Factors affecting attitude towards breastfeeding in public: a cross-sectional web-based study on Polish women

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Received: 22 November 2019 / Accepted: 16 May 2020 / Published online: 3 June 2020
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Abstract

Aim Breastfeeding is believed to be beneficial to both mother and child. Although the percentage of Polish mothers who start breastfeeding after childbirth is relatively high, most of them finish after 8–12 weeks. Many factors are involved in the decision to stop, including an unfavourable social attitude towards breastfeeding in public. Our cross-sectional web-based study was conducted to identify the factors predicting negative attitudes towards public breastfeeding among Polish women.

Subjects and methods A population-based internet-administered public opinion survey was conducted among 663 women aged 19 to 50 years old regarding their attitude towards breastfeeding in public. The participants completed a questionnaire concerning demographic data, general beliefs about breastfeeding and attitudes towards breastfeeding in public.

Results Overall, 46.6% of respondents had a negative attitude towards breastfeeding in public. Multivariable logistic regression analysis found that the beliefs that breastfeeding is not a natural activity [adjusted odds ratio (AOR) = 17.54; 95% CI = 1.44–21.95] and that breastfeeding is not emotionally moving (AOR = 8.73; 95% CI = 3.95–19.30) or not having any opinion (AOR = 2.31; 95% CI: 1.18–4.50) to play the most significant roles in shaping a negative attitude, as well as breastfeeding their own child for < 6 months (AOR = 13.93; 95% CI = 0.14–20.24).

Conclusions As women’s beliefs about breastfeeding play a key role in choosing to breastfeed in public, there is a need to further explore attitudes regarding this activity.

Keywords Breastfeeding in public · Breastfeeding barriers · Attitudes · Poland

Background

The results of numerous studies (Dieterich et al. 2013; Horta and Victora 2013) confirm that breastfeeding offers benefits for both mother and child. Breastfeeding, especially if prolonged, has been found to have a positive effect on language development (Gittens Dixon 2017), reduce the risk of developing type 2 diabetes and obesity in children and adults, protect against elevated systolic blood pressure (Horta and Victora 2013) and reduce the risk of breast and ovarian cancer in women who have breastfed (Victora et al. 2016). Breastfeeding is also believed to strengthen the mother-infant relationship, thus playing a key role in its proper development (Doshier 2015).

The World Health Organization (WHO 2016) and the American Academy of Pediatrics (AAP 2012) recommend to exclusively breastfeed for the child’s first 6 months (AAP 2012) and continue breastfeeding with complementary foods up to the age of ≥ 2 years (WHO 2016).

Despite these recommendations and the proven health benefits, relatively few women choose to breastfeed. Poland is ranked high among European countries in terms of the number of women who begin breastfeeding after childbirth; however, the vast majority of them decide to stop after around 2 to 3 months from delivery (The Centre for Lactation Science 2015).

Australian studies show that a positive attitude towards breastfeeding in general promotes breastfeeding length (Cox et al. 2015). Globally, the predictors of termination of breastfeeding include concerns and confusion about the legality of breastfeeding the child in public places and the perception of social opinion (Furman et al. 2013).
As breastfeeding may not always take place in the comfort of the home, but also in public places including parks, shopping centres and the street, a mother’s readiness to breastfeed may also be influenced by their willingness to do so outdoors. North American research suggests that perceptions about breastfeeding in public are related to earlier exposure to such behaviour (Spurles and Babineau 2011). Hence, the presence of more breastfeeding women in public spaces may normalise the activity and foster a more positive perception by the public.

Although little or no research has been carried out in this area in Poland, a quite famous incident took place in 2014 in a restaurant in a well-known Polish tourist city, where a client breastfeeding her baby was asked to leave. The woman recognised this as a form of discrimination and filed the case in court. The case ended in December 2017, when the Court of Appeal ruled that the young mother was right and that this behavior was a manifestation of gender-based discrimination (Commissioner for Human Rights 2017).

Public reactions described in the Polish daily press (Dziennik Bałtycki, 2017), as well as those expressed on internet forums, show that attitudes of both sexes towards breastfeeding in public places in Poland can be very extreme and emotional. Although these opinions have not been quantitatively and qualitatively studied so far, an analysis of readers’ reactions to a description of a similar incident in a luxury hotel in London found that most considered breastfeeding to be inappropriate in public (Morris et al. 2016).

