Factors associated with seeking post-abortion care among women in Guangzhou, China

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Abstract

Background: In China, the vast majority of induced abortion are performed in public hospitals. However, post-abortion care (PAC) services are provided through the national network of family planning clinics, which are independent of the health care system. The integration of PAC services into abortion clinics in public hospitals is a new concept. This study aimed to assess post-abortion care (PAC) utilization among abortion patients, and identify the possible factors associated with PAC uptake in Guangzhou, China. **Methods:** A cross-sectional survey was conducted among 431 women aged 15-43 years in Tianhe district of Guangzhou, China during the period of June to September 2018. We estimated multivariate logistic regression model to examine the factors associated with utilization of PAC services. **Results:** The rate of PAC services utilization was 42.1%. Marital status, household registration place, knowledge of the time of fertility return after abortion and the decision maker on receiving contraception were significantly associated with PAC services utilization. **Conclusions:** The rate of PAC utilization in Guangzhou, China was low. There's an urgent need for public hospitals to strengthen PAC services and take an active role in engaging immigrant women in their needs. Social support and culturally tailored programs should also be developed to enhance community's awareness focusing on women's own decision making in receiving contraception.

Background

Unplanned pregnancies and induced abortions (IAs) remain an important public health issue, especially among women from developing countries. IAs result from unplanned pregnancies which occur due to contraceptive failure or non-use of contraception during sexual intercourse. Estimates suggest that the average IA rate is approximately 58 per 1000 women worldwide^[1]. In China, IA is a legal procedure in the first trimester of pregnancy. Recent estimates show that between 6 and 9 million IAs occur in the country every year^[2]. Nearly half of low-income urban women in the country had experienced IAs with 31% being repeated abortions^[2]. The causes of IAs are complicated. One of the major reasons is lack of quality post-abortion care (PAC) counseling^[2].

The World Health Organization recommends counseling on and provision of contraceptive methods to all those women who wish to prevent unintended pregnancies and subsequent IA^[3]. The term PAC was first used in 1991 and referred to an approach to break the cycle of unwanted pregnancy and improve women's sexual as well as reproductive health^[4]. The integration of family planning (FP) counseling and method provision into abortion services is an essential part of PAC. Multiple studies have demonstrated the effectiveness of PAC in reducing repeat IAs when offered to abortion patients prior to discharge from health facilities^[5-6]. However, knowledge of the extent of PAC utilization is limited. Available data regarding PAC utilization rate is varied across countries and regions. How the specific context affects the implementation of PAC and what factors contribute to the accessibility of PAC services continuously attract researcher's interest.

Recent studies suggest that type of health facility, the decision maker on timing to have a child, knowledge of fertility return after abortion and husband's attitudes towards contraceptives may be significantly associated with PAC utilization^[7-9]. The existing literature mainly focused on abortion patients in African countries with significant disparities in culture and social environment from China. Report on the status of PAC utilization among Chinese abortion patients is scant and inconclusive. In their research, qualitative methods including semi-structured interviews and focus group discussion were employed to explore the feasibility and acceptability of high quality PAC services from the service providers' perception^[10]. This is a limitation given the rapidly changing demographics of abortion patients in the south area of China over the past decade.

In China, the vast majority of IAs are performed in public hospitals. However, post-abortion care (PAC) services are provided through the national network of family planning clinics, which are independent of the health care system. The integration of PAC services into abortion clinics in public hospitals is a new concept. In 2010, the National Population and Family Planning Commission launched a pilot program to include the provision of PAC into 486 hospitals^[11]. Guangzhou, where this study was conducted, was one of the pilot cities where free PAC services were provided in selected public hospitals. There is, however, limited understanding of the extent to which PAC services are utilized among abortion patients. Furthermore, factors that may be associated with PAC utilization are not well-understood. Hence, this study aimed to assess post-abortion care (PAC) utilization among abortion patients, and identify the possible factors affecting PAC uptake in Guangzhou, China

Methods

Study setting

Guangzhou is the capital city of Guangdong province, an economically developed province in south China. Tianhe district, where this study was conducted, was the pilot site where free PAC services were offered in public hospitals.

