

Women’s experiences of their pre-abortion ultrasound image printout

Katrina Kimport, PhD ^{a*}, Nicole E. Johns, MPH ^a, & Ushma D. Upadhyay, PhD, MPH ^a

^a Advancing New Standards in Reproductive Health, Bixby Center for Global Reproductive Health, UC San Francisco, 1330 Broadway, Suite 1100, Oakland, CA 94612, USA;
katrina.kimport@ucsf.edu, nicole.johns@ucsf.edu, ushma.upadhyay@ucsf.edu

* corresponding author

Abstract count: 238

Manuscript word count: 2635

13 **Abstract**

14 *Objectives:* We know little about women's interest in and experiences with a printout of their
15 pre-abortion ultrasound image.

16 *Methods:* We conducted a mixed methods study at a large volume abortion-providing facility
17 where patients are offered the opportunity to receive their ultrasound printout, using two years of
18 abstracted medical chart data on demographics and printout acceptance and interviews with
19 patients about whether they took a printout and, if they did, why and what they did with it. We
20 analyzed chart data using multivariable logistic regression to examine predictors of printout
21 acceptance and interviews using elaborative coding and modified grounded theory.

22 *Results:* We abstracted data from 5342 charts and interviewed 23 women. 38% of all patients
23 and 61% interviewees accepted the printout. Predictors of accepting the printout included being
24 younger, being non-white, having a partner who is a boyfriend or friend, and not having a
25 support person at the visit. Interviewees reported that they accepted the printout simply because
26 it was offered, out of curiosity, and as part of confirming their abortion decision. They described
27 various uses for the printout, including sharing with others, consulting before their abortion
28 appointment, retaining as a keepsake, and nothing at all.

29 *Conclusions:* Some abortion patients are interested in receiving a printout of their ultrasound
30 image and find it useful. Women accept a printout for a range of reasons and use it in various
31 ways; there is no singular experience or use of the printout.

32

33 **Keywords:** *abortion; ultrasound; ultrasound printout; pregnancy*

34 **Implications**

35 We find no evidence that taking a printout of the pre-abortion ultrasound image causes emotional
36 distress, nor did we find it was expressly important for any patient's experience. Providers
37 should consider providing interested patients with a printout, if they have the capability to do so,
38 when they request one.

39 **1. Introduction**

40 Twenty-six U.S. states legally regulate the provision of ultrasound in abortion care [1].
41 Research has examined the impacts of some of these laws on people seeking abortion,
42 particularly those laws related to ultrasound viewing. Studies have found that a substantial
43 portion of abortion patients are interested in viewing their pre-abortion ultrasound image [2-6],
44 that patients report a range of emotional responses to viewing [7], and that viewing has no or
45 only a very small effect on the rate that women proceed to abortion [8, 9]. These findings are of
46 great importance in informing clinical practices and understanding patients' experience of
47 ultrasound in abortion care.

48 To our knowledge, scholars have yet to investigate another aspect of women's pre-
49 abortion ultrasound experience that is increasingly regulated: the receipt of a printout of the
50 ultrasound image. Five states currently require that a pre-abortion ultrasound be performed and a
51 printout of the image be offered to the patient; two others require the printout be offered if the
52 patient receives an ultrasound (personal communication with Elizabeth Nash, Guttmacher
53 Institute). Women's interest in having this opportunity, their reasons for accepting or declining
54 the printout, and what they do with the printout when they accept it have not been examined in
55 the published literature.

56 Using mixed methods data from a high volume abortion facility in Wisconsin, a state that
57 does not currently regulate ultrasound printout provision, we establish a baseline for abortion
58 patients' interest in receiving an ultrasound printout and offer an initial investigation into
59 women's uses of the printout.

60 **2. Materials and Methods**

61 We conducted a mixed methods data collection at a high volume abortion-providing
62 facility in Wisconsin that had a policy of offering all patients a copy of their pre-abortion
63 ultrasound printout.

