

Abandoned babies in the UK – a review utilizing media reports

L. Sherr, J. Mueller and Z. Fox

University College London Medical School, Department of Infection and Population Health, London, UK

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Abstract

Background In the absence of national policy or comprehensive data, the phenomenon of abandoned babies is poorly understood in the UK. This study aims to use media reports as a resource to collate existing information on abandoned babies and to draw conclusions to inform future response.

Methods An exhaustive media search using electronic searches and media monitoring was undertaken to glean systematic information on all abandoned babies in the UK from 1998–2005. These were matched onto two databases – the UK Crime Statistics and the UK Abandoned Children Register in an attempt to align information on infant abandonment. Media reports were coded to list gender, survival, age, parental finding and circumstantial data.

Results Our figures suggest an average of 16 babies abandoned yearly, while official sources give conflicting indications because of incomplete data gathering and child over-inclusion. Through systematic coding of media reports, 124 babies were identified over a 7-year period. Of these, 96 (77.4%) were newborns (<1 week old) and 28 (22.6%) were older babies (>1 week old). Adjusted logistic regression analysis found the strongest predictors of survival were age at abandonment and 'findability'. Newborn babies were less likely to survive than older babies (33.7% newborns died vs. 0% older babies, $P < 0.0001$). Babies left in a non-findable location (34%) had a 5.19 (2.06, 13.11) higher odds of death compared with those to be found. Most babies (74%) were abandoned outdoors and only 9.7% were left with a memento. Few mothers, almost exclusively those of older babies, were found (37.1%). Of those found, 92% were located within 3 days of abandoning their baby. Media interest is transient – 44.8% cases have a single report – and are typified by negative headlines (81.5%).

Conclusions This database currently represents the most accurate and comprehensive picture of the newborn abandonment phenomenon in the UK, a phenomenon that is rare but with high media and social interest. If the future well-being of mother and baby are to be catered for, clearer evidence-based policy and provision is vital.

Keywords

abandoned baby, abandonment, founding, infant, mother

Correspondence:

Lorraine Sherr, Royal Free and University College Medical School, Department of Primary Care and Population Science, UCL, Rowland Hill Street, London NW3 2PF, UK
E-mail: l.sherr@pcps.ucl.ac.uk

Introduction

The phenomenon of abandoned babies is one that is intriguing for society and has widespread social ramifications. This area remains understudied because babies are not abandoned often. However, societal reaction, in the form of intense press cover-

age, gives an indication of the concepts and perceptions of civil society views around the issue. Few studies have examined the emotions or experiences of adult survivors of abandonment in a systematic way and there is no information on the mental health effects and later adjustments that could inform policy on how to handle abandonment at the time. The lay press has

maintained both an interest and an intrigue surrounding the phenomenon, but this tends to be voyeuristic in nature. Curiously, such press coverage is often the only systematic information to hand.

Abandonment is not a new phenomenon and is often subject to social change and circumstances. There are many historical or mythical case reports or incidents of abandonment – such as Oedipus, Moses, *Oliver Twist*, *Perdita*, *Thumbelina*, *Romulus and Remus* or *Hansel and Gretel*. The folk literature often associates abandonment with romance and grandeur. The emotions of the abandoned baby are rarely considered and invariably the tales have ‘happy endings’, with princely discoveries, grand marriages or emotional reuniting. The reality seems to be far from this, with lower social status, poverty and social censure as prompts for abandonment (Green 1999). These factors are well-documented negative predictors for abandoned babies in historical reviews (Kertzer *et al.* 1999) as well as contemporary findings when they are studied (Musoke & Jitta 1994; Otieno *et al.* 1999). These studies assess medical outcome in the short term and there is no literature on the long-term mental health outcomes for either mother or baby.

The study of abandoned babies can be informed by two sources. First, the literature on infanticide may be a useful starting point. It may well represent one potential outcome where the mode of infanticide is abandonment (Saunders 1989; Friedman *et al.* 2005; Rouge-Maillart *et al.* 2005) and the subsequent survival of the infant is dependent on their circumstances and fortune. Another area of literature relating to the experiences of adoption and fostering may inform the understanding of abandoned babies (e.g. Freundlich 2002; Wilson 2004). They enter the same process and thus face similar challenges – in most cases, differentiated by their birth circumstance and their inability to trace antecedents, relatives or roots. The psychological outcome and long-term identity formation for abandoned babies may depend on a number of factors related to when they are found, including whether their mother is traced and if they are reunited, whether they feel they were abandoned to live or die, whether they were left any mementoes and if these were kept safe and how and what they are named. Unfortunately, the literature offers little insight into the contributions of these initial features to later psychological development. The actions of those involved in an abandoned baby finding could contribute significantly to the child’s later psychological outcome.