Study design

A cross-sectional survey was conducted in Tianhe district of Guangzhou during the period of June to September 2018. All those women who had experienced at least once IA in the selected public hospitals were included in the study. However, we excluded women who were unable to speak or listen and those with psychiatric disorder. Women who left missing data in the questionnaire were also excluded.

Sample size determination

The sample size was determined by using the single population proportion based on the following assumptions, based on 50% level of significance with a 5% margin error and the expected proportion of women utilizing PAC of 57.4%^[12].

The total sample size was 431 women, taking into account 15% non-response.

Sampling procedure

Three public hospitals in Tianhe district that provided PAC services on a pilot basis were included in the study. The average number of PAC users was estimated according to the recent quarterly report of patients flow in each hospital. We used a systematic random sampling approach to select participants. The number of participants from each hospital was determined based on population proportion to size. Thus the number of participants was 156, 127 and 148 from the first, second and third hospital respectively.

Data collection

Data were collected using an anonymous structured questionnaire. The development of the questionnaire was informed by existing literature on PAC utilization. The questionnaire was reviewed by experts in reproductive medicine and clinical epidemiology from China. After the pilot test, the questionnaire was revised accordingly, covering the following information: 1) socio-demographic characteristics, such as age, marital status, education, employment status, income and migrant characteristics; 2) reproductive history such as parity, previous IAs, number of living children; 3) contraceptive and reproductive health knowledge such as knowing how soon fertility returns and the time of getting pregnant again, uptake and method of contraception; 4) other related variables such as husband'/partner' attitude on contraceptive use and decision maker on receiving contraception.

All participants were interviewed face-to-face after obtaining written permission. They were assured of their confidentiality of their identity and responses. The data collection phase was completed with the help of seven post-graduate female nurses. They were trained for two days by the principal investigator covering interview techniques, quality control, completeness of information and research ethics. All completed questionnaires were checked for completeness and consistency.

Statistical analysis

The primary data was entered into the Epidata 3.1 before being exported to SPSS 20.0. Categorical variables were presented as counts and proportions. Chi-square test was used to assess differences of socio-demographic characteristics, reproductive history, reproductive health knowledge and other related factors between abortion patients who utilized PAC services and those who did not. The binary logistic regression was employed to explore possible factors associated with PAC utilization in the univariate analysis. Then the multivariate logistic regression, using step-wise method, was further employed to adjust for potential confounding factors and identify factors that were significantly associated with PAC utilization. Results were presented as ORs with 95% CIs. A p value ≤ 0.05 was considered statistically significant in the analysis.

Ethics

The study protocol was approved by the Research Ethics Board of Southern Medical University, China. All participants provided written informed consent before being interviewed.

Results

Of the 431 eligible women, 425 (98.6%) consented to participated in the survey. Among them, 413 questionnaires were valid. Of the 413 abortion patients, 174 utilized PAC services, thus resulting in a uptake rate of 42.1%.

Analysis of socio-demographic characteristics of the respondents was shown in Table1. Among all the factors concerning age, marital status, education, employment, annual household income and household registration place, married women were more likely to utilize PAC services, which was not observed among unmarried women. Similarly, women who had local household registration were more likely to utilize PAC services than those without.

Analysis of reproductive history and probable PAC utilization was shown in Table 2. Among all the factors concerning parity, previous induced abortion, number of living children and condition of the pregnancy, no statistically significant differences were observed between women who utilized PAC services and those without.

Table 3 represented reproductive knowledge, other related factors and probable PAC utilization. Abortion patients who perceive that fertility could return sooner after abortion (10-14 days) were more likely to utilize PAC services, while those who perceive fertility could return after 3-4weeks or who do not know are less likely to utilize PAC services. Participants whom their husband were the main deciders on receiving contraception were less likely to utilize PAC services.