64 Onsite clinic staff members and one UCSF research assistant abstracted chart data for all
65 patients who presented for abortion care between July 7, 2012 and July 6, 2014. Abstracted data
66 included patient age, race/ethnicity, highest educational achievement, number of previous births,
67 and gestational age; whether their partner was a friend, boyfriend or ex, a husband, or
68 other/unknown; whether they had a support person present at the appointment; and whether they
69 accepted a printout of their ultrasound image. The first author conducted in-depth interviews
70 between May and September 2015. Patients were eligible for an interview if they were over 18,
71 English-speaking, and had received an ultrasound at the study facility. Interviews took place
72 over the phone, most between one and three weeks after the respondent received the ultrasound.
73 The first author conducted the interviews in accordance with feminist research methodology,
74 which includes starting from women's experiences, conducting research of use to women, and
75 being reflexive about one's own positionality through field notes [10]. Recruitment ceased when
76 the first author judged she had reached thematic saturation. Relevant to this analysis, interviews
77 included questions about respondents' ultrasound experience, why they did or did not accept a
78 printout of their ultrasound image, and, if they did take the printout, what they did with it in the
79 time since. Interviews were audio recorded and transcribed verbatim. Full details on our methods
80 are available elsewhere [9].

81 At the temporal midpoint in our chart abstraction data (July 7, 2013), a mandatory pre-
82 abortion viewing law went into effect in Wisconsin. All interviewees were subject to the law.

83 The law did not regulate provision or offers of the ultrasound printout and the clinic did not
84 change its policy or practices regarding the printout during the study period.

85 *2.1 Analysis*

86 The second and third authors tabulated the chart data to summarize the study population.
87 To examine factors associated with printout acceptance, the second and third authors constructed
88 a generalized estimating equation model with logistic regression specifications and the patient as
89 the panel variable to account for multiple pregnancies for the same woman. Based on literature
90 regarding predictors of ultrasound viewing and factors that could plausibly impact printout
91 acceptance, the model controlled for demographic characteristics including age, education,
92 race/ethnicity, and number of previous births, as well as pregnancy and partner characteristics
93 including weeks gestation, support person presence at the visit, and patient's relationship with
94 their partner (who may not be the man involved in the pregnancy).

95 The first author analyzed the interview transcripts in Atlas.ti 7 in two stages. First, using
96 elaborative coding, she applied three general codes based on the research questions, capturing
97 interviewee descriptions of accepting the printout, declining the printout, and what they did with
98 the printout if they accepted it. After noticing the recurring theme of sharing the printout with
99 others, she added a fourth general theme code on printout sharing. Second, the first author
100 conducted incident-by-incident coding to compare excerpts of each of these general codes using
101 modified grounded theory, an iterative, inductive coding approach wherein patterns and themes
102 are identified in the data [11]. This coding strategy, combined with field note production guided
103 by feminist methodology, reduced positionality bias, although we acknowledge that data
104 collection and analyses are never entirely objective. We considered coding complete when no
105 new avenues of analysis emerged.

106 **3. Results**

107 *3.1 Characteristics of sample*

108 We abstracted 5,342 charts. Whether the patient accepted the printout was missing from
109 56 charts, so we dropped those charts from the analyses below, leaving an analytical sample of
110 5,286 charts. Across the two year period, 38% of patients accepted the printout. We completed
111 in-depth interviews with 23 women, 14 of whom (61%) accepted the offer of a printout,
112 representing a higher rate of taking the printout than among the general patient population. See
113 Table 1 for sample characteristics. Though the Wisconsin law requiring providers to display and
114 describe the ultrasound image that went into effect during the study period substantially
115 increased ultrasound viewing rates (from 62% pre-law to 92% post-law, $p < 0.001$), the rate of
116 printout acceptance did not change (39% pre-law vs 38% post-law, $p = 0.39$).