The reasons for abandonment are difficult to ascertain. As few mothers come forward, there is no systematic study of their mental health, either at the time of abandonment, or after (Philpot 2006). Speculations have been made about denial of pregnancy (Brezinka *et al.* 1994), fear of causing harm (Bonnet

1993) and mental illness (Spinelli 2004). As abandonment occurs so infrequently in the UK, there is little chance of gaining prospective data, let alone compiling anything beyond case reports. Much of the understanding of the mental state of mothers who abandon their baby must come from surmise and distilled circumstantial evidence and interpretation. We know that mothers who give their babies up for adoption are at significant risk of poor long-term psychological outcomes, and this is particularly true for those whose parental rights are involuntarily terminated (Freundlich 2002). This may also apply to women who come forward following abandonment but who are subsequently deemed an unfit parent. For mothers who are never found, the burden of the secret in addition to the loss of the child may result in long-term psychological distress.

International data suggest that the phenomenon is associated with severe mental health stress (Lee *et al.* 2006). Reaction seems to be in the form of accommodating the abandonment with the introduction in some countries of ‘baby boxes’ or other such provisions where babies can be left (Kovac 1999; Lvoff *et al.* 2000; Chapman 2006). In the USA, safe-haven legislation allows for emergency room or fire department anonymous abandonment (Kunkel, 2007). However, these approaches have rarely been based on any evidence indicating causes of baby abandonment, and furthermore have not been systematically evaluated in terms of their outcomes (Mueller & Sherr, submitted). There is a resounding lack of policies and data sources in the USA (Bradley 2003) and the UK (Sherr & Hackman 2002; Mueller & Sherr, submitted). Care staff are invariably unprepared and ignorant of the needs and issues surrounding abandonment (Cesario 2003). There are cultural variation and social conditions that directly affect rates of abandonment, such as one child policies in China (Gu & Roy 1995), poverty and HIV in South Africa (Coovadia & Broughton 1990), political conditions in Romania (Ionescu 2005), drug use and HIV in Russia (Hillis *et al.* 2007).

The rate of abandonment in the UK is difficult to ascertain. Companion research has found that there is no specific UK data relating to baby abandonment, either nationally or institutionally (Mueller & Sherr, submitted). The act of abandoning a baby is a criminal offence and as such should be possible to record by recourse to the criminal statistics. Home Office National Crime Statistics record prosecutions of several crimes related to, but not restricted to, newborn abandonment. These charges include ‘abandonment of a child aged under 2 years’, ‘concealment of birth’ and homicide – infanticide figures are not available separately (Mueller & Sherr, submitted). Several difficulties arise from these data: it is impossible to determine how many convictions relate to newborn babies and newborn abandonment;

not all abandoners are prosecuted even if found; conviction rates may be inflated by two parents being charged. The only other relevant data source is the Abandoned Children Register (ONS). Conversely to the National Crime Statistics, these figures relate only to children abandoned as newborns, who also live and whose parents are never found or charged. The numbers recorded here are hence likely to be lower than the actual number of abandoned babies. These two sources record incompatible data formed from the outcomes of baby abandonments rather than the abandonment events themselves. Neither offers a comprehensive incidence rate (Mueller & Sherr, submitted), nor a more detailed information database.

Abandonments are often publicly high-profile events, so another way of gaining information is to examine press reporting of abandoned babies. These are subject to many biases, but often have recorded information within the reports that is possible to code. Given the dearth of academic literature on the experience of abandonment and comprehensive UK statistics, this study was set up to examine press reports of abandoned babies and to attempt a detailed catalogue and analysis of the baby abandonment phenomenon and to provide social comment on media reporting. This research aims to provide some systematic basis from which policy, understanding and a future pathway for research on abandoned babies can be conducted.

Method

The first phase compares data from the UK Crime Statistics against the UK Abandoned Children Register; the second phase reports on an analysis of baby abandonment media reports. An exhaustive UK media report search was undertaken using archive and Internet searching of incidents of babies and children abandoned between 1998 and 2005. Online and database searches used keywords 'abandoned baby/ies', 'abandoned child' and 'baby abandonment'. References to other cases from within online and archive articles were followed to gather more cases, and crosschecked to ensure completeness of data. Articles were grouped to represent each abandoned baby, matching baby names and abandonment date and place. Children aged up to 2 years old were eligible for inclusion, in line with the criminal charge of 'abandonment of a child aged under 2 years'; our coding allowed us to distinguish between newborn and older abandoned children. Our data represent the most complete database of this information: no alternative source of information on individual abandonment cases exists against which to match these data.

A checklist comprising 24 data points created and was completed for each abandoned baby case, drawing information from all articles on that case from each media source. To ensure the accuracy of the coding procedure, a random sample of 10 abandoned babies were selected for confirmation coding. Two independent coders then blindly coded these 10 cases over 12 key variables (denoted * in Table 1). The level of agreement between the two coders was calculated for each baby using kappa statistics. Perfect correlation (1.000) between the two coders was noted for seven of the 12 variables. The remaining five variables had correlations ranging between 0.8 and 0.97. Based on this high inter-coder correlation, the remaining case reports were coded by a single coder. Variables are described below, grouped by category.