Unlike some other countries (Mulready and Hackett 2014; Komodiki et al. 2014), Poland does not have any legal regulations regarding breastfeeding in public. This suggests that the choice to breastfeed depends on personal opinions, which may favour discrimination and negative comments. This fact, the situation described above and the lack of research in this area on Polish samples inspired us to examine the social perception of breastfeeding in public places. As it is a mother who makes the final decision to breastfeed in public, and she is the recipient of any possible consequences, only women were invited to participate in the present study.

Therefore, the current study examines the factors affecting attitudes amongst women in Poland towards breastfeeding in public places, an area little explored in the Polish population. The research was exploratory, and no directional hypotheses were drawn up, but the following questions were formulated:

Do demographic variables such as age, education, marital status, place of residence and number of own children influence the attitudes of Polish women towards breastfeeding in public? Does any personal experience of breastfeeding or the length of breastfeeding affect attitudes towards breastfeeding in public? Do the general beliefs held by women about breastfeeding affect their attitude towards breastfeeding in public?

Methods

Design

This investigation is a part of larger web-based cross-sectional study examining the attitudes and beliefs of Polish women towards breastfeeding in public. For this purpose, an online survey was conducted. The use of the online survey method has some limitations, which are discussed in detail in the Limitations section. However, this research method was chosen because, given the controversial and emotional nature of the topic, the possibility of completing the survey in a safe place, at a self-chosen time and without pressure resulting from the interviewer’s presence, may increase the response rates (Callegaro et al. 2015) and reduce the risk that respondents will try to provide the answers that the interviewer expects from them (Ball 2019).

The research procedure was performed in accordance with the Helsinki Declaration of Human Rights. The study protocol was approved by the Committee for Bioethics of Scientific Research at the University (Ref. No. 15/KBBN/-UL/1/2017).

Setting

This study was performed among Facebook groups dedicated to women, including those that were related to maternity and pregnancy, but omitting those that focused especially on breastfeeding. Each group had local representation and gathered women from the Lodz voivodeship in central Poland. The Polish population (37.97 million people in 2017) is characterized by a high level of social network use. According to the Gemius and the Polish Interned Research report (Gemius/PBI 2017), 26.4 million people, 12.8 million women and 13.6 million men, used the internet in August 2017, with a mean duration of 2 h 9 min user per day, per person. More than 21.5 million of the Polish population use Facebook on various devices, and 70% are active every day. Facebook clearly enjoys great popularity in Poland, and its userbase is constantly growing, especially among women. NapoleonCat (2018), a social media customer service and analytic tool, reported that as many as 16,780,000 internet users in Poland visited Facebook in November 2018, this being 44.1% of the total population. Most users were women (52.6%), and the largest age group was 25 to 34 years (4,900,000). However, no data are given on the exact number of female Facebook users in the Lodz region. Statistical data (Central Statistical Office of Poland 2017) indicate that at the end of 2017, women constituted 52.4% of all approximately 2.5 million voivodeship inhabitants. The sizes of the Facebook groups were diverse, with the number of group members ranging from 143 to 16,309 women at the time of data collection.

When using an online survey, it is much more difficult to control double observations. To minimize the risk, two
treatments were used. First, an electronic form which could only be completed once was used to complete a survey from a given IP address. Second, each of the respondents was asked to generate an individual code consisting of the: first letter of the first name, third letter of the first name, second letter of the surname, second letter of the maiden name and a number based on the day of birth. The results were checked to identify and remove potential duplicates.

**Sample**

The study participants had to be female and aged at least 18 years old, the age of consent in Poland, with Polish nationality, internet access and a valid email address. All those taking part had to provide their informed consent to participate in the study. No other inclusion criteria were used for recruitment. While 691 women were initially interested in participation, 28 did not fully complete the questionnaire, leaving 663 included in the final analysis.

**Measurement**

A questionnaire was specifically designed for the purpose of the study. The outcome variable was a negative attitude towards breastfeeding in public places, assessed by the response to the question: “Do you accept when other woman is breastfeeding in a public place?”, which was then categorized as either a positive or negative attitude. The independent variables consisted of four sections:

The demographic data included age, marital status, place of residence, education status and current pregnancy status. Parental experience assessed the number of children, being currently pregnant and the number of children raised. Breastfeeding experience examined any personal breastfeeding experience and duration of breastfeeding, from < 6 months to > 2 years.

