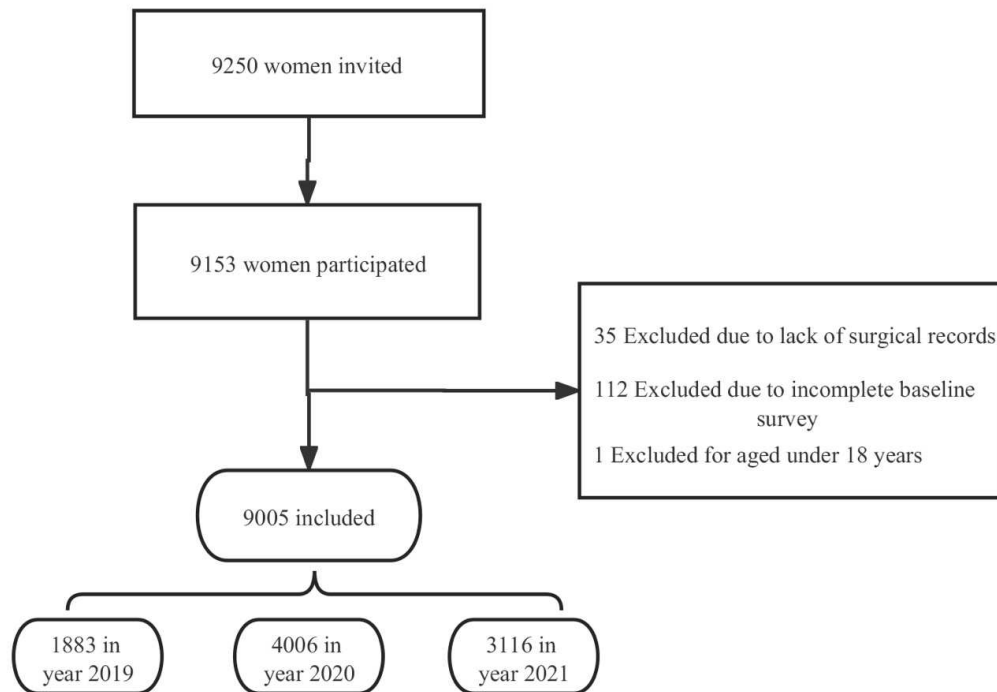


**Supplementary materials for Characteristics and Contraceptive Practices in Chinese Women Seeking Abortion: A Multi-central Descriptive Research from 2019 to 2021**

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**Figure S1 Process of participants' inclusion**

**Table S1 List of research centres**

Centres	Location	PAC services
Taiyuan Maternal and Child Health Hospital	Shanxi	Exemplary unit
Zhangjiakou Maternal and Child Health Hospital	Hebei	Exemplary unit
Daqing People's Hospital	Heilongjiang	Exemplary unit
Zaozhuang Maternal and Child Health Hospital	Shandong	Exemplary unit
Zhongshan Boai Hospital	Guangdong	Exemplary unit
Changzhou Maternal and Child Health Hospital	Jiangsu	Regular unit
Yangzhou Maternal and Child Health Hospital	Jiangsu	Regular unit
Qingdao Maternal and Child Health Hospital	Shandong	Regular unit
Tanggu Maternal and Child Health Hospital	Tianjin	Regular unit
People's Hospital of Inner Mongolia Autonomous Region	Mongolia Autonomous	No PAC
Huangdao and Child Health Hospital	Shandong	No PAC
Jimo Maternal and Child Health Hospital	Shandong	No PAC
Laixi Maternal and Child Health Hospital	Shandong	No PAC

Abbreviations: PAC, Post-abortion Care

**Table S2 Healthcare and lifestyle characteristics of participants between 2019 and 2021. N (%)**

Characteristics	2019 (N=1883)	2020 (N=4006)	2021 (N=3116)	Total (N=9005)	<i>P</i> <sub>trend</sub>
<b>Parity</b>					< 0.01
<b>0</b>	934 (49.6)	1706 (42.6%)	1342 (43.1)	3982 (44.2)	
<b>1</b>	888 (47.2)	1870 (46.7%)	1465 (47.0)	4223 (46.9)	
<b>≥ 2</b>	61 (3.2)	430 (10.7%)	309 (9.9)	800 (8.9)	
<b>Reason for unintended pregnancy</b>					0.36
<b>Non-contraception</b>	1017 (54.0)	1616 (40.3)	1633 (52.4)	4266 (47.4)	
<b>Contraceptive failure</b>	866 (46.0)	2390 (59.7)	1483 (47.6)	4739 (52.6)	
<b>Reason for induced abortion</b>					< 0.01
<b>Social concerns</b>	1199 (63.7)	3100 (77.4)	2376 (76.3)	6675 (74.1)	
<b>Medical concerns</b>	667 (35.4)	889 (22.2)	729 (23.4)	2285 (25.4)	
<b>Policy concerns</b>	17 (0.9)	17 (0.4)	11 (0.3)	45 (0.5)	
<b>Method for abortion</b>					< 0.01
<b>Surgical method</b>	1637 (86.9)	3580 (89.4)	2826 (90.7)	8043 (89.3)	
<b>Medical method</b>	246 (13.1)	426 (10.6)	290 (9.3)	962 (10.7)	

