

Factors Associated with Willingness to Childcare Services in Chongqing, China

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Abstract: The purpose of this study was to understand the willingness of parents of 0-3 years old infants and young children in Chongqing, China to choose childcare services, and to determine the factors affecting the willingness, so as to provide basis and basis for the reasonable allocation of childcare services resources and the development of infant care in Chongqing. In this study, descriptive statistics, single factor analysis and logistic regression methods were used to analyze the demographic characteristics, child-care intention and influencing factors of parents of 0-3 years old infants in Chongqing. A total of 8999 valid questionnaires were obtained. Univariate analysis found that the distribution area, residence, education level, occupation, income, infant age, family care mode, care intention and other factors were significantly correlated with the care intention ($P < 0.05$). Logistic regression analysis found that family care mode, family residence, parents' education level, family's district and county, family per capita income, and infant age were significantly correlated with the intention to care ($P < 0.05$). Our study shows that family care mode, family residence, family county, parents' education level, family per capita income, and infant age are related to parents' willingness to care. It is suggested that the government should subsidize the cost of childcare for the families of infants and young children, and strengthen the popularization of science to improve the parents' correct cognition of childcare services.

Keywords: infant care, care service intention, care mode, Chongqing

1. Introduction

Since 1973, the Chinese government has been advocating the implementation of the family planning policy, the specific policy is "late, less, less". The implementation of the family planning policy has led to a decline in the total population and fertility rate, resulting in the formation of many families with only children in Chinese cities. In order to optimize the population structure, China began to implement the universal two-child policy in 2016, and there was a baby boom in 2016 and 2017, but the two-child policy has not achieved the expected effect. Affected by the new coronavirus in 2021, China's birth rate reached the lowest level in recent decades[1]. Faced with an increasingly serious aging population and declining birth rate, the Chinese government officially implemented the "three-child policy" in May 2021 to optimize the population structure, but the results of the Tatum report show that China's three-child policy has not played any role in raising the low fertility rate[2].

In the case of a low birth rate, a survey shows that up to 86.5% of families listed "no one to take care of" as the biggest difficulty in having a second child[3]. In China, due to the impact of industrialization and urbanization, parents face more obstacles and high costs in raising children under the age of 3, such as time costs, childcare costs or education costs. Modern professional women in China are faced with multiple pressures of childbearing, raising and employment at the same time. As fathers invest less in the life care of infants and young children, mothers, as the main caregivers of infants and young children, need to make money and take care of their families at the same time. And that affects revenue[4]. Therefore, the traditional mother-based infant care model is difficult to sustain, and infant care services can ease the pressure of maternal and child care on Chinese women.

Infant care services in China have been marginalized for a long time, and the resources of care services are scarce or expensive, and most families have to seek help from grandparents, so grandparents to take care of infants and young children has become a common practice in our families[5, 6]. According to a 2014 survey by Shanghai Scientific Parenting Base, 73.4% of grandparents are the main caregivers of their children, but 48.1% of grandparents are in a "helpless" situation; According to a survey, 53 percent of children under the age of three are cared for by grandparents, but 70 percent of families are

dissatisfied with this practice[7]. In this context, China began to pay attention to the development of childcare services that had long been marginalized.

On the one hand, childcare service can help families with infants and young children solve the problem of unattended care; on the other hand, the government hopes to promote this professional care mode to encourage women to give birth and achieve childcare. Practical experience in other countries shows that childcare service, as a kind of social welfare, can help improve female fertility rate. That is, there is a significant positive correlation between childcare services and fertility[8, 9].

The early development of children is crucial, and the early development of children will affect their adult welfare. As a scientific care service, childcare service also has a positive effect on the early development of infants and young children, helping children to play their potential[10]. The research shows that the nursery institution has a significant beneficial effect on children's internalized behavior development; The care facilities provide facilities for working parents, and even for mildly ill children who require care, the health care plan in the care facilities can meet their health needs. High-quality childcare services will produce a series of positive effects, which are reflected in children's cognition, later language ability, social emotional ability, and maternal and infant attachment.