117 [Table 1 about here]

118 *3.2 Who accepts the printout and why*

119 According to the chart data, younger women were more likely than women aged 20-24 to
120 accept the printout (aOR=1.29, 95% CI: 1.04, 1.60; Table 2), as were non-white women, and
121 women at later gestational ages. Women with a boyfriend, friend, or ex as their partner were
122 more likely to accept the printout than women with a husband as their partner (aOR=1.32, 95%
123 CI: 1.04, 1.68) and women who did not have a support person at the visit were also more likely
124 to accept the printout than those who did (aOR=1.28, 95% CI: 1.13, 1.46). Women with college
125 degrees were significantly less likely to accept a printout than those whose highest education was
126 high school (aOR=0.67, 95% CI: 0.54, 0.82). Number of previous births was not associated with
127 printout acceptance.

128 [Table 2 about here]

129 In terms of why some patients accepted the printout while others did not, the interviews
130 suggest that most patients did not feel strongly one way or the other. The 14 interviewees who
131 accepted a printout reported reasons for doing so that fell into three general categories. The
132 largest group, consisting of nine respondents, described *passive* acceptance of the printout.
133 These women accepted the printout because it was offered, but had no affirmative reason for
134 doing so. For example, one woman explained, “they asked me, ‘would you like a picture?’ and I
135 said, ‘yeah, sure, whatever.’” Another said she took the printout because “I’m always all about
136 freebies.” Two respondents reported that they accepted the printout as part of their process of
137 confirming their decision to obtain an abortion. One said, for example, that she asked for a
138 printout “To own up to what I want to do.” Finally, three respondents explained that they took
139 the printout because they were curious about it. One said, “I just was curious to see what it [the
140 printout] looked like because I had never seen one before. But, I wasn’t like ecstatic for it.”

141 The nine respondents who did not take a printout all spoke of accepting the printout as
142 unnecessary. They said, for example, “[it] seemed unnecessary”, “I don’t see the point of that”,
143 and “[it’s] ridiculous.” It bears noting that one of those who did not take a printout had a
144 nonviable pregnancy and another was in the process of miscarrying, which may have contributed
145 to their feeling that accepting the printout was unnecessary. None reported any distress or
146 annoyance at the offer.

147 *3.3 Uses of the printout*

148 In addition to asking respondents why they accepted the offer of a printout, we also asked
149 what they did with the printout after they received it. Four respondents reported that they had no
150 further interaction with the printout after accepting it. One said: “it’s still at the house, sitting in
151 the bag [from the clinic].” Two others said they threw away the printout after their visit.

152 Two women described engagement with the printout between their counseling and
153 procedure appointments. (These were the two women who reported that they accepted the
154 printout as part of their process to confirm their decision to obtain an abortion.) One, who
155 reported certainty that abortion was the right decision for her even before she confirmed the
156 pregnancy with a home pregnancy test, said she consulted the printout “a couple of times”
157 between appointments to show herself “I’m okay with my decision.” The other said she looked
158 at the printout frequently between appointments. Initially unsure about seeking abortion because
159 of her personal opposition to abortion, she also knew she did not desire future children and had
160 medical complications that would make her pregnancy high risk. Between her ultrasound and
161 procedure appointments, she said, talking with her boyfriend and her two adult daughters helped
162 her become confident that abortion was the right decision for her. She also reported that looking
163 at the printout during that time and understanding “this is what it [the pregnancy] looks like”
164 made it so “I wasn’t so emotional about it.” In the time since their abortions, neither respondent
165 had looked at the printout nor did either anticipate doing anything further with the printout.