Analysis

Abandonment characteristics were compared using chi-squared or *t*-test statistics. Logistic regression analyses were used to identify factors that predicted survival after abandonment. All factors were explored in unadjusted logistic regression analysis. The main predictor variables were then identified through backwards elimination models, with a *P*-value <0.15 considered eligible for inclusion.

Media headlines

Finally, a qualitative evaluation of media headlines was undertaken. The initial headline for each case was coded as either 'positive' or 'negative' by two independent coders. The inter-coder correlation was high (0.89) confirming the construct for inclusion. All case headlines were then collated and qualitatively analysed.

Results

Annual incidence of abandonment

Overall, we obtained data from media reports on 124 abandoned babies. The number of babies abandoned each year is illustrated in Figure 1. The mean annual number of abandoned babies between 1998 and 2005 was 12 (95% CI = 7.42) for newborns (aged <1 week) and four (95% CI = 2.09) for older children (aged >1 week but <2 years). Altogether, our data suggest a mean of 16 children are abandoned each year (95% CI = 10.94).

Figure 2 compares the number of abandoned babies according to media reports against those reported in the official UK

Table 1. Abandonment coding variables for media reports

Characteristics of the abandonment	Data	Definition/example
Date of abandonment		
Season found*	Spring/summer/ autumn/winter	Three months assigned to each season Spring beginning in March
Location found*	Inside/outside	Inside – e.g. hospital, public bathroom, shopping centre Outside – e.g. on doorstep, deserted woodland
Findable location (coder judged)	Yes/no	Whether the baby was likely to be found quickly and/or safely Findable – e.g. on doorstep or in a busy place such as a bathroom Not findable – e.g. deserted woodland, inside rubbish bin The intent of the abandoner may be inherent in this variable but given the mental health state of the mother we cannot assume intent
Evidence of care* (coder judged)	Yes/no	Any evidence that the abandoner tried to care for child – e.g. warm clothes if left outside, extra nappies left, left in safe place
Mementos left*	Yes/no	Item with apparent meaning – e.g. letter, necklace, photograph
Number of items with child*		Any item left with child, including clothing items
Characteristics of the finding		
Named by person other than parent	Yes/no	
Has namesake	Yes/no	A namesake is someone or something that the baby was named after (e.g. place of finding, rescuer)
Namesake type	Person/place/time/none	
Parent found*	Yes/no	
Days until parent found	N =	
How mother found	Came forward/sought out	
Charges reported if parent found	Yes/no	
Characteristics of the child		
Gender of baby*	Male/female	
Newborn (<1 week old)*	Yes/no	Children older than 1 week but aged under 2 years were eligible to be coded 'no'
Survival*	Yes/no	Reported dead or alive
Characteristics of the media report		
Number of media articles found*	N =	
Father mentioned*	Yes/no	
Finder mentioned	Yes/no	
Police officer mentioned	Yes/no	
Hospital staff mentioned	Yes/no	
Adult prospects of child mentioned	Yes/no	
Plea to mother for health reasons*	Yes/no/no appeal	

*indicates key variables double coded for accuracy.

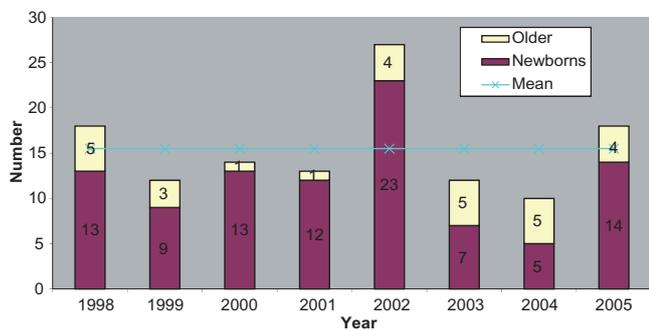


Figure 1. Number of babies abandoned annually 1998–2005, according to media report data.

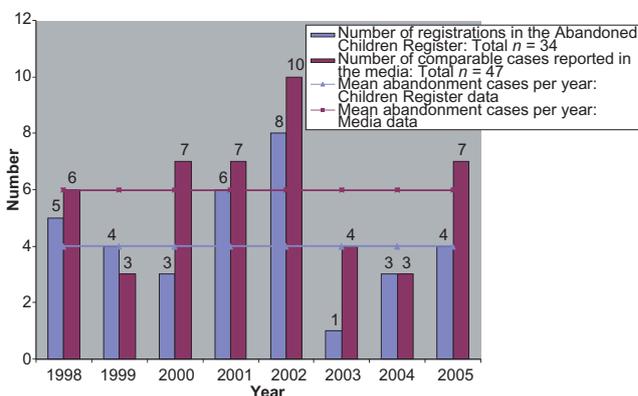


Figure 2. Comparison between the Abandoned Children Register data and relevant media database figures.