At present, the research on infant care service in China is still in its infancy, and its research contents mainly include the following aspects: summarizing the advanced practices and experience of foreign countries[11], combing the development history and policy changes of infant care service in China[12], discussing the current demand for infant care service in China and existing problems through survey data[13], and the development situation and system construction of infant care service industry[14]. Most studies on the demand for childcare are based on the overall consideration of the surveyed families, usually dividing the families into enrolled and non-enrolled, and ignoring the premise of the desire for childcare, thus ignoring the families who are not enrolled but have the need for childcare and the reasons why they are not enrolled. As a result, the research conclusions cannot objectively describe the actual demand for childcare of families with the desire for childcare. In order to further develop the cause of childcare in our country, it is necessary to understand the parents' willingness of childcare and its influencing factors. Therefore, the purpose of this study is to investigate the willingness of parents of 0-3 years old infants and young children in Chongqing, China to choose childcare services, and analyze the factors affecting the willingness, so as to provide basis and basis for the development of infant and young child care in Chongqing, China.

2. Methods

2.1 Study design and sampling

From August 7 to 30, 2022, we conducted a cross-sectional questionnaire survey using convenience sampling in Chongqing, China. Chongqing, one of China's four major municipalities, is located in southwest China and has a population of about 320,000. We defined the inclusion criteria for participants: (1) they must be between the ages of 18 and 59, (2) have at least one child under the age of 3, (3) be able to understand and fill out questionnaires on their own, and (4) use online services such as computers, mobile phones and tablets. Qualified participants were contacted by Population and Family Office of Chongqing Municipal Health Commission, and questionnaires were distributed and collected via China's professional online survey platform "Wenjuanxing" (<https://www.wjx.cn/>).

A total of 9600 questionnaires were distributed in this survey, and 8999 questionnaires were collected after excluding invalid questionnaires with blank and logic errors, with a questionnaire recovery rate of 93.74%.

2.2 Instruments

We conducted an online questionnaire survey targeting fathers or mothers of at least one child under the age of three in 40 districts in Chongqing, China. The questionnaire mainly included basic demographic information, willingness to use infant and toddler care services, and reasons for not choosing daycare services. Basic demographic information included the respondents' place of residence, education level, district of residence, average monthly household income, occupation type, number of infants and toddlers, age and gender of infants and toddlers, fertility intentions, and care models.

Statistical analysis: Firstly, we conducted a descriptive analysis of the demographic characteristics of Chinese parents of infants and toddlers who participated in the survey, describing categorical variables

using frequency and percentage (%). Secondly, we used chi-square tests to compare the willingness to enroll in daycare services among parents of infants and toddlers with different backgrounds. Finally, we performed binary logistic regression analysis on factors with statistically significant effects identified through single-factor analysis. All data were inputted into EpiData3.1, and all analyses were performed using STATA17.0 (STATA Corporation, College Station, TX, United States). A p-value < 0.05 (two-sided) was considered statistically significant.

3. Results

A total of 8,999 valid questionnaires were collected in this survey, which covered the entire city of Chongqing, China. Most of the participating parents were located in the western (38.7%) and northeastern (32.6%) parts of Chongqing, with the majority living in urban areas (59.6%). Among these parents, over half held a higher education degree (66.4%), while a minority had a secondary education level (20.4%). Their occupations mainly fell into the technical category (34.8%) or other categories (43.1%), and most parents had a per capita monthly income below RMB 4,000 (36.4%) or between RMB 4,000-7,999 (44%). The majority of these families only had one infant or toddler (92.4%), and their ages were mostly between 2-3 years old (53.9%), with little difference in the number of male (50.3%) and female (49.7%) infants and toddlers. In most families with only one infant or toddler, the majority of parents had no intention of having more children (63.7%), while a minority were uncertain about whether to have more children (25.9%). Co-parenting, which refers to parents and grandparents jointly caring for infants and toddlers in the family, was the most common parenting mode among surveyed households (57.6%), followed by parental care (27.4%). Other caregivers referred to relatives or neighbors who helped with childcare, which was an uncommon parenting mode (4.2%). Among the surveyed families, more than half expressed willingness to enroll in daycare services (56.9%).

Using the willingness of parents to enroll their infants and young children in daycare as the dependent variable, a univariate analysis was conducted on factors including geographical distribution, place of residence, educational level, occupation, income, number of infants and young children, age and gender of infants and young children, parental fertility intentions, family care models, and willingness to enroll. The results indicate that factors such as geographical distribution, place of residence, educational level, occupation, income, age of infants and young children, family care models, and willingness to enroll have statistical significance ($P < 0.05$).