Bivariate logistic regression was used to determine the association of each independent variable with PAC utilization without controlling the effect of other variables. Variables which were significantly associated with PAC utilization in bivariable logistic regression were: marital status, household registration place, knowledge of a woman can get pregnant sooner after abortion, decision maker on receiving contraception.

Table 4 showed the associated factors of PAC utilization in abortion patients. Married women was 2.6 times more likely to utilize PAC services (OR=2.648, 95%CI: 1.639-2.902). In relation to household registration place, immigrant women were 54% less likely to utilize PAC services as compared to native women (OR=0.461, 95% CI: 0.639-2.902). Similarly, participants who know fertility could return 3-4 weeks post-abortion were about 47.3% less likely to utilize PAC services when compared to women who know fertility could return within 10-14 days (OR=0.527, 95% CI: 0.316-0.785). Those who were uncertain of how soon fertility could return were also 54% less likely to receive PAC services (OR=0.416, 95% CI: 0.193-0.629). Utilization of PAC services was also decreased with husband or partner as the main decider on receiving contraception. Women whom their husband or partner were the main deciders on receiving

contraception were 60% less likely to utilize PAC services as compared to women who made decisions themselves (OR=0.409, 95% CI: 0.227–0.715).

Discussion

This study was aimed to determine the proportion of women who utilized PAC services among abortion patients and the possible factors that may associate with PAC utilization in Guangzhou, China. In this study, the magnitude of PAC utilization was found 42.1% which was lower than a previous European framework project done in three cities of China^[12]. The utilization rate was even lower than the studies conducted in the middle region hospitals (71.8%), west region hospitals (58.4%) and east region hospitals (43.1%) in China^[13]. This disparity could be due to the difference in the extent of PAC provision in public hospitals. In China, FP counseling, an integral component of PAC, is provided through the national network of FP clinics, which are almost independent of the health care system. However, the vast majority of IAs is performed in public hospitals. The integration PAC services within public hospitals is a new concept. Policy support in the form of regulations and guidelines, human resources and financial resources are the main considerations regarding the implementation of PAC services. On the other hand, limited access to PAC services among migrant women might be the reason for the lower use as 60.0% of women in this study were internal immigrants. Due to the fact that the utility allocation of healthcare resources is based on household registration policy, immigrants do not have the same rights and benefits as local registered residents.

In this study, marital status was significantly associated with PAC utilization which was consistent with a study conducted in China^[8]. However, another study in Ethiopia found that married women were less prone to adopt PAC services^[7]. This could be due to the influence from their husbands since married women would live together with their husbands. Furthermore, it calls for policies to strengthen PAC services targeted at unmarried women who often face unmet family planning needs. This may include discussing ambivalent attitudes towards their sexuality and developing friendly stance in counseling.

We also found a strong association between household registration place and PAC utilization. Immigrant women were 54.0% less likely to utilize PAC services as compared to their native counterparts. The possible explanation could be the non-transferrable health insurance might hinder them from seeking PAC services. In addition, in China, this group tends to be relatively uneducated, in low-income and insecure job and excluded from municipal welfare structures in their host cities^[14]. This result has high policy relevance for local governments to promote social integration for immigrants.

In this study, knowing of incorrect time of fertility return or even not knowing was negatively associated with PAC utilization. This result was observed to be consistent with a study conducted in Ethiopia^[7]. One of the possible explanation is that most of the participants in this study are immigrants and with lower educational level. On the other hand, this implies it's important to improve service providers' counseling skills in general and mainly on time of fertility return after abortion.