Table 2. Comparison between Home Office (2005) recorded crime statistics and media report data

Year (April–March)	UK recorded crime prosecution statistics			Media report data (newborn)		
	Abandoning a child under the age of 2 years	Concealment of birth	Total	Prosecutions reported	Parent found reported	Total number of abandonment cases reported
1997/1998	54	6	60	0	3	6
1998/1999	42	10	52	0	5	15
1999/2000	51	4	55	1	4	12
2000/2001	48	9	57	0	4	17
2001/2002	48	4	52	2	6	16
2002/2003	59	7	66	1	7	18
2003/2004	49	6	55	2	6	15
2004/2005	49	6	55	2	2	10
2005/2006	49	8	57	6	9	15
Annual mean	50	7	57	1.6	5.1	14

The media report data for all children was adjusted by month in order to compare it with the crime statistics, which run from April–March each year (note that the annual mean number of abandoned babies differs to that shown in Fig. 2 due to this adjustment).

Abandoned Children Register. The media data have been adjusted in order to make them comparable to the Abandoned Children Register data: only babies who were abandoned newborn, who lived and whose parents were not found are included.

The media reported more abandoned babies compared with the Abandoned Children Register (47 babies vs. 34 babies in total, mean six babies vs. four babies per year). The most obvious reason for this disparity is that more mothers are eventually found than are reported in the media, but other reasons may be possible. The lack of more detailed information on the nature and outcome of all recorded abandonments is a policy shortcoming.

We then compared media reported cases against the UK Recorded Crime Statistics (Home Office 2008) (Table 2). In contrast to the small figures recorded by the Abandoned Children Register, the UK Recorded Crime Statistics are much higher than those generated by our media report dataset. These are the only two available sources of national data on baby abandonment and they record entirely different statistics, with neither recording basic incidence of baby abandonment. Our dataset has attempted to address this dearth of information.

Details of abandonment – differences by age

Of the 124 babies, the majority ($n = 96$, 77.4%) were newborn babies, and a smaller group ($n = 28$, 22.6%) were older than 1 week but younger than 2 years. The mean age of the older children is 9.4 months. Detailed information on all abandonments is set out in Table 3 below with comparisons between newborns and older infants included.

Baby characteristics and abandonment circumstances

Gender

Overall, more male babies were abandoned than female babies: 68 males (54.8% of the sample) and 54 females (43.5% of the sample).

Place and time of abandonment and survival

In total, 32 (25.8%) of the abandoned babies died – deaths were exclusively confined to the newborn group [33.7% (32/95 newborns) vs. 0% (0/28 babies >1 week old)], $P < 0.0001$. Babies tend to be abandoned outdoors ($n = 92$, 74.8%), in a non-findable location ($n = 34$, 27.9%), and are abandoned approximately equally throughout the year (28% in both winter and spring and 22% in both summer and autumn). Newborns were significantly more likely to be abandoned outside compared with older babies (79.0% vs. 60.7%), $P = 0.05$, and were significantly more likely to be abandoned in a non-findable location compared with older babies [32 (34.0%) vs. 2 (7.1%)], $P = 0.004$ (Fisher's exact). Newborn boys ($n = 45$ of 52, 86.5%) were significantly more likely to be abandoned outside than newborn girls ($n = 29$ of 42, 69.1%), $P = 0.04$.

In unadjusted logistic regression analysis (Table 4), the main predictors of death were whether the child was abandoned in a findable location and the season that the child was abandoned. After adjustment for other predictor variables, there was a marginally higher odds of death for children who are abandoned in autumn compared with children abandoned in spring [OR (95% CI): 2.92 (0.77, 11.13)]. This was independent of whether children were left inside or outside. The strongest independent