General beliefs towards breastfeeding surveyed personal beliefs about breastfeeding in general. Responses were picked from a choice of definitely yes, definitely no and no opinion. This part of the questionnaire consisted of a larger pool based on the opinions of women related to breastfeeding in public spaces, in both traditional and internet media.

The selection of questions for the beliefs section was then discussed by a team of competent judges consisting of psychology students participating in a course on reproductive psychology and an expert research psychologist experienced in reproductive psychology issues. The judges pointed out that while breastfeeding advocates tend to argue that every child should be breastfed because feeding is a natural and emotionally fulfilling activity, its opponents often claim that breastfeeding should remain a mother’s individual decision. While the latter does not suggest any aversion to breastfeeding, it does argue that, regardless of the benefits, pressure should not be exerted on mothers to breastfeed.

**Data collection**

Data were collected from June to October 2017 via the internet. Recruitment information was posted on Facebook groups dedicated to women as well as those concerning pregnancy and motherhood. Women interested in participation in the study received a personalized link to the online version of the questionnaire. Electronic informed consent was prepared in accordance with the Ethics Guidelines for Internet-mediated Research (British Psychological Society 2017). Acceptance of the study conditions was a requirement for allowing passage to the rest of the study. Participation was completely voluntary, and women were free to stop engaging at any time without penalty.

**Data analyses**

Analyses were conducted using the Statistical Package for Social Sciences, SPSS 24.0. The data were presented as number of cases, frequencies or means and standard deviations. The chi-square test was used to evaluate relationships for each outcome according to demographic characteristics. Predictors of outcome probability of a negative attitude towards breastfeeding in public were tested using logistic regression models. The models were adjusted for six demographic variables and four general beliefs about breastfeeding that were significant at $P < 0.05$. All reported numbers were based on unweighted data, and percentages, standard errors, adjusted odds ratios (AORs) and 95% confidence intervals (CIs) were based on weighted data.

**Results**

The study group comprised 663 women aged from 19 to 50 years old. More than half of the sample (55.2%) was 26 to 35 years old. Of these, 206 (30.1%) did not have children. The participants were mostly graduates (58.8%), married (61.2%) and living in a small or medium-sized town (43.1%). Most were not currently pregnant (88.8%) and more than half had any personal breastfeeding experience (61.1%). More complete data can be found in Table 1.

**General beliefs regarding breastfeeding**

Most respondents answered “definitely yes” to each of the four questions concerning general beliefs about breastfeeding.
Table 1: Sociodemographic characteristics of the respondents (N = 663)

| Characteristic                              | n   | (%) |
|---------------------------------------------|-----|-----|
| **Age group, years**                        |     |     |
| 19–25                                       | 210 | 31.7|
| 26–35                                       | 366 | 55.2|
| 36–50                                       | 87  | 13.1|
| **Marital status**                          |     |     |
| Single (never married)                      | 106 | 16.0|
| Informal relationship                       | 151 | 22.8|
| Married                                     | 406 | 61.2|
| **Education level**                         |     |     |
| High school or less                         | 149 | 22.5|
| Some college                                | 124 | 18.7|
| College graduate                            | 390 | 58.8|
| **Area of residence**                       |     |     |
| Rural                                       | 108 | 16.3|
| Small/medium-sized town                     | 286 | 43.1|
| City                                        | 269 | 40.6|
| **Being currently pregnant**                |     |     |
| No                                          | 589 | 88.8|
| Yes                                         | 74  | 11.2|
| **Having any personal experience in breastfeeding** | 258 | 38.9|
| **Breastfeeding experience (n = 435)**      |     |     |
| Never breastfed                             | 21  | 4.8 |
| < 6 months                                  | 47  | 10.8|
| 6–12 months                                 | 256 | 60.9|
| 1–2 years                                   | 56  | 12.9|
| > 2 years                                   | 46  | 10.6|
| **Number of children**                      |     |     |
| None                                        | 206 | 31.1|
| One child                                   | 243 | 36.7|
| Two or more                                 | 160 | 24.1|
| First child expected                        | 22  | 3.3 |
| Another child expected                      | 32  | 4.8 |

| N full sample; n subsample                  |     |     |
| 1 Pertains to women who have at least one child
| 2 Number of women expecting their first (n = 22) and subsequent (n = 32) child is not equal to the number of women who declared that they are currently pregnant (n = 74). This may be attributed to some women in their first pregnancy choosing option "0" (i.e. "no children") instead of "first child expected"