Note: *P*<sub>trend</sub> values were determined by liner-by-liner association tests (Mantel-Haenszel  $\chi^2$ )

**Table S3 Characteristics of first abortion and abortion more than once. N (%)**

Characteristics	Participants				<i>P</i> -value
	First abortion	Proportions	Abortion more than once	Proportion	
<b>Total</b>	5095 (56.6)	100	3910 (43.4)	100	-
<b>Year group</b>					0.52
<b>2019</b>	1082 (57.5)	21.2	801 (42.5)	20.5	
<b>2020</b>	2242 (56.0)	44.0	1764 (44.0)	45.1	
<b>2021</b>	1771 (56.8)	34.8	1345 (43.2)	34.4	
<b>Region</b>					< 0.01
<b>High GDP area</b>	1525 (54.9)	29.9	1253 (45.1)	32.0	
<b>Median GDP area</b>	1513 (52.8)	29.7	1354 (47.2)	34.6	
<b>Low GDP area</b>	2057 (61.2)	40.4	1303 (38.8)	33.3	
<b>Age group</b>					< 0.01
<b>≤ 24</b>	632 (74.4)	12.4	217 (25.6)	5.5	
<b>25-29</b>	1684 (66.1)	33.1	864 (33.9)	22.1	
<b>30-34</b>	1860 (56.8)	36.5	1414 (43.2)	36.2	
<b>≥ 35</b>	919 (39.4)	18.0	1415 (60.6)	36.2	
<b>Marital status</b>					< 0.01
<b>Unmarried</b>	1676 (67.1)	32.9	820 (32.9)	21.0	

<b>Married</b>	3386 (53.1)	66.5	2996 (46.9)	76.6	
<b>Divorced or widowed</b>	33 (26.0)	0.6	94 (74.0)	2.4	
<b>Educational status</b>					< 0.01
<b>Middle school or below</b>	384 (38.9)	7.5	603 (61.1)	15.4	
<b>High school</b>	805 (47.7)	15.8	884 (52.3)	22.6	
<b>Vocational college</b>	1588 (56.4)	31.2	1229 (43.6)	31.5	
<b>Undergraduate or above</b>	2318 (66.0)	45.5	1194 (34.0)	30.5	
<b>Household income group, CNY</b>					< 0.01
<b>&lt; 5000</b>	2312 (58.6)	45.4	1631 (41.4)	41.7	
<b>5000 – 9999</b>	1738 (55.2)	34.1	1408 (44.8)	36.0	
<b>10000 – 15000</b>	688 (55.8)	13.5	546 (44.2)	14.0	
<b>&gt; 15000</b>	357 (52.7)	7.0	325 (47.7)	8.3	
<b>Parity</b>					< 0.01
<b>0</b>	2693 (67.6)	52.9	1289 (32.4)	33.0	
<b>1</b>	2090 (49.5)	41.0	2133 (50.5)	54.6	
<b>≥2</b>	312 (39.0)	6.1	488 (61.0)	12.4	
<b>Frequency of smoking, times</b>					< 0.01
<b>No smoking</b>	4987 (57.0)	97.9	3768 (43.0)	96.4	
<b>1-4 per month</b>	67 (47.5)	1.3	74 (52.5)	1.9	
<b>&gt; 4 per month</b>	41 (37.6)	0.8	68 (62.4)	1.7	
<b>Frequency of drinking, times</b>					< 0.01
<b>No drinking</b>	4869 (57.1)	95.6	3662 (42.9)	93.7	
<b>1-3 per month</b>	168 (50.9)	3.3	162 (49.1)	4.1	
<b>&gt; 3 per month</b>	58 (43.0)	1.1	86 (59.7)	2.2	
<b>Frequency of sexual activities, times</b>					0.60
<b>&lt; 1 per week</b>	2516 (57.0)	49.4	1898 (43.0)	48.5	
<b>2-4 per week</b>	2561 (56.1)	50.3	2001 (43.9)	51.2	
<b>≥ 5 per week</b>	18 (62.1)	0.4	11 (37.9)	0.3	
<b>Reasons for unintended pregnancy</b>					< 0.01
<b>Non-contraception</b>	2477 (58.1)	48.6	1789 (41.9)	45.8	
<b>Contraceptive failure</b>	2618 (55.2)	51.4	2121 (44.8)	54.2	

Abbreviations: GDP, Gross Domestic Product, CNY, Chinese Yuan; *P*-value were based on chi-square tests.