166 Five respondents shared the printout with the man involved in the pregnancy. In four of
167 these cases, the man involved wanted to see the printout. One respondent’s partner, who had
168 accompanied her to the appointment, asked to keep the printout. She thought the request was
169 “strange” but acquiesced. Another woman’s partner, who had not accompanied her to the
170 appointment, asked for time alone with the printout to sort out his feelings about the planned
171 abortion. She explained, “I let him evaluate his own feelings and be by himself with it [the
172 printout].” In one case, the respondent showed the printout to her boyfriend, who had not
173 accompanied her to the appointment, despite his stated desire not to see it. She did so, in part, to
174 punish him, as she blamed her need for abortion on his recalcitrance in committing to marriage:

175 she refused to give birth to a child out of wedlock but he would not propose, so she felt abortion
176 was her only option. Showing her boyfriend the printout had the desired effect, causing him
177 emotional distress: “he was all crying about it eventually and then I took it [the printout] away
178 from him.”

179 Six respondents described future plans for their printout: they planned to retain the
180 printout as a keepsake. Generally, how they would accomplish this was vague. Using a
181 Wisconsin vernacular for saving as a keepsake (e.g., putting items “up” in attic storage), several
182 described the printout as something they “can put up and keep” or “just put up for memories.”
183 Two were more specific about their plans. One respondent described her intention to keep her
184 printout as an act of mourning. She planned to place it “in a special little box and, you know, I’d
185 always cherish it.” For another respondent, in contrast, her way of saving the printout served to
186 affirm her abortion decision. She explained,

187 I bought a little frame about it. And, I put that and the little pregnancy test stick in a little
188 box and I put it -- well, I live alone, so I put it away. And, it's just like my little proof that
189 my body works this way and I can do it and I made the right decision.

190 No respondent reported that accepting the printout made her less confident in or doubtful
191 of her decision to obtain an abortion. Although both of the respondents who ultimately
192 continued their pregnancies accepted the printout (both did so passively), neither described the
193 printout as featuring in their decision to parent. Indeed, one said she did “nothing” with the
194 printout and the other shared it with her boyfriend and has kept it, but was not sure where it was.

195 **4. Discussion**

196 Our data show that a substantial proportion of abortion patients accept a printout of their
197 ultrasound image when offered. Interestingly, some of the predictors of accepting the printout

198 (specifically being younger and identifying as non-white) are similar to predictors of voluntary
199 viewing the pre-abortion ultrasound image during the clinical visit [5], suggesting that the
200 motivations for voluntarily engaging with the ultrasound image are similar regardless of the
201 medium (i.e. screen or printout).

202 Drawing on the in-depth interviews, we find heterogeneity among women's reasons for
203 accepting the printout and that women used the printout in a variety of ways. Although we found
204 that some women accepted the printout to confirm their decision to have an abortion, overall we
205 do not find evidence of unmet demand for the printout nor experiential data suggesting that
206 printout receipt is integral to patients' ability to feel comfortable with their abortion decision.
207 Indeed, the prevalence of accepting the printout passively and frequency of respondents
208 reporting they did "nothing" with the printout suggests that, for most women, the pre-abortion
209 ultrasound printout does not feature highly in their abortion experience.

210 There are several limitations to this study. These findings may not be generalizable to
211 patients' experience of receiving the printout in the states where the offer of the printout is
212 regulated. Additionally, the quantitative analyses were limited to data collected by the clinic.
213 While we know, for example, whether patients had a support person at the appointment, we do
214 not know whether the support person was actually present for the ultrasound. Further, because
215 of overlap between accepting the printout and viewing the ultrasound during the visit, which is
216 shown to have a slight effect on proceeding to abortion [9], we cannot determine whether
217 accepting the printout, in isolation, impacts proceeding to abortion. In regards to the interview
218 data, the rate of accepting the printout among interviewees was substantially higher than in the
219 overall patient population, potentially because all were pregnant with a boyfriend or friend, a
220 partnership status we found was associated with accepting the printout. Although this suggests

221 the interviewees were not representative of the overall patient group, it enabled us to more
222 deeply examine the experiences of women who did accept the printout. We note, however, that
223 because the interviews were conducted within a month of their ultrasound experience, we are
224 unable to report on longer term uses of the printout. We cannot know, for example, whether
225 respondents followed through with articulated plans to memorialize the printout and/or whether
226 those without engagement with the printout later connected with it.