Based on the results of a univariate analysis, statistically significant factors such as the district where the family resides, the parents' level of education and occupation, the average monthly income per capita in the family, the age of the infant or toddler, and the type of care were incorporated into a logistic regression model for binary analysis. The results showed that the type of care, the residential area of the family, the parents' level of education, the district where the family is located, the average monthly income per capita in the family, and the age of the infant or toddler were the main influencing factors ($P < 0.05$).

Specifically, compared with parental care mode, grandparental care mode was not significant, while co-parenting and other caretaking modes were significant. Parents under the co-parenting mode had a willingness to use daycare services (CI: 0.71-0.88), and those under the other caretaking mode had a higher willingness to use daycare services. Results from suburban and rural areas were significant relative to urban areas, as parents in these regions were less likely to choose daycare services. Compared with parents with lower levels of education, parents with moderate to higher levels of education were more willing to use daycare services, with significantly greater willingness among those with higher education levels. Results from parents in Chongqing's western, northeastern, and southeastern districts were significant compared to those from parents in the city's nine central districts. Parents in the western and northeastern districts had lower willingness to use daycare services, while those in the southeastern district had higher willingness. Parents with monthly incomes above 4000 yuan were more likely to choose daycare services than those with incomes below that threshold. Compared with infants under six months old, only infants and toddlers aged 2-3 years showed significant results, with higher willingness to enroll in daycare services among parents with children in this age range.

Among the 8,999 surveyed parents, 2,534 currently choose daycare services. Among the remaining 6,465 parents who did not choose childcare, the most common reasons were: concerns about leaving young children in the care of others; difficulty affording the cost of daycare services; and lack of nearby daycare facilities or services.

4. Discussion

In recent years, based on considerations of China's population strategy and with the continuous advancement of the "three-child policy," the Chinese government has gradually attached importance to the development of the infant and young child daycare services industry. We conducted a cross-sectional survey of parents of infants and young children aged 0-3 in Chongqing, China regarding their willingness to enroll in daycare services, and attempted to analyze the factors affecting their willingness.

The results of this cross-sectional study show that 56.9% of parents have a willingness to choose daycare services, but nearly half of parents are unwilling to do so. Factors influencing parents' willingness to choose daycare services include the mode of infant and young child care, age of the infants and young children, and location of the family.

Through our research, we found that the care models have an important impact on families' willingness to choose daycare services. The study shows that compared with parental care, families under the shared care model is less willing to choose daycare services, while families under other care models are more willing to choose daycare services. Shared care refers to a scenario in which parents and grandparents interact with each other when sharing the responsibility of raising children after childbirth[15]. In China, regardless of whether elderly relatives live with their grandchildren, grandparents taking care of their grandchildren is a very common phenomenon and is on the rise[15, 16]. The shared care model is not affected by daycare institutions or community childcare resources, which indirectly proves to be the result of intergenerational solidarity. Infant and young child parents believe that grandparental help is the most reassuring and best choice, and compared with daycare services, parents are more likely to choose a care model with grandparents' participation, resulting in lower willingness to enroll in daycare services[6]. Other care models refer to care models other than parental care and grandparental care, such as care provided by neighbors or babysitters. This study found that other care models are easily replaced by daycare services, and families using other care models are more inclined to choose daycare services. Although there is relatively little research related to this type of care model, some scholars have found that other care models are more likely to lead to the risk of infant and young child obesity, while daycare services are the opposite[17]. This reflects that daycare services are more conducive to the growth and development of infants and young children, which is one of the reasons why other care models have strong substitutability.

The age of infants and young children also affects parents' choices regarding daycare services. This study found that parents are more willing to send infants and young children aged 2-3 to daycare institutions, possibly due to parents' concerns about the physical development, psychological health, and personal safety of infants and young children. Our research found that most parents do not choose daycare services because they worry about the safety of infants and young children. Moreover, studies have shown that separating infants and young children from their relatives at a young age can have adverse effects on their development, and choosing daycare services at a young age can also increase financial pressure on parents[18]. At the same time, research has also shown that most daycare institutions in China accept children aged 2 and above, resulting in insufficient supply for younger infants and young children, thus limiting parents' choices[19].