**Table S4 Results of logistic regression model for recurrent abortions**

Characteristics	Recurrent abortion	
	OR	95% CI
<b>Region</b>		
<b>High GDP</b>	Ref.	Ref.
<b>Medium GDP</b>	1.33	1.16 - 1.54 ***
<b>Low GDP</b>	1.00	0.83 – 1.21
<b>PAC services</b>		

<b>NO PAC</b>	Ref.	Ref.
<b>Exemplary unit</b>	0.65	0.56 – 0.75 ***
<b>Regular unit</b>	0.96	0.80 – 1.17
<b>Frequency of smoking, times</b>		
<b>No smoking</b>	Ref.	Ref.
<b>1-4 per month</b>	1.74	1.21 – 2.48 **
<b>&gt; 4 per month</b>	2.51	1.64 – 3.83 ***
<b>Frequency of drinking, times</b>		
<b>No drinking</b>	Ref.	Ref.
<b>1-3 per month</b>	1.31	1.04 – 1.67 *
<b>&gt; 3 per month</b>	1.68	1.16 – 2.42 **
<b>Reasons for unintended pregnancy</b>		
<b>Non-contraception</b>	Ref.	Ref.
<b>Contraceptive failure</b>	1.20	1.09 – 1.31 ***
<b>Age group</b>		
<b>≥ 35</b>	Ref.	Ref.
<b>≤ 24</b>	0.23	0.18 – 0.28 ***
<b>25-29</b>	0.39	0.34 – 0.45 ***
<b>30-34</b>	0.52	0.46 – 0.58 ***
<b>Marital status</b>		
<b>Married</b>	Ref.	Ref.
<b>Unmarried/Widowed/divorced</b>	0.87	0.76 – 0.99 *
<b>Educational levels</b>		
<b>Middle school or below</b>	Ref.	Ref.
<b>High school</b>	0.79	0.67 – 0.94 **
<b>Vocational college</b>	0.60	0.51 – 0.70 ***
<b>Undergraduate or above</b>	0.35	0.30 – 0.41 ***
<b>Household income group, CNY</b>		
<b>&lt; 5000</b>	Ref.	Ref.
<b>5000 – 9999</b>	1.07	0.96 – 1.19
<b>10000 – 15000</b>	0.93	0.80 – 1.08
<b>&gt; 15000</b>	0.99	0.83 – 1.19
<b>Parity</b>		
<b>≥ 2</b>	Ref.	Ref.
<b>0</b>	0.60	0.49 – 0.72 ***
<b>1</b>	0.85	0.73 – 1.01

Abbreviations: GDP, Gross Domestic Product, OR, Odds ratio, CI, Confidence interval, Ref, Reference, CNY, Chinese Yuan; \* $P < 0.05$ , \*\* $P < 0.01$ , \*\*\* $P < 0.001$