In this study, women whom their husband or partner was the main decider on receiving contraception were less likely to utilize PAC services as compared to women who decide themselves. The same study from Nigeria concluded that reluctance to utilize PAC services was ascribed to disapprovals from their husband^[15]. Husband's or partner's limited knowledge of contraception may partly explain this result. In most hospitals of China, male partners are not allowed to access the department of gynecology and obstetrics. Although they are eventually allowed into FP counseling room in some cases, they are just given some materials regarding reproductive health knowledge. Future research could explore whether targeting and including male partners in the provision of PAC could have an impact on increasing PAC utilization among abortion patients.

A few policy implications can be drawn from this study to increase the utilization of PAC services. Firstly, it's important to develop new national policies incorporating PAC into health care system to the scale-up of PAC services. Secondly, including and targeting immigrant women is urgently needed in the provision of PAC services in public hospitals. Thirdly, due attention should be given for improving maternal education.

There are several limitations in this study. Firstly, a cross-sectional study did not allow us to establish a causal relationship between variables and PAC utilization. Secondly, report bias may exist regarding parity and household income. Given the sensibility of the topic, respondents might feel shy to reveal or decline because of social desirability bias. Thirdly, the findings might not be representative of abortion patients in China, since participants were recruited from Guangzhou, China.

Conclusions

The rate of PAC utilization in Guangzhou, China was low. Being married was found to be a significant factor for PAC utilization. Being immigrant, knowing of incorrect time or even not knowing of the time of fertility return after abortion and husband/partner as the main decider on receiving contraception were negatively associated with PAC utilization. There's an urgent need for public hospitals to strengthen PAC services and take an active role in engaging immigrant women in their needs. Social support and culturally tailored programs should also be developed to enhance community's awareness focusing on women's own decision making in receiving contraception.

Abbreviations

IA: Repeat induced abortion; FP: Family planning; PAC: Post-abortion care

Declarations

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Availability of data and materials

The datasets used and/or analyzed during the current study are available from the corresponding author on reasonable request.

Authors' contributions

HW and RX conceived the study, the methodology was developed by RX, RX and YL carried out the interviews. HW and RX analyzed the interviews. HW wrote the first draft of the manuscript and all other authors edited the manuscript. All authors read and approved the final manuscript.

Ethics approval and consent to participate

Ethical approval was obtained from the Research Ethics Board of Southern Medical University on 12th January 2018. Participants were provided with a participant information sheet and asked to sign a consent form prior to the interviews being undertaken. For participant under 16 years old, written informed consent was obtained from her parent or guardian.

Consent for publication

Not Applicable

Competing interests

The authors declare that they have no competing interests.

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Tables

Table1 Socio-demographic profiles of the respondents in Guangzhou, China

Variables	N	PAC services utilization				χ^2	P
		Yes		No			
		n	%	n	%		
Age							
15–19	76	31	40.8	45	59.2	0.069	0.898
20–24	110	48	43.6	62	56.4	0.139	0.736
25–29	116	46	39.7	70	60.3	0.405	0.580
30–34	60	28	46.7	32	53.3	0.592	0.481
≥35	51	21	41.2	30	58.8	0.022	1.000
Marital status							
Married	185	97	52.4	88	47.6	14.587	0.000
Not married	208	65	31.3	143	68.7	20.348	0.000
Divorced	20	12	60.0	8	40.0	2.753	0.108
Level of education							
Junior high school or less	87	36	41.4	51	58.6	0.026	0.903
Senior high school	127	55	43.3	72	56.7	0.104	0.747
College or more	199	83	41.7	116	58.3	0.028	0.921
Employment status							
Employed	231	95	41.1	136	58.9	0.217	0.688
Student	125	53	42.4	72	57.6	0.005	1.000
Unemployed	57	26	45.6	31	54.4	0.329	0.507
Annual monthly income							
≤2000RMB	96	41	42.7	55	57.3	0.017	0.907
2000– RMB	174	74	42.5	100	57.4	0.020	0.920
5000– RMB	104	43	41.3	61	58.7	0.035	0.909
≥8000RMB	39	16	41.0	23	59.0	0.022	0.909
Household registration place in Guangzhou						151.0	0.000
Yes	157	126	80.3	31	19.7		
No	256	48	18.8	208	81.2		