The willingness of parents to choose daycare services is also related to factors such as parents' education level, per capita income, place of residence, and district of residence, which is similar to many other studies[19, 20]. Parents with higher education levels are more willing to spend more time caring for infants and young children, and more likely to choose formal infant and child care services[21]. This may be because parents with higher education levels are more likely to accept more advanced and scientific parenting concepts. This group pays more attention to cultivating good living habits in infants and young children, scientifically nurturing and guiding them, and reasonably planning and arranging activities that meet their developmental needs, which can reduce the health risks faced by infants and young children[21, 22]. Obviously, per capita income is an important influencing factor, and the level of income is positively related to the willingness to choose daycare services. A higher income level represents stronger payment ability of parents, making it easier for them to afford daycare services. However, it's worth noting that the level of income does not affect parents' choice of infant and child care services among those with higher education levels. Some research has found that even after controlling for income level and employment status, parents with higher education levels still choose daycare services[23]. In this study, we also found that the place of residence affects parents' choices. Parents living in suburban and rural areas have lower willingness to choose daycare services than those in urban areas. There may be multiple reasons for this phenomenon. On the one hand, resources in suburban and rural areas are relatively scarce compared to urban areas, including talent and funding support for the

infant and child care industry. On the other hand, urban parents have stronger payment ability than those in suburban or rural areas, so they have more opportunities to choose daycare institutions. In addition, women in urban areas may face more obvious conflicts between work and childcare, making them more in need of external support for infant and young child care[24]. Furthermore, this study also found that the willingness of parents to choose daycare services is influenced by the region they live in. Parents in the west and northeast regions of Chongqing have weaker willingness to choose daycare services, while those in the nine central districts and southeast regions have higher willingness. This may be because the nine central districts are the core areas of Chongqing, with a better economic level than other regions. Therefore, from the perspective of institutions, daycare institutions located in the nine central districts may have higher quality and be more favored by parents. From the perspective of parents, parents of infants and young children living in the nine central districts may have better material conditions and be more likely to accept scientific parenting concepts, so their demand for daycare services is also stronger. However, it's worth noting that although the southeast region of Chongqing has lower economic level compared to other regions and weaker development, there is still a lot of room for the development of daycare institutions. But this survey found that parents in this region do not have low willingness to use daycare services. On the one hand, whether or not relevant daycare institutions or services are available near the place of residence can affect parents' choices. On the other hand, we speculate that parents in this region may not have outdated ideas and may also have actual needs for daycare services.

Therefore, the government should build a local infant and child care support system based on the demand for daycare services in different regions. The government should encourage social resources to establish private daycare institutions and communities to provide more "care and education combined" services, enrich the types of daycare services, and enhance the accessibility of daycare service institutions[25]. At the same time, the government should optimize the construction of daycare institutions, while expanding the number of daycare institutions, it should also pay attention to their quality. Encourage well-managed daycare institutions to improve their facilities and enhance the quality of software and hardware facilities. Strategies should be taken to prioritize the safe development of daycare institutions, improve emergency response plans for various emergencies in daycare institutions, and prevent the occurrence of vicious incidents.

Support should be provided to areas with poor financial situation through subsidies and other means to narrow the difference in the supply of childcare institutions between regions, so that the childcare services in the region can meet the needs of local parents and achieve sustainable development. The government should also popularize the science of infant care for parents of infants and young children, such as setting up lectures or websites, so as to raise parents' awareness of childcare institutions and understand the importance of scientific care to avoid health inequality.

5. Conclusions

To sum up, most parents in Chongqing, China have the willingness to choose childcare, but there are differences in parents' willingness among different regions. More importantly, the willingness of parents to choose childcare services is influenced by a number of factors, including the care model, the age of the infant, the education level of the parents, the family income, and the area of residence. Therefore, it is suggested that the government should subsidize the cost of childcare for infants and young children's families, and strengthen science popularization to improve the correct cognition of infant and young children's parents on the childcare service and understand the importance of scientific care. At the same time, the government should issue supportive policies to help the healthy development of childcare institutions.

Our study also has some limitations. This survey was conducted in Chongqing, China, and not nationally representative. Therefore, the results may not be generalizable. Additionally, this is a cross-sectional study and cannot reflect changes in parental demand for infant and child care services over time.

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