227 Broadly, our findings suggest that some women find value in obtaining a printout of their
228 pre-abortion ultrasound image. With no evidence of emotional harm or distress and with the
229 recognition that some women find value in obtaining a printout of their pre-abortion ultrasound
230 image, we suggest that, if they have the capacity to do so, providers should accommodate
231 women's requests for a printout. Given the overall low prominence of the printout offer and
232 acceptance in women's abortion experiences, however, we do not find support for a
233 recommendation—or legal requirement, as is currently the case in several states—that all
234 patients be offered the printout.

235

236

237

238 **Acknowledgments:** Support for the data collection and analysis came from an anonymous
239 foundation. The authors would like to thank the staff at Affiliated Medical Services for providing
240 data, chart abstraction, and overall logistical administration, particularly Wendie Ashlock,
241 Dabbie Phonekeo, and Shelly Santiago. We also thank Hui Xie for chart abstraction; Elise

242 Belusa, MSc, Anna Bernstein, Sarah Combellick, MPH, and Alice Cartwright, MPH, for study
243 support and data cleaning.

244

245 **References**

246 [1] Guttmacher Institute. Requirements for Ultrasound, [https://www.guttmacher.org/state-policy/
247 explore/requirements-ultrasound](https://www.guttmacher.org/state-policy/explore/requirements-ultrasound); 2017 [accessed 24 April 2017].

248 [2] Wiebe ER, Adams L. Women's Perceptions about Seeing the Ultrasound Picture Before an
249 Abortion. *Eur J Contracep Repr* 2009; 14: 97-102.

250 [3] Bamigboye AA, Nikodem VC, Santana MA, Hofmeyr GJ. Should Women View the
251 Ultrasound Image Before First-Trimester Termination of Pregnancy? *SAMJ Forum*
252 2002;92:430-432.

253 [4] Graham O, Ankrett S, Killick SR. Viewing Ultrasound Scan Images Prior to Termination of
254 Pregnancy: Choice for Women or Conflict for Ultrasonographers? *J Obstet Gynaecol*
255 2010;30:484-488.

256 [5] Kimport K, Upadhyay UD, Foster DG, Gatter M, Weitz TA. Patient Viewing of the
257 Ultrasound Image Prior to Abortion. *Contraception* 2013;88:666-670.

258 [6] Vendittelli F, Lachcar P. Ultrasonographic View and Women's Behaviour Before First-
259 Trimester Induced Abortion. *Gynecol Obstet Ferti* 2004;32:965-968.

260 [7] Kimport K, Weitz TA, Foster DG. Beyond Political Claims: Women's Interest In and
261 Emotional Response to Viewing Their Ultrasound Image in Abortion Care. *Perspect Sex Repro*
262 *H* 2014;46:185-191.

263 [8] Gatter M, Kimport K, Foster DG, Weitz TA, Upadhyay UD. Relationship Between
264 Ultrasound Viewing and Proceeding to Abortion. *Obstet Gynecol* 2014;123:81-87.

265 [9] Upadhyay UD, Kimport K, Belusa E, Johns NE, Laube DW, Roberts SCM. Evaluating the
266 impact of a mandatory pre-abortion ultrasound viewing law: A mixed methods study. *PloS One*
267 2017;12:e0178871.

268 [10] Fonow MM, Cook JA. *Feminist Methodology: New Applications in the Academy and*
269 *Public Policy*. *Signs* 2005;30:2211-2236.

270 [11] Charmaz K. *Constructing grounded theory*. London: Sage; 2006.