Table2 Reproductive history of the respondents in Guangzhou, China

Variables	N	PAC services utilization				χ^2	<i>P</i>
		Yes		No			
		n	%	n	%		
Parity						0.117	0.943
0	157	67	42.7	90	57.3	0.031	0.918
1	136	58	42.6	78	57.4	0.022	0.916
≥2	120	49	40.8	71	59.2	0.117	0.743
Previous induced abortion						0.028	0.921
Yes	195	83	42.6	112	57.4		
No	218	91	41.7	127	58.3		
Number of children alive							
0	155	68	43.9	87	56.1	0.308	0.608
1	136	55	40.4	81	59.6	0.237	0.672
≥2	122	51	41.8	71	58.2	0.008	1.000
Condition of the pregnancy							
Planned/Wanted	72	32	44.4	40	55.6	0.191	0.695
Unplanned/Wanted	125	50	40.0	75	60.0	0.334	0.589
Unplanned/Unwanted	216	92	42.6	124	57.4	0.040	0.921

Table 3 Reproductive knowledge and other related factors among the respondents in Guangzhou, China

Variables	N	PAC services utilization				χ^2	<i>P</i>
		Yes		No			
		n	%	n	%		
Knowledge on how soon fertility returns and could get pregnant again							
Within 10–14 days	116	89	76.7	27	23.3	79.175	0.000
After 3–4 weeks	137	69	50.4	68	49.6	5.701	0.000
Don't know	160	16	10.0	144	90.0	110.6	0.00000
Any uptake of contraception							
Yes	188	78	41.5	110	58.5	0.058	0.842
No	198	85	42.9	113	57.1	0.099	0.766
Missing	27	11	40.7	16	59.3	0.023	1.000
Contraceptive use (multiple responses allowed)							
None	82	34	41.5	48	58.5	0.019	1.000
Traditional methods	66	26	39.4	40	60.6	0.241	0.684
IUD	136	56	41.2	80	58.8	0.076	0.832
Oral contraceptives	254	108	42.5	146	57.5	0.041	0.918
Injectables	59	27	45.8	32	54.2	0.372	0.571
Male condoms	299	129	43.1	170	56.9	0.456	0.577
Husbands'/partners' attitude on contraceptive use							
Approve	178	76	42.7	102	57.3	0.041	0.841
Disapprove	158	66	41.8	92	58.2	0.013	0.919
Uncertain	77	32	41.6	45	58.4	0.013	1.000
Decision maker on receiving contraception							
Husband/partner	194	58	29.9	136	70.1	22.459	0.000
Women herself	178	100	56.2	78	43.8	25.325	0.000
Both	41	16	39.0	25	61.0	0.180	0.740

Traditional methods: rhythm, lactational amenorrhea, and withdrawal; IUD: intrauterine device

Table 4 Multivariate analysis of factors associated with PAC utilization in Guangzhou, China

Covariates	<i>S.E</i>	<i>Wald</i>	<i>P</i>	<i>OR</i>	<i>95%CI</i>
Marital status					
Married	0.161	32.047	0.004	2.648	1.639–2.902
Not married	0.153	22.068	0.747	1.277	0.108–0.649
Divorced	—	13.734	—	—	—
Household registration place in Guangzhou					
Yes	—	17.311	—	—	—
No	0.548	28.102	0.000	0.461	0.193–0.608
Knowledge on how soon fertility returns and get pregnant again					
Within 10-14 days	—	32.164	—	—	—
After 3-4 weeks	0.047	25.130	0.000	0.527	0.316–0.785
Don't know	0.358	21.098	0.000	0.416	0.337–0.629
Decision maker on receiving contraception					
Woman herself	—	26.032	—	—	—
Husband/Partner	0.162	21.158	0.000	0.409	0.227–0.715
Both	0.116	24.535	0.086	0.672	0.789–1.274

Supplementary Files

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