Table 3. Detailed data comparing newborn and older abandonments

		Total <i>n</i> = 124		Newborn (≤1 week old) <i>n</i> = 96 77.4%		Older (>1 week old) <i>n</i> = 28 22.6%		Difference between newborns and older children
		<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	
Gender of baby	Female	54	43.5	42	43.8	12	42.9	$\chi^2 = 0.000$ d.f. = 1 <i>P</i> = 0.983
	Male	68	54.8	53	55.2	15	53.6	
	Missing	2	1.6	1	1.00	1	3.6	
Survival	Yes	91	73.4	63	65.6	28	100	$\chi^2 = 12.748$ d.f. = 1 <i>P</i> = 0.0001
	No	32	25.8	32	33.3	0	0	
	Missing	1	0.8	1	1.00	0	0	
Season found	Spring	35	28.2	26	27.1	9	32.1	$\chi^2 = 1.302$ d.f. = 3 <i>P</i> = 0.729
	Summer	27	21.8	23	24.0	4	14.3	
	Autumn	27	21.8	20	20.8	7	25.0	
	Winter	35	28.2	27	28.1	8	28.6	
Location found	Inside	31	25.0	20	20.8	11	39.3	$\chi^2 = 3.814$ d.f. = 1 <i>P</i> = 0.05
	Outside	92	74.2	75	78.1	17	60.7	
	Missing	1	0.8	1	1.00	0	0	
Findable location	Yes	88	71.0	62	64.6	26	92.9	$\chi^2 = 7.766$ d.f. = 1 <i>P</i> = 0.005
	No	34	27.4	32	33.3	2	7.1	
	Missing	2	1.6	2	2.10	0	0	
Mementos left	Yes	12	9.7	7	7.3	5	17.9	$\chi^2 = 2.375$ d.f. = 1 <i>P</i> = 0.123
	No	106	85.5	83	86.5	23	82.1	
	Missing	6	4.8	6	6.3	0	0	
Evidence of care	Yes	32	25.8	17	17.7	15	53.6	$\chi^2 = 12.737$ d.f. = 1 <i>P</i> = 0.0001
	No	85	68.5	72	75	13	46.4	
	Missing	7	5.6	7	7.3	0	0	
Number of items with child	Mean	2.13		1.91		2.81		<i>t</i> = -2.319 d.f. = 86 <i>P</i> = 0.023
	SD	1.589		12.88		2.205		
	Missing	36	29.0	29	30.2	7	25.0	
Named by person other than parent	Yes	55	44.4	47	49.0	8	28.6	$\chi^2 = 3.650$ d.f. = 1 <i>P</i> = 0.056
	No	69	55.6	49	51.0	20	71.4	
Has namesake?	Yes	34	27.4	31	32.3	3	7.7	$\chi^2 = 5.071$ d.f. = 1 <i>P</i> = 0.024
	No	90	72.6	65	67.7	25	20.3	
Namesake type	Person	18	14.5	16	16.7	2	7.1	$\chi^2 = 5.400$ d.f. = 3 <i>P</i> = 0.145
	Place	6	4.8	6	6.3	0	0	
	Time	10	8.1	9	9.4	1	3.6	
	No	90	72.6	65	67.7	25	89.3	
Parent found	Yes	46	37.1	27	28.1	19	67.9	$\chi^2 = 14.665$ d.f. = 1 <i>P</i> = 0.0001
	No	78	62.9	69	71.9	9	32.1	
Of those parents found: days until parent found	Mean	5.25		1.36		10.37		<i>t</i> = -1.315 d.f. = 18.123 (equal var.s not assumed) <i>P</i> = 0.205
	SD	19.864		1.997		29.809		
	Missing	2	4.6	2	7.4	0	0	
Of those parents found: how mother found	C.F.	18	39.1	9	33.3	9	47.4	$\chi^2 = 0.992$ d.f. = 1 <i>P</i> = 0.337
	S.O.	28	60.9	18	66.7	10	52.6	
Of those parents found: charges against parent reported	Yes	14	30.4	6	22.2	8	42.1	$\chi^2 = 2.082$ d.f. = 1 <i>P</i> = 0.149
	No	32	69.6	21	77.8	11	57.9	
No. of media articles found	Mean	2.41		2.43		2.36		<i>t</i> = 0.157 d.f. = 122 <i>P</i> = 0.875
	SD	2.060		1.977		2.360		
Father mentioned	Yes	10	8.1	2	2.1	8	28.6	$\chi^2 = 20.514$ d.f. = 1 <i>P</i> = 0.0001
	No	114	91.9	94	97.9	20	71.4	

Table 3. Continued

		Total <i>n</i> = 124		Newborn (≤1 week old) <i>n</i> = 96 77.4%		Older (>1 week old) <i>n</i> = 28 22.6%		Difference between newborns and older children
		<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	
Finder mentioned	Yes	78	62.9	62	64.6	16	57.1	$\chi^2 = 0.514$ d.f. = 1 <i>P</i> = 0.473
	No	46	37.1	34	35.4	12	42.9	
Police officer mentioned	Yes	88	71.0	67	69.8	21	75.0	$\chi^2 = 0.285$ d.f. = 1 <i>P</i> = 0.593
	No	36	29.0	29	30.2	7	25.0	
Hospital staff mentioned	Yes	32	25.8	28	29.2	4	14.3	$\chi^2 = 2.507$ d.f. = 1 <i>P</i> = 0.113
	No	92	74.2	68	70.8	24	85.7	
Adult prospects of child mentioned	Yes	3	2.4	2	2.1	1	3.6	$\chi^2 = 0.203$ d.f. = 1 <i>P</i> = 0.652
	No	121	97.6	94	97.9	27	96.4	
Plea to mother for health reasons	Yes	72	58.1	62	64.6	10	35.7	$\chi^2 = 8.177$ d.f. = 2 <i>P</i> = 0.017
	No	24	19.4	17	17.7	7	25.0	
	No appeal	28	22.6	17	17.7	11	39.3	
Headline emphasis	Positive	13	10.5	12	12.5	1	3.6	$\chi^2 = 1.904$ d.f. = 1 <i>P</i> = 0.168
	Negative	101	81.5	76	79.2	25	89.3	
	Missing	10	8.1	8	8.3	2	7.1	

The bold values are those that are significant.