271

272

273 **Table 1: Sample characteristics of women seeking an abortion at a high volume abortion**
 274 **facility in Wisconsin, July 2012-July 2014 (chart data) and May-September 2015 (in-depth**
 275 **interviews)**
 276

	Chart data	In-depth interviews*
N, #	5286	23
Age, # (%)		
<20	574 (11)	2 (9)
20-24	1721 (33)	5 (22)
25-29	1456 (28)	8 (35)
30-39	1336 (25)	6 (26)
40+	198 (4)	2 (9)
Not in chart	1 (<1)	
Highest level of education, # (%)		
Less than High School	894 (17)	1 (4)
High school diploma or GED	1080 (20)	6 (26)
Associates degree / <4 years college	2122 (40)	7 (30)
Bachelors degree or higher	1074 (20)	9 (39)
Not in chart	116 (2)	
Race/Ethnicity, # (%)		
White	2346 (44)	15 (65)
Black	1980 (37)	6 (26)
Latina	474 (9)	1 (4)
Asian/Pacific Islander	210 (4)	0 (0)
Other/mixed race	166 (3)	1 (4)
Not in chart	110 (2)	
Number of previous births, # (%)		
0	1973 (37)	12 (52)
1 or more	2828 (54)	11 (48)
Not in chart	485 (9)	
Weeks gestation at ultrasound visit, # (%)		
Less than 9 weeks	3533 (67)	18 (78)
9-14 weeks	1059 (20)	3 (13)
>14 weeks	688 (13)	2 (9)
Not in chart ³	6 (<1)	
Patient partner, # (%)		
Boyfriend, friend, or ex	3971 (75)	23 (100)
Husband	514 (10)	0 (0)
Other/Unknown	801 (15)	

Support person present at
ultrasound visit, # (%)

Yes	1976 (37)	9 (39)
No	3310 (63)	14 (61)
Not in chart		

Accepted a printout of the
ultrasound image, # (%)

Accepted	2021 (38)	14 (61)
Did not accept	3265 (62)	9 (39)

277 * Percentages do not always sum to 100 due to rounding error.

278

279

280 **Table 2: Characteristics associated with accepting the printout at a high volume abortion**
 281 **facility in Wisconsin, July 2012-July 2014 n=5,286**
 282

	Adjusted Odds Ratio	95% CI
Age		
<20	1.29	(1.04,1.60)
20-24	<i>Ref</i>	<i>Ref</i>
25-29	0.74	(0.63,0.87)
30-39	0.71	(0.60,0.84)
40+	0.66	(0.47,0.95)
Highest level of education		
Less than High School	1.2	(0.99,1.46)
High school diploma or GED	<i>Ref</i>	<i>Ref</i>
Associates degree / <4 yrs college	0.99	(0.84,1.16)
Bachelors degree or higher	0.67	(0.54,0.82)
Not in chart	1.21	(0.80,1.81)
Race/Ethnicity		
White	<i>Ref</i>	<i>Ref</i>
Black	2.80	(2.43,3.22)
Latina	1.47	(1.18,1.82)
Asian/Pacific Islander	2.27	(1.65,3.12)
Other/mixed race	2.12	(1.53,2.95)
Not in chart	1.59	(1.04,2.43)
Partner's relationship		
Husband	<i>Ref</i>	<i>Ref</i>
Boyfriend, friend, ex	1.32	(1.04,1.68)
Other/Not in chart	1.31	(0.99,1.72)
Number of previous births		
0	1.09	(0.95,1.26)
1 or more	<i>Ref</i>	<i>Ref</i>
Not in chart	1.08	(0.87,1.33)
Support person present		
Yes	<i>Ref</i>	<i>Ref</i>
No/Not in chart	1.28	(1.13,1.46)
Weeks gestation at ultrasound visit		
Less than 9 weeks	<i>Ref</i>	<i>Ref</i>
9-14 weeks	1.30	(1.12,1.51)
>14 weeks	1.43	(1.20,1.70)
Not in chart	0.8	(0.13,4.82)

283
 284 Model adjusted for all variables listed in table.

285

286