The respondents were less likely to give a positive answer to the question “Are you moved emotionally by the sight of breastfeeding?” (55.5% of women) than to the others. As many as 27.2% gave a negative answer (“definitely not”). Due to possible international language differences, it should be clarified that the term “emotionally moving” used in the context of breastfeeding has a positive association with Polish users. The percentage distribution of results is shown in Fig. 1.

Predictors of a negative attitude towards breastfeeding in public

Overall, 46.6% of respondents displayed a negative attitude towards breastfeeding in public. It was most likely reported by respondents aged 19 to 25 years old (45%), married (45.6%), college graduates (54%), residents of small or middle-sized towns (44%) and not currently pregnant (87.1). It was also commonly observed among those without any personal experience in breastfeeding (62.8%) or whose own breastfeeding experience had lasted between 6 and 12 months (21%), and 50.8% of those who were childless. Respondents without personal experience in breastfeeding displayed a negative attitude (62.8%), but those with experience (81.9%) displayed a positive attitude. Both groups (positive and negative) agreed that breastfeeding was a natural activity (94.2% and 99.4%, respectively) and that every mother should breastfeed her baby (75.7% and 89.9%), but they regarded this as an individual choice for the mother (84.8% and 77.1%). However, most respondents with a negative attitude did not agree that breastfeeding was emotionally moving (51.1%), while those with a positive attitude tended to agree it was (77.7%) (Table 2).

Single risk factor logistic regression found most variables to be significant (Table 3). Women < 25 years were three times more likely to have a negative attitude towards breastfeeding in public than older women (OR = 3.05; 95% CI: 1.82–5.12). Compared to married participants, those in informal relationships were 2.5 times more likely to have negative attitudes, and single women were twice as likely (OR = 5.78; 95% CI: 3.55–9.41). Respondents with only high school or elementary education were 1.5 times more likely to have a negative attitude than graduates (OR = 1.47; 95% CI: 1.00–2.14). Respondents without personal experience in breastfeeding were 7.5 times more likely to demonstrate negativity (OR = 7.64; 95% CI: 5.36–10.91) than those with experience.

Compared to those who breastfed for > 2 years, women who had never breastfed were 13 times more likely to have a negative attitude (OR = 13.33; 95% CI: 3.71–47.91). However, this was 23 times more likely in the 0–6 month group (OR = 23.92; 95% CI: 7.68–74.53). The 6–12 month group were more than 2.5 times more likely (OR = 2.67; 95% CI: 1.01–7.03) and the 12–24 month group three times (OR = 3.28; 95% CI: 1.10–9.80). In addition, those without children (OR = 3.63; 95% CI: 1.690–7.802) or expecting their first child (OR = 5.10; 95% CI: 1.41–18.47) were more likely to hold a negative opinion than those expecting their second child. However, mothers of two and more children were less likely to have a negative attitude (OR = 0.36; 95% CI: 0.18–0.80) than women in their first pregnancy.
Compared to those who did not agree that breastfeeding is a natural activity, the women who agreed that it was were 12 times more likely to have a negative attitude (OR = 12.09; 95% CI: 1.54–95.05) and those who were undecided were 9 times more likely (OR = 9.68; 95% CI: 1.20–77.82). Similarly, negative attitudes were more common among participants who did not agree that every mother should breastfeed her baby (OR = 2.38; 95% CI: 1.49–3.79) or were undecided (OR = 6.46; 95% CI: 2.17–19.23), and among those who disagreed that breastfeeding was emotionally moving (OR = 21.38; 95% CI: 12.83–35.16) or were undecided about whether breastfeeding was emotionally moving. Negative attitudes were less common among those who did not agree that breastfeeding was an individual choice by the mother than those who had no opinion (OR = 0.48; 95% CI: 0.27–0.86). However, it should be taken into account that some of the OR values have considerable confidence intervals (CIs), meaning the obtained results might be less significant. Pregnancy status and area of residence were not found to be significant factors with single logistic regression analysis.