Table 4. Logistic regression models of death

Variable	Unadjusted analysis		Multivariable analysis	
	Odds ratio 95% confidence interval	<i>P</i> -value	Odds ratio 95% confidence interval	<i>P</i> -value
Model 1: all children (<i>n</i> = 124)				
Gender of child (male vs. female)	1.16 (0.51, 2.64)	0.73	–	–
Where found (outside vs. inside)	1.03 (0.41, 2.61)	0.95	–	–
Season		0.15		0.28
Spring	Ref.		Ref.	
Summer	1.78 (0.55, 5.75)		1.28 (0.36, 4.52)	
Autumn	2.75 (0.89, 8.51)		2.51 (0.75, 8.40)	
Winter	0.83 (0.25, 2.77)		0.78 (0.21, 2.93)	
Is the baby findable (no vs. yes)	5.62 (2.31, 13.68)	<0.0001	5.19 (2.06, 13.11)	<0.0001
Model 2: newborns (<i>n</i> = 96)				
Gender of child (male vs. female)	1.18 (0.50, 2.81)	0.71	–	–
Where found (outside vs. inside)	0.72 (0.26, 1.99)	0.53	–	–
Season		0.15		0.20
Spring	Ref.		Ref.	
Summer	1.78 (0.55, 5.75)		1.03 (0.27, 3.91)	
Autumn	2.75 (0.89, 8.51)		2.92 (0.77, 11.11)	
Winter	0.83 (0.25, 2.77)		0.74 (0.18, 3.03)	
Is the baby findable (no vs. yes)	4.16 (1.65, 10.49)	0.002	3.20 (1.18, 8.70)	0.02

predictor of death was whether the child was abandoned in a findable location. In a multivariable analysis there was a 5.19 (2.06, 13.11) higher odds of death if the child was abandoned in a location that was not considered to be findable. When we examined these trends in the subgroup of newborn children, the same predictor variables were identified.

Mementos

Most babies are found with some items with them, particularly if they are found alive. A mean of 2.1 items (95% CI = 1.79) were found with babies overall, significantly more for older babies than for newborns ($\chi = 1.9$ vs. 2.8; $t = -2.3$, $P = 0.02$).

However, only 12 (9.7%) babies were left with some kind of memento, such as a letter, teddy bear or necklace.

Naming

Some abandoned babies are named immediately after they are found by somebody other than a parent, such as the Police or hospital staff – 55 (44.4%) were named in this way. Significantly more newborns were named than older babies [47 (49%) vs. 8 (28.6%); $P = 0.05$], and newborn babies are more often given a namesake [31 (32.3%) vs. 3 (7.7%); $P = 0.02$]. This namesake is often a person such as their finder or the policeman on duty (16.7%), associated with the place they were found (6.3%) or a time, such as Christmas (9.4%).

Parent finding

For all the babies only 46 (37.1%) have a record of parents being found. No fathers were found independently of mothers. Few mothers (28.1%) of newborn abandoned babies are found. Significantly more are reported found for older babies [$n = 19$ (67.9%); $P = 0.0001$] compared with newborns. The majority of these mothers are sought out, rather than come forward themselves (60.9% vs. 39.1%). The vast majority of mothers who are found are located within 3 days of the abandonment. The mean number of days until finding, for the small group who were found, was 5.25 days.

Media report characteristics

Media appeals are often seen to play a key role in appealing to find a mother. However, media appeals tend to peter out after the initial interest in the case – only one media article was found for the majority (44.8%) of cases, although there was a trend towards more articles if a parent was found. It seems that society is interested in the act and fact of abandonment, not the long-term implications.

Media appeals often focus on the mother's health as a reason for her to come forward (58.1%). A health-based plea was significantly more likely if the abandoned child was newborn rather than an older child (64.6% vs. 35.7%; $P = 0.02$). There were no significant associations between any media appeal and a mother being found, or with whether a mother came forward rather than was sought out.

Fathers of newborn babies are rarely mentioned in media reports (8.1% of reports); however, they are mentioned significantly more often in reports about abandoned older children than about newborns (28.6% vs. 2.1%; $P = 0.0001$).

Headlines

Qualitative coding of headlines showed that 89.5% of initial newborn abandonment headlines had a negative emphasis. Further thematic analysis of the headlines led to 14 key themes being identified, 10 of which were negative and only four of which were positive. The emotion of shock was the most frequently identified emotion conveyed by a headline, followed by pity. Themes were noted to overlap considerably – shock and anger might be combined within one report for example, or pity and despair. Thematic clusters of headlines organized into their primary theme are set out in Table 5.

Discussion

Frequency of baby abandonment

The Abandoned Children Register and the UK Crime Statistics provide conflicting and unclear data on the number of abandoned babies in the UK. The total crime statistics for abandoning a child and concealment of birth are over four times greater than the media report figures of the number of parents reported as charged, or even those parents simply reported as found. This is likely to be because crime statistics include information on both newborns and older children, and that the crime 'abandonment of a child' covers a wider range of events than those covered by the media. Furthermore, if both parents were charged the crime statistics would indicate this as two cases rather than one child. Concealment of birth prosecutions alone is perhaps more related to newborn cases in nature, but it is still impossible to accurately compare the two datasets to draw any meaningful conclusions. Conversely, our data suggest that newborn abandonment is *more* common than figures indicated by the Abandoned Children Register. Again, this is due to incompatible definitions of abandonment and unsystematic records. Our data suggest that clear and exclusive definitions are needed as subcategories for formal data collection if true prevalence of abandonment is to be monitored.