**Table S5 Specific contraceptive methods for women before and after abortion by region and PAC services. N (%)**

	Total	IUDs	Contraceptive implants	CCI	COC pills	Condom	EC	FAB	CI	ECP	Non
<b>Prior to abortion</b>											
Total	9005 (100.0)	47 (0.5)	0 (0.0)	8 (0.1)	119 (1.3)	2868 (31.8)	17 (0.2)	811 (9.0)	446 (5.0)	423 (4.7)	4266 (47.4)
High GDP	2778 (100.0)	13 (0.5)	0 (0.0)	2 (0.1)	44 (1.6)	554 (19.9)	11 (0.4)	331 (11.9)	189 (6.8)	110 (4.0)	1524 (54.8)
Medium GDP	2867 (100.0)	13 (0.4)	0 (0.0)	1 (< 0.1)	35 (1.2)	1217 (42.4)	2 (0.1)	193 (6.7)	111 (3.9)	106 (3.7)	1189 (41.5)
Low GDP	3360 (100.0)	21 (0.6)	0 (0.0)	5 (0.1)	40 (1.2)	1097 (32.7)	4 (0.1)	287 (8.6)	146 (4.3)	207 (6.2)	1553 (46.2)
<b>Post abortion</b>											
Total	7796 (100.0)	314 (4.0)	1 (< 0.1)	0 (0.0)	3879 (49.8)	3463 (44.4)	3 (< 0.1)	4 (0.1)	3 (< 0.1)	-	129 (1.7)
Exemplary PAC	3208 (100.0)	300 (9.4)	1 (< 0.1)	0 (0.0)	2544 (79.3)	301 (9.4)	2 (0.1)	2 (0.1)	1 (< 0.1)	-	57 (1.8)
Regular PAC	2524 (100.0)	6 (0.2)	0 (0.0)	0 (0.0)	1274 (50.5)	1179 (46.7)	1 (< 0.1)	2 (0.1)	2 (0.1)	-	60 (2.4)
No PAC	2064 (100.0)	8 (0.4)	0 (0.0)	0 (0.0)	61 (3.0)	1983 (96.1)	0 (0.0)	0 (0.0)	0 (0.0)	-	12 (0.6)

Abbreviations: GDP, Gross Domestic Product, PAC, Post-abortion Care, IUD, Intrauterine devices, CCI, Combination contraceptive injections, COC, Combination oral contraceptive, EC, Eternal contraceptive, FAB, Fertility awareness-based, CI, Coitus interruptus, ECP, emergency contraceptive pills.

Table S6 Use of different effective contraception before and after abortion by PAC units.

	Before abortion	Post abortion				No contraception
		Most effective	Effective	Less effective	Least effective	
Exemplary PAC	Most effective	5	3	1	0	0
	Effective	0	36	4	0	0
	Less effective	208	1302	142	2	18
	Least effective	32	351	20	0	1
	No contraception	56	852	136	1	38
Regular PAC	Most effective	0	5	4	0	1
	Effective	0	16	11	0	1
	Less effective	2	215	214	1	15
	Least effective	2	318	252	1	6
	No contraception	2	720	699	2	37
No PAC	Most effective	2	1	21	0	0
	Effective	0	2	28	0	1
	Less effective	4	19	507	0	5
	Least effective	0	8	387	0	1
	No contraception	2	31	1040	0	5
<b>Total</b>		315	3879	3466	7	129

Table S7 Results of logistic regression model for contraception before abortion

Characteristics	Contraception prior to abortion	
	OR	95% CI
<b>Region</b>		
Low GDP	Ref.	Ref.
High GDP	0.60	0.54 – 0.67 ***
Medium GDP	1.09	0.98 – 1.21
<b>Age group</b>		
≥ 35	Ref.	Ref.
≤ 24	1.20	0.99 – 1.45
25-29	1.09	0.95 – 1.24
30-34	1.01	0.90 – 1.13
<b>Marital status</b>		
Married	Ref.	Ref.
Unmarried/Widowed/divorced	0.89	0.79 – 1.01
<b>Educational levels</b>		
Middle school or below	Ref.	Ref.
High school	1.35	1.15 – 1.59 ***
Vocational college	1.37	1.17 – 1.59 ***
Undergraduate or above	1.47	1.27 – 1.71 ***
<b>Household income group, CNY</b>		
< 5000	Ref.	Ref.
5000 – 9999	0.82	0.74 – 0.91 ***
10000 – 15000	0.93	0.81 – 1.08
> 15000	0.70	0.58 – 0.83 ***
<b>Parity</b>		
≥ 2	Ref.	Ref.
0	0.46	0.38 – 0.55 ***
1	0.64	0.54 – 0.76 ***
<b>Frequency of sexual activities, times</b>		
< 1 per week	Ref.	Ref.
2-4 per week	0.69	0.63 – 0.75 ***
≥ 5 per week	0.33	0.15 – 0.73 **
<b>Frequency of smoking, times</b>		
No smoking	Ref.	Ref.
1-4 per month	0.89	0.63 – 1.27
> 4 per month	0.71	0.47 – 1.06
<b>Frequency of drinking, times</b>		
No drinking	Ref.	Ref.
1-3 per month	1.26	1.01 – 1.59 *
> 3 per month	0.86	0.61 – 1.22



Abbreviations: GDP, Gross Domestic Product, CNY, Chinese Yuan, OR, Odds ratio, CI, Confidence interval, Ref, Reference; \* $P < 0.05$ , \*\* $P < 0.01$ , \*\*\* $P < 0.001$