All of the variables found to be significantly associated with a negative attitude towards breastfeeding in public in the single-factor analysis were included in a multifactor analysis, which found only three factors to be significantly associated with a negative attitude: breastfeeding duration, regarding breastfeeding as a natural activity and believing that breastfeeding is emotionally moving (Table 4). Women who breastfed for < 6 months were 13 times more likely to hold a negative attitude than those who breastfed > 2 years (AOR = 13.93; 95% CI: 3.95–49.15). In addition, participants who do not perceive breastfeeding as a natural activity (AOR = 17.45; 95% CI: 1.44–21.95) are more likely to hold a negative attitude than those who do; this is also more likely among those who do not agree that breastfeeding is emotionally moving (AOR = 8.73; 95% CI: 3.95–19.31) or are undecided (AOR = 2.31; 95% CI: 1.18–4.50).

**Discussion**

Despite a growing interest in attitudes towards breastfeeding, most studies have focused on the determinants of breastfeeding intention, duration or cessation or have explored various demographic and clinical conditions including gynaecological and obstetric factors or those related to support and education in lactation (Alzaheb 2016; Chandrika et al. 2015; Girard et al. 2016; Onah et al. 2014; Senghore et al. 2018). Much less research has examined the issue of attitudes towards breastfeeding in public places, especially its impact on breastfeeding behaviour (Roche et al. 2015; Buturović et al. 2017). Hence, the current study evaluated attitudes towards breastfeeding in public among women in Poland.

Nearly half of our respondents displayed a negative attitude towards breastfeeding in public places. Similarly, Mulready-Ward and Huckett (2014) reported that 50.4% of respondents did not support breastfeeding in public. However, their study group included both women and men. In addition, Scott et al. (2015) observed that the having a negative attitude will lower readiness for breastfeeding in public spaces, which increases the risk of breastfeeding cessation.

Interestingly, our single-factor analysis yielded similar results to those of earlier studies. For example, a young age, being childless, completing a low level of education and being single increased the likelihood of having a negative opinion. Similarly, Zhao et al. (2017) indicated that women who were married and had their own children were more likely to positively evaluate breastfeeding in public. Mulready-Ward and Huckett (2014) reported that not sharing a house with children < 12 years old also predicted an unsupportive attitude towards breastfeeding in public. These findings are similar to ours, where a lack of children, or expecting a first child, increases the likelihood of an unsympathetic attitude. In our study, negative attitudes were also commonly observed in respondents with low educational levels, as noted previously (Mulready-Ward and Huckett 2014). Our findings also indicated that younger women were more likely to have a negative attitude than older ones.

Although numerous sociodemographic factors may appear to influence a negative attitude towards breastfeeding in public, only three significant aspects were finally identified in this study, and none referred to sociodemographic variables. Education, age and marital status did not affect the attitudes, for example. These results contrast with those obtained in previous studies, where level of education (Huang et al.
In our study, only breastfeeding duration and selected beliefs about breastfeeding were found to be significant.

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**Table 2** Negative and positive attitude towards breastfeeding in public by sociodemographic characteristics (N = 663)