Given the current lack of any national statistics on baby abandonment, our data currently represent the most accurate and comprehensive picture of the newborn abandonment phenomenon in the UK. There are limitations to this methodology given that the data are not routinely gathered, and the information is not always provided. The secondary coding was checked for reliability, but may be limited. Although the search was exhaustive, some media items may have been missed. Furthermore, some finding data may have been underreported and thus not

Table 5. Media headline qualitative coding

Emotion theme	Example headline
Shock	Newborn found dead
	Look after the child: I'm off on holiday
Sympathy	Baby found dumped behind kebab shop
	Dead baby dumped in rubbish bin
	Baby's mother may be abuse victim
Pity	Dog Walker describes finding baby
	Plea to dead baby's mother: let us help you
	New born baby boy found on doorstep
Disgust	Tree tribute for dead infant
	Newborn baby dies after being abandoned
	Mother leaves baby at hospital
	Baby left in toilets at shops
Mystery	Funeral of baby whose burned body was found by path
	Baby's body tied to a rock
	Baby death remains 'unexplained'
	CCTV clue over abandoned baby
Blameful	Box holds key to baby Becky's identity
	More tests in canal baby mystery
	Pair dump baby boy
Despair	Abandoned baby's mother cautioned
	Police trace mother of dead baby found in woods
	Mother pleads for forgiveness after dumping baby
	Hunt for Oliver's family still fruitless
Anger	Town in mourning as tragic baby-in-field is laid to rest
	Newborn baby found dead
	Baby's body 'may have laid for days'
Uplifting	Dead baby 'mother' comes forward
	Woman on baby girl murder charge
	'Mother' of bus stop baby lied
Appeal	Man dumps daughter with police
	Baby Holly reunited with mother
	Nurses give abandoned baby festive name
Hope	Gifts donated to abandoned baby
	Officers appeal to twins' mother
	Plea to parents of abandoned baby
Romance	Baby death appeal to woman
	Baby abandoned near shed is doing well
	Mother of abandoned baby comes forward after desperate appeal
Worry	Abandoned Holyrood baby adopted
	Baby of the Forest
	Where has my mummy gone?
	Mothers valentine message of love for the baby she abandoned: safe and snug
	Newborn girl is discovered in a shopping centre
	Abandoned baby's fate rests with Portugal
	Fears for mother of abandoned baby

reflected within these data. With these caveats, this collation still provides a starting point for understanding issues raised by baby abandonment.

Reasons for newborn abandonment are difficult to establish. Speculative interpretations may differ for older babies, where emotional stress may be a common theme (Beck, 2002, Sit *et al.* 2006; Lee & Chung, 2007). Given that the umbilical cord for

many babies indicates labour and delivery outside of a hospital setting, such mothers were already abandoned by a system which failed to engage them in any maternity services. Information on maternal mental health both at the time of abandonment and longer term is scarce as so few mothers who abandon newborns are ever found. It is difficult to draw any conclusions on the circumstances of such mothers, as even those who are traced may not be a random sample of the group.

Finding the mother

Of the 37.1% of mothers who are found, 92% were located within 3 days of the abandonment. This highlights the importance of speedy mobilization of response strategies to locate mothers in this crucial window period.

Comprehensive provision is also lacking for the finder of the child. Although the finder of the baby is mentioned in the majority of media articles (62.9%), there is no formal procedure to psychologically support the finder or to record their details for the future reference and emotional benefit of the child. Finders thus become accidental victims of the experience.

None of the cases recorded a father being found without the mother being found, and fathers of newborn babies are rarely commented on in media articles (only 2.1% mentioned a father).

The short time period involved in mobilizing several appropriate responses in terms of trying both to find the mother and to care effectively for the child and the finder suggests that clear guidelines and policy are essential. Those involved in an abandoned baby case are likely to have limited experience given the rarity of the event and will inform their actions using various pieces of information from other child protection strategies and their own 'common sense' (Mueller & Sherr, submitted).

Survival

According to our data, one-third of babies do not survive and all of these are newborns. Our multivariable regression models indicate that the strongest predictor of survival is whether a child is abandoned in a location deemed 'findable'. Such locations were those where it was judged likely that someone would find the child, for example a doorstep, or a public bathroom. Non-findable locations would include inside a bin, or in deserted woodland. It may be that babies left in unfindable places are not found quickly enough to survive; alternatively babies may be hidden if they die before they are abandoned. The direction of causation is likely to be mixed, and is difficult to

determine for individual cases as it can be hard to tell, when found, whether a baby died before or after abandonment. Our data may underestimate the number of abandoned babies who do not survive, as many may never be found.

It remains possible that policy, guidelines and potential interventions could aim to increase the survival rate of abandoned infants by reducing the number of live babies left in unfindable locations. Indeed, this is precisely the aim of the 'Safe Haven' laws implemented in the majority of US states since 1999; the effectiveness and effects of such legislation remains to be seen (Mueller & Sherr, submitted). No evidence exists, however, to clarify that it is this group who utilize the safe haven provision. It may well be that it simply diverts those who would have been abandoned in 'findable' locations.

