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Key predictor of accessibility to abortion services of unmarried young women in China

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A B S T R A C T

Purpose

This study aimed to assess the key factors predicting admission of unmarried young women to medical facilities for abortion services in China.

Methods

The National Survey on Sexual and Reproductive Health for Unmarried Youth (15-24 years) was conducted in 2009 in China. Of the female respondents (n=10,970), 270 reported needing abortion services in 2009. Classification by random forest was applied to select the most important of 34 variables.

Results

Among the 270 unmarried young women who were in need of abortion services, 165 were admitted to medical facilities, and 105 were not. Psychosocial competence ranked highest and was verified as most important of nine perspectives in predicting admission to medical facilities for abortion services (accuracy rate 89.2%, sensitivity 90.2%, and specificity 86.2%).

Conclusions

Psychosocial competence stands out as an important component of the utilization of abortion services among unmarried young women.

Introduction

New estimates show that 21.6 million unsafe abortions were performed in 2008[1], which caused 46,000 maternal deaths globally [2]. Unsafe abortions also cause high health care costs, infertility, loss of productivity, a negative effect on children, family, and community, and abortion stigma, etc. [2-4]. One of the fundamental factors underlying unsafe abortions is poor access to safe and legal abortion services [2]. Understanding the accessibility of abortion services to unmarried young women is of great significance in reducing unsafe abortions.

Research shows that in China, patterns of partner communication are associated with the sexual debut among out-of-school youth [5], and lower psychosocial competence is associated with pregnancy among unmarried women 10-19 years of age [6]. Psychosocial competence, first described by Tyler in 1978, consists of self-attitudes, world attitudes, and behavioral attributes, including moderately favorable self-evaluation, self-efficacy, moderately optimistic trust, and an active coping orientation[7]. This study started by examining association between psychosocial competence and accessibility to abortion service, to identify the key predictor of accessibility to abortion services among unmarried young women in China, where policy is liberal and services are widely provided [2].

Methods

Participants

The research population of this study was unmarried women, aged 15-24 years, in China in 2009. Two hundred and seventy participants who reported the need for

abortion services in the last 12 months (stated hereafter as „in 2009“) were identified from 10,790 unmarried young women in the National Survey on Sexual and Reproductive Health for Unmarried Youth (15-24) in China in 2009. For more details regarding the survey, please refer to our previously published work [8].

Variables

Variables associated with admission to medical facilities for needed abortion services were analyzed to identify key factors predicting accessibility to abortion services among unmarried young women. The predictive variables were generated in three domains (including individual, household, and societal domains), nine perspectives, and 34 variables.

Statistical analyses

Descriptive analyses were performed firstly by frequency and cross tabulations. Then a process of classification by random forest [9] was used to determine the key predictor of admission of unmarried young women to medical facilities. Eight important variables were input to the simplified random forest classification model to identify the key predictor. Analyses were performed mainly in R version 2.9.2 (R Development Core Team 2009).

Results

A total of 270 of these women reported needing abortion services in 2009. Of these, 165 were admitted to a medical facility for abortion services, and 105 were not.

The importance measures of the full model (OOB classification error rate 10.4%) showed that of the nine perspectives, (1) psychosocial competence was the most

important; (2) socioeconomic development (by province the Inequity-in-Health Index, Human Development Index, and Gender Gap Index) and residence (rural-urban) were the second; (3) household socio-economic status, individual basic demographics and socio-economic status were the third; and (4) availability of sex education and evaluation, and family structure were of the least importance.

The repeated classification verified (Figure 1) psychosocial competence as the key predictor of unmarried young women's admissions to medical facilities for abortion services (classification accuracy rate 89.2%, sensitivity 90.2%, and specificity 86.2%). The variables describing the psychosocial competence were: awareness of risks of AIDs and STI, co-decision of contraception, awareness of risks of unsafe sex, planning intercourse for the first time, having consensual first sex, actions to reduce risks of AIDs and STI, and negotiating contraception methods.

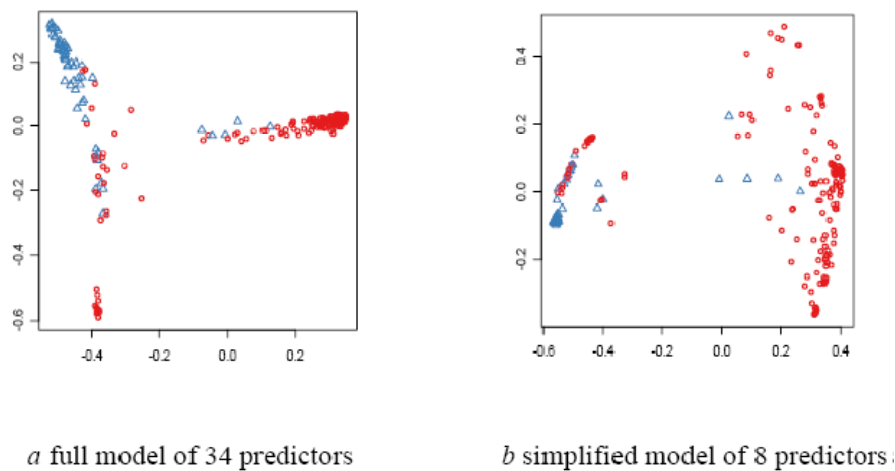


Figure 1 Proximities and clustering of the admitted group and the non-admitted group (n=270)

Note: The red circles represent members of the admission group (n=165), and the blue triangles represent members of the non-admission group (n=105).

Discussion

Identified from the nationally representative survey of reproductive health among unmarried youth, psychosocial competence, particularly the awareness of risks and coping and sexual relations control, was of great importance in predicting admission of unmarried young women to medical facilities. The safer sex they had, the greater the probability for unmarried young women to be admitted to a medical facility for needed abortion services. This result is consistent with previous research on partnership, which greatly affects pregnancy outcomes [10].

The result is reinforced by the manifestation of internalized premarital abortion stigma, which impedes their admission to medical facilities. Internalized premarital abortion stigma, which is derived partly from the unmarried young women's low psychosocial competence, such as non-favorable self-estimation and pessimistic trust, links the unmarried young women who need abortion services to a negative feeling ("the fear of being ridiculed"[8]), and excludes some unmarried young women from professional abortion services. This result resonates with recent research on stigma related to abortion [2] and the fact that barriers to health care are associated with pregnancy in other circumstances [11].

The findings in this study partially explain the paradox in China. On the one hand, provision of contraception and abortion services to unmarried young people in China is insufficient compared to needs [12]. On the other hand, approximately 60% of unmarried young people do not turn to professional consulting, and over 50% do not turn to professional treatment when needed [8]. Therefore, psychosocial

competence [7] is the outcome when the unmarried young women reflect their world, determining whether to admit themselves to a medical facility for abortion services.

This retrospective, cross-sectional study has three main limitations. First, those young women who married soon after becoming pregnant were excluded from the survey. Second, the cross-sectional design cannot strictly prove causation. Further, the sample identification in this study risks inexhaustible possibilities in the case of repeated pregnancies because the questionnaire only allows one record of medical facility admission for abortion services.

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