| Characteristic                              | Negative attitude (n = 309) (%) (SE) | Positive attitude (n = 354) (%) (SE) |
|--------------------------------------------|-------------------------------------|-------------------------------------|
| Overall attitude                           | 46.60 (2.84)                        | 53.40 (2.65)                        |
| Age group, years<sup>a,b</sup>             |                                     |                                     |
| 19–25                                      | 45.0 (0.04)                         | 20.0 (0.05)                         |
| 26–35                                      | 44.0 (0.05)                         | 65.0 (3.15)                         |
| 36–50                                      | 11.0 (0.05)                         | 15.0 (0.05)                         |
| Marital status<sup>a,b</sup>               |                                     |                                     |
| Single (never married)                     | 25.9 (0.05)                         | 7.3 (0.05)                          |
| Informal relationship                      | 28.5 (0.05)                         | 17.8 (0.05)                         |
| Married                                    | 45.6 (0.04)                         | 74.9 (2.74)                         |
| Education level<sup>a,b</sup>              |                                     |                                     |
| High school or less                        | 25.2 (0.05)                         | 20.1 (0.05)                         |
| Some college                               | 20.7 (0.05)                         | 16.9 (0.05)                         |
| College graduate                           | 54.0 (0.04)                         | 63.0 (0.03)                         |
| Area of residence<sup>a,b</sup>            |                                     |                                     |
| Rural                                      | 17.5 (0.05)                         | 15.3 (0.05)                         |
| Small/medium-sized town                    | 44.0 (0.03)                         | 42.4 (0.04)                         |
| City                                       | 38.5 (0.05)                         | 42.4 (0.04)                         |
| Being currently pregnant<sup>a,b</sup>     |                                     |                                     |
| No                                         | 87.1 (2.04)                         | 90.4 (0.02)                         |
| Yes                                        | 12.9 (0.5)                          | 9.6 (0.05)                          |
| Having any personal experience in breastfeeding<sup>a,b</sup> | | |
| No                                         | 62.8 (0.03)                         | 18.1 (0.05)                         |
| Yes                                        | 37.2 (0.04)                         | 81.9 (2.26)                         |
| Breastfeeding experience<sup>a,b</sup>     |                                     |                                     |
| Never breastfed                            | 4.2 (0.06)                          | 2.3 (0.05)                          |
| < 6 months                                 | 11.3 (0.04)                         | 3.4 (0.01)                          |
| 6–12 months                                | 21.0 (0.10)                         | 56.5 (0.08)                         |
| 1–2 years                                  | 5.2 (0.10)                          | 11.3 (0.05)                         |
| > 2 years                                  | 1.6 (0.02)                          | 11.6 (0.09)                         |
| Number of children<sup>a,c</sup>           |                                     |                                     |
| None                                       | 50.8 (0.04)                         | 13.8 (0.05)                         |
| One child                                  | 25.9 (0.05)                         | 46.0 (0.04)                         |
| Two or more                                | 12.6 (0.05)                         | 34.2 (0.04)                         |
| First child expected                       | 5.8 (0.06)                          | 1.1 (0.05)                          |
| Second child expected                      | 4.9 (0.06)                          | 4.8 (0.05)                          |
| In your opinion is breastfeeding a natural activity?<sup>a</sup> | | |
| Definitely not                             | 3.2 (0.06)                          | 0.3 (0.05)                          |
| No opinion                                 | 2.6 (0.06)                          | 0.3 (0.05)                          |
| Definitely yes                             | 94.2 (1.37)                         | 99.4 (1.30)                         |
| In your opinion should every mother breastfeed her baby?<sup>a</sup> | | |
| Definitely not                             | 6.1 (0.05)                          | 0.1 (0.01)                          |
| No opinion                                 | 18.1 (0.05)                         | 0.0 (0.05)                          |
| Definitely yes                             | 75.7 (2.80)                         | 89.8 (1.70)                         |
| In your opinion is breastfeeding an individual choice for each mother?<sup>a</sup> | | |
| Definitely not                             | 5.8 (0.06)                          | 11.0 (0.05)                         |
| No opinion                                 | 9.4 (0.05)                          | 11.9 (0.05)                         |
| Definitely yes                             | 84.8 (2.22)                         | 77.1 (2.54)                         |
| Are you moved by the sight of breastfeeding?<sup>a</sup> | | |
| Definitely not                             | 51.1 (0.04)                         | 6.2 (0.05)                          |
| No opinion                                 | 18.8 (0.05)                         | 16.1 (0.05)                         |
| Definitely yes                             | 30.1 (0.05)                         | 77.7 (2.57)                         |

N, full sample; n, subsample
SE, standard error
<sup>a</sup>Differences in negative attitude towards breastfeeding in public significant at $P < 0.001$ level (chi-square test)
<sup>b</sup>Differences in positive attitude towards breastfeeding in public significant at $P < 0.001$ level (chi-square test)
<sup>c</sup>Differences in negative attitude towards breastfeeding in public significant at $P < 0.05$ level (chi-square test)

(Bień et al. 2017) was found to affect the attitudes of the respondents towards breastfeeding in public.
Interestingly, the possibility of a negative attitude towards public breastfeeding was not strongest among women who had not breastfed at all, but among those whose own experience in breastfeeding had lasted < 6 months. It is possible that these respondents had met with unacceptable behaviour or ostracism during breastfeeding, which could have contributed to early cessation and fostered their own negative attitude towards public breastfeeding.