There was no significant relationship between whether babies were left inside or outside on survival. However, the majority of babies were abandoned outside, and these were primarily newborns. Our regression model indicated a trend towards the highest odds of death for babies abandoned in autumn; however, this was not significant. These data indicate clear qualitative differences in the abandonment of a newborn baby – who is more likely to be left outside, unfindable and with fewer items – and the abandonment of an older baby who is more likely to appear cared for. The psychological state and motivations of the abandoning mother of a newborn and an older child may be very different.

Naming

Almost half (44.4%) of the abandoned babies are named by someone other than a parent after being found. This is more common for newborns, as we would expect. Those naming the child often select a namesake for the baby. However, such a seemingly innocuous gesture, often with the best of intentions, may have long-reaching psychological implications for the child. A name is a central part of identity. Most of us know that our parents took time and care in naming us as an individual. Those babies named impulsively after the place they were found or a time of year may feel little care was given to thinking of a name especially for them or worse, negative connotations from their abandonment may be with them forever. For example, one baby was found discarded like rubbish by a street cleaner in winter, inside a Marks and Spencer carrier bag with his umbilical cord still attached. He was named Mark after the plastic bag. These findings would suggest guidelines emphasizing the ramifications of naming, and a record of why they were named for their future identity development.

Gender

The consistent finding that boys are more likely to be abandoned than girls strengthens the same conclusion found in our earlier analysis (Sherr & Hackman 2002). The finding should be investigated further to uncover possible reasons for the bias. There is no universal cultural reason in the UK, as there is elsewhere in the world (e.g. China; Chan *et al.* 2002), to abandon one gender more than the other. There may be a biological predisposition, mood (Murray *et al.* 1996; Sinclair & Murray 1998; de Tyche *et al.* 2008) or cultural bias to favour girls (Grace *et al.* 2003), potentially related to wanting to nurture or protect a little girl in a way not associated with boys (Rubin *et al.* 1974; Cohn *et al.* 1990; Murray *et al.* 1993; Kar-raker *et al.* 1995; Gonzalez & Koestner 2005). However, explanations are complex. Any explanation that includes intention may be at odds with the spontaneity of the action. It may be that the gender of the newborn might dissuade an abandonment, or simply reflect a chance finding.

Media as an indicator of societal response

Headlines concerning children who died were most likely to be negative. They were also more likely to convey blame, anger and disgust than those referring to surviving babies. The attitude towards the mother varies. Unlike for older children, when the mother is almost always villainized, sympathy for the newborn abandoner is often expressed. This likely stems from a belief that the mother must be severely traumatized and desperate to abandon her child. However, this sympathy does not generally extend to mothers of dead babies, or to those charged. Significantly more positive headlines were associated with a parent being found, but this primarily reflected the hope offered for the child. Anger was more likely to be expressed by a headline if a parent was found, and especially if a parent was reported as charged with a criminal offence. Headlines were more likely to be blameful if a parent was sought out rather than if he or she came forward independently.

Limitations

We are confident that our thorough search of media report archives and online resources alongside careful case matching and cross-referencing has resulted in a complete reflection of available media articles on newborn abandonment. However, some cases do not reach the media. It is impossible to say if these unreported cases might represent a key group, causing unavoidable bias in our dataset. While we have minimized report bias

and missing data by combining multiple reports for 55.2% of the 124 abandonment cases, the remaining cases for which only one report could be found may introduce possible biases. As mentioned, we also cannot account for the abandoned babies who are never found. Media reports may miss out elements of data that we chose to code; missing data may skew any analysis. Our results are therefore tentative steps towards a clearer picture of newborn abandonment in the UK. A next step would be to have a key checklist on data introduced to all abandonment occasions via police or hospital recording systems.

In conclusion, it is clear that this under-researched phenomenon has high public attention and profound mental health ramifications. Given the lack of UK statistical data, this study provides a detailed and comprehensive illustration of baby abandonment in the UK, and provides the first analysis of the available data to examine themes and suggest potential outcomes. Further research is urgently needed, particularly into the long-term psychological effects of abandonment for children; yet, this requires careful ethical consideration. Systematic understanding is crucial to provide evidence-based policy and informed handling for the future.

Key messages

- There is currently no nationwide cohesive and representative database on abandoned babies in the UK – available statistics are inconsistent and inaccurate and literature is lacking.
- Baby survival is significantly associated with older age at abandonment, and the likelihood that the child being found in the location it was left. Few mothers of newborn babies are ever found (28.1%).
- Although rare, the phenomenon attracts a high level of social and media interest, typified by a negative emphasis.
- Key abandonment characteristics such as presence of mementos and naming procedure may influence child long-term psychological and identity development.
- These pioneering data should be used to guide urgently needed future research; clear evidence-based policy and provision is vital to safeguard the well-being of mothers and children.

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