Two of the questions regarding attitudes towards breastfeeding in general were found to be particularly sensitive and to have a significant impact on a negative attitude towards breastfeeding. One was related to it being regarded as a natural activity and the other to the perception of it as emotionally engaging for the observer. The belief that breastfeeding is not a natural activity significantly contributes to a negative view of breastfeeding in public places and appears to reflect a fairly consistent causal relationship—if women do not consider breastfeeding to be a natural way of infant feeding, it is difficult to expect them to accept breastfeeding in a public space. Similarly, those who disagreed that or were undecided whether breastfeeding was emotionally moving were more likely to negatively evaluate breastfeeding in public.

It has been proposed that the perception of breastfeeding as an ordinary and common activity is associated with greater social acceptance (Komodiki et al. 2014). This is consistent with Ajzen’s theory of planned behaviour (1991), which says that the main role in shaping behaviour is played by intention, which in turn comprises attitudes towards behaviour and subjective norms, based on the beliefs of significant people, and the motivation to comply with them. These standards can be defined as the perceived expectations of other people regarding a particular form of behaviour. Hence, women who show a positive attitude can influence the decision to breastfeed in public and vice versa.

Wawak-Sobierajska (2004) reported that Polish women who breastfeed perceive such behaviour as more of a social norm. Although it can be expected that a similar relationship applies to breastfeeding in public places, previous studies suggest that the experience of breastfeeding alone is not conducive to fostering a positive attitude towards public breastfeeding, if its duration was short. This relationship can also be seen in the opposite direction, whereby acceptance of breastfeeding in public places is positively correlated with the length of personal breastfeeding (Locascio and Cho 2017).

The first weeks or months of breastfeeding might present a challenge for the mother, both psychologically and physically. She may not only feel apprehension associated with being evaluated by others and feel pressure to meet societal expectations, but also run into possible physical breastfeeding difficulties, pain or discomfort. A report published by the British government (UK Government Public Health England 2015) found that more than one in three breastfeeding mothers refrained from breastfeeding in a public place and that 21% felt disapproval associated with the act. These findings are consistent with those obtained by Scott et al. (2015), which indicated that the perception of social norms by women may
In your opinion is breastfeeding a natural activity?

Are you moved by the sight of breastfeeding?

In your opinion is breastfeeding an individual choice for each mother?

In your opinion should every mother breastfeed her baby?

Table 4  Multi-factor logistic regression model predicting Polish women’s negative attitude towards breastfeeding in public (N = 435)

| Characteristics                           | AOR   | 95% CI for AOR |
|------------------------------------------|-------|----------------|
| Age group, years                         |       |                |
| 19–25                                    | 0.67  | 0.26–1.75      |
| 26–35                                    | 0.74  | 0.38–1.45      |
| 36–50                                    | 1     |                |
| Marital status                           |       |                |
| Single (never married)                   | 1.04  | 0.16–6.74      |
| Informal relationship                    | 1.23  | 0.62–2.44      |
| Married                                  | 1     |                |
| Education level                          |       |                |
| High school or less                      | 1.06  | 0.55–2.07      |
| Some college                             | 0.63  | 0.28–1.42      |
| College graduate                         | 1     |                |
| Having any personal experience in breastfeeding |       |                |
| No                                       | 2.12  | 0.29–15.62     |
| Yes                                      | 1     |                |
| Breastfeeding experience                 |       |                |
| Never breastfed                          | 1.71  | 0.14–20.24     |
| < 6 months                               | 13.93 | 3.95–49.15     |
| 6–12 months                              | 2.48  | 0.85–7.24      |
| 1–2 years                                | 2.36  | 0.70–7.99      |
| > 2 years                                | 1     |                |
| Number of children                       |       |                |
| None                                     | NA    |                |
| One child                                | 0.68  | 0.26–1.79      |
| Two or more                              | 0.58  | 0.21–1.57      |
| First child expected                     | NA    |                |
| Second child expected                    | 1     |                |
| In your opinion is breastfeeding a natural activity? |       |                |
| Definitely not                           | 17.45 | 1.44–21.95     |
| No opinion                               | 1.89  | 0.16–22.66     |
| Definitely yes                           | 1     |                |
| In your opinion should every mother breastfeed her baby? |       |                |
| Definitely not                           | 0.68  | 0.12–3.82      |
| No opinion                               | 1.62  | 0.72–3.65      |
| Definitely yes                           | 1     |                |
| In your opinion is breastfeeding an individual choice for each mother? |       |                |
| Definitely not                           | 0.60  | 0.23–1.58      |
| No opinion                               | 1.12  | 0.52–2.42      |
| Definitely yes                           | 1     |                |
| Are you moved by the sight of breastfeeding? |       |                |
| Definitely not                           | 8.73  | 3.95–19.31     |
| No opinion                               | 2.31  | 1.18–4.50      |
| Definitely yes                           | 1     |                |

AOR, adjusted odds ratio; CI – confidence interval; NA, no observations

have a stronger impact on their willingness to breastfeed than their own attitudes and knowledge about feeding.

Limitations

Some limitations of this study should be noted. Although multiple response options were given regarding the duration of breastfeeding experience, this was not carefully monitored. In addition, although women breastfeeding for < 6 months were found to hold the most negative opinion, the precise duration was not recorded and more accurate data in this area could be provided in future studies. It was also difficult to determine whether the negative attitude was related to the failure of breastfeeding, physical ailments or lack of the comfort characteristic of the first weeks of breastfeeding. Another limitation may be that some factors, such as short breastfeeding time, could have resulted from a reluctance by the mother to breastfeed in public places. Lack of breastfeeding may have led to the cessation of lactation and hence shortened the overall feeding time. However, the aim of this study was not to find reasons for the length or quality of breastfeeding, so duration was treated as factors from the past which affected current attitudes.

The term “public places” could also be defined more exactly. Our study only gives examples of typical, frequently visited places from the public space. In addition, we did not list every possible place in terms of breastfeeding intimacy to avoid the risk of suggesting answers. A later analysis of the results obtained by Russell and Ali (2017) suggested that the choice of definition could significantly affect such responses among groups of Polish women, an aspect which should be taken into account in future research. Future studies should also explore the reasons why breastfeeding in public places may be perceived negatively, as the findings could serve to more effectively promote breastfeeding.

It should also be taken into account that the obtained AOR values have considerable CIs, meaning the results clearly require careful interpretation and further confirmation in subsequent studies.

The limitations of the online survey as a research method should also be mentioned, in particular sample bias. Internet research makes it impossible to obtain information from people who, for various reasons, do not have access to the internet, are not users of social media or are unable to use information technology fluently (Andrews et al. 2003; Ball 2019). The presented studies were not free from this pitfall, as implied by the lack of respondents > 50 years old, who constitute a generation of “digital immigrants”, for whom, in contrast to younger people, or “digital natives”, the internet environment and information technology in general are not as natural (Prensky 2001).

Another potential limitation of the study was recall bias since when surveying a woman with more than one child, we did not specify which child the breastfeeding referred to and older woman may have trouble recalling the precise length of their breastfeeding. To account for the fact that...
attitudes may change over time, and hence to reflect the “current” attitude, the questionnaire used the phrase “any breastfeeding experience”.

Conclusions

Personal experience and beliefs about breastfeeding in general may exert a stronger influence on attitude towards breastfeeding in public than any sociodemographic factors. Previous studies point out that negative cultural perceptions of breastfeeding in public limit its initiation and duration in general. A similar relationship was found between a negative attitude prevalent in society and the perceived ability and willingness of the mother to breastfeed in public.

It would also be interesting to examine how the attitude towards breastfeeding in public places evolves over time, in terms of both cultural developments and changes in the views of women related to their own experiences.

To encourage women to breastfeed “on demand” requires the provision of facilities to make breastfeeding easier. A negative attitude towards breastfeeding in public is undoubtedly a barrier which should be overcome to encourage the growth of breastfeeding rates and the health of infants.

Taking into account the fact that this is an exploratory study, it may give rise to further observations of the studied phenomenon in Poland.

Compliance with ethical standards

Conflict of interest The authors declare that they have no conflict of interest.

Ethical approval All procedures performed in this study involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki Declaration and its later amendments or comparable ethical standards.

Informed consent Informed consent was obtained from all individual participants included in the study.

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