ORIGINAL RESEARCH ARTICLE

# Out of Pocket Expenditure and Utilization of Government Financial Assistance Among Women Who Had Institutional Delivery in An Urban Slum of Telangana, India

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## ABSTRACT

**Background:** Out of Pocket Expenditure (OOPE) are expenditures directly made by households at the point of receiving health care. In Telangana State the average OOPE per delivery in public health facility is Rs. 3846. The study helps to know the OOPE among mothers undergoing institutional deliveries and emphasise on the expenditure even after utilising the government financial assistance.

**Objectives:** To estimate the OOPE among women undergoing institutional delivery and to find its association with government financial assistance utilization and socio-demographic factors.

**Methodology:** A community based cross sectional study was done among 200 mothers who delivered recently residing in an urban slum under our health and training centre. Ethical clearance was taken before the conduct of study.

**Results:** The median direct out of pocket expenditure among mothers in our study was Rs.500 i.e., 6.6 $ (0 to 1600). OOPE was present among 68.5% of mothers. Availability of government financial assistance, age and occupation of the mother and type of delivery was found to be significantly associated with p value <0.05.

**Conclusion:** The financial assistance definitely reduced the burden of OOPE among the mothers. The implementation of such schemes is important and needs to be evaluated time to time to ensure proper reach of its benefits to the community.

**Key words**: Out of pocket expenditure, OOPE, financial assistance, institutional delivery, urban slum

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## INTRODUCTION

Out of Pocket Expenditures (OOPE) are expenditures directly made by households at the point of receiving health care. Out-of-pocket spending (OOP) show the direct burden of medical costs that households bear at the time of availing healthcare service. In India OOPE is 48.8% of the Total Health Expenditure (THE). In Telangana State it is 49.7%.[1] Advanced medical technology with rising costs in diagnostics and treatment along with high expectations of population lead to up surge in cost of treatment.[2] Added to that, poor public health care services, meager insurance coverage lead to high OOPE. During the last 15 years the central and state governments provided with financial assistance to reduce the OOPE on maternal care.[3] The OOPE is 3.43% of the for-delivery care as per National Health Accounts 2004-05.[4] According to National Family Health Survey-5 in Telangana State the average OOPE per delivery in public health facility is Rs.3846.[5]

The sustainable development goal 3 is related to maintaining good health, the barriers are social, economic inequality and continuing health problems.[6] The solution lies in universal health coverage (UHC). The aim of UHC is to provide good quality health care and reduction of expenditure spent on health.[7] The millennium developmental goal 5 is concerned with maternal health, to reduce maternal mortality rate and to increase the proportion of skilled birth attendants.[8] Addressing the urban, rural, rich, poor divide the Janani Suraksha Yojana (JSY) was started under National Rural Health Mission (2005) to promote institutional delivery along with cash assistance to women below poverty line. Accredited Social Health Activist or Trained Birth Attendant has been an efficient link between the government and poor pregnant women.[9] The State government of Telangana has launched KCR kit scheme in 2017 for pregnant women in the name of the chief minister Shri. Kalvakuntla Chandrsekhar Rao for a maximum of 2 deliveries at a government hospital with medical and financial help of 12000 i.e., 160 US $ for male newborn and 13,000 i.e., 173.33 US $ for female new born. The main purpose of the scheme is to promote institutional delivery and provide nutritional support to the mother and new born.[10]

The study helps to know the OOPE among mothers undergoing institutional deliveries and emphasise on the expenditure even after utilising the government financial assistance. We also tried to explore the deficit in reach of Government financial assistance and tried to find out the financial assistance availed by mothers whether reduced OOPE. If the results are showing reduction in OOPE the study can be extended to other parts of country to provide better social security measures.

The objective of the study is to estimate the OOPE among women who had undergone institutional delivery. The study is done to assess the components of OOPE among women undergoing institutional delivery. It also tries to find out the association between government financial assistance utilization and out of pocket expenditure. Finally, it is to determine association between out-of-pocket expenditure and socio-demographic factors.

## METHODOLOGY

It was a cross sectional community-based study. The study was conducted in the urban slum population, Hyderabad. The study duration comprised data collection, analysis and report writing- 6 months duration from April to September, 2020. The data collection was done after taking consent from mothers who recently delivered in government hospitals and registered with the Anganwadi centres. The Pregnant mothers who have delivered recently and are residents of urban slum covered under the urban primary health and training center were included in the study. All who were not willing, non-residents of the area and had severe illness were excluded from the study. Informed Consent was taken prior to administering the questionnaire. Confidentiality of the information was maintained. Ethical clearance was taken before the study from the Institutional Ethics Committee. The registered number is EC/NEW/INST/1527/2021/11/016.

Considering the prevalence of out-of-pocket expenditure of 48.8% of the national health expenditure in India[1,11], with 95% confidence interval and margin of error as 7% the sample size was calculated as 196. To make it an approximation the sample size was taken as 200.

The information about the mothers who gave birth to child recently was gathered through Mother and Child Tracking System from the urban primary health center, Shaikpet. A total of 24 Anganwadi centres are present in the area. A list of all the pregnant and lactating mothers is available in the center. Out of 24 centers 10 were selected by random sampling. In each of the centre, a complete list of mothers was prepared as the sampling frame and 20 mothers who have recently delivered were randomly selected. Among the 10 anganwadi centres a total of 200 mothers were interviewed.

A pre-tested semi-structured questionnaire was administered to the mothers within 10 days of delivery which prevents recall bias about OOPE. If the mother failed to give the information the family members were asked the same questions. Questionnaire was prepared by investigators after thorough review of literature and validated for content from group of experts and pretested by doing a pilot study among 10% of total sample. Translation validity was done in 2 steps. Forward translation to local language by two experts and back translation by an independent language expert. All discrepancies were sorted by the investigators and language experts to get the final

version. Questionnaire included information regarding place of delivery, type of delivery, socio-demographic details like age, birth order, education, occupation, income of family and if they have any health insurance. Information was also collected regarding all expenses related to institutional delivery like medicines, laboratory tests, hospital stay etc and also availing of financial assistance from government.

The definition of Out-of-Pocket Expenditures (OOPE) is expenditure directly made by households at the point of receiving health care. Out Of Pocket expenditures included in the questionnaire were (1) healthcare costs like laboratory test, medicines etc (2) transportation costs, cost of food, and accommodation. Productivity loss was measured, including time unable to work due to hospital admission, travel time to and from the hospital and time spent at the hospital. For days admitted for institutional delivery, we considered 8 hours of working time lost per day and one accompanying family member per patient. To estimate the indirect costs due to productivity loss, the amount of time lost was multiplied by the patient's hourly wage rate. Majority of the study sample was home makers (68.5%) and the estimation of indirect costs was limited to 31.5 % of study sample.

Data was entered to MS excel and analyzed using SPSS version 24. Mean, Standard deviation of OOPE was calculated. Frequency tables were generated. Bivariate analysis using chi square test was done to find factors associated with OOPE. Strength of association is expressed as Odds Ration with 95% Confidence Interval. All factors with p value > 0.25 in bivariate analysis was considered for multivariate analysis. Multivariate logistic regression was done using enter method and adjusted Odds Ratio with 95% Confidence interval was calculated to report the strength of association considering the confounding variables. All factors with p value <0.05 was considered to be statistically significant.

## RESULTS

The mean age of mothers in our study was 24.79 years (SD=3.9years). Majority of females (52.5%) belonged to the age group above 25 years. Among mothers 68.5% were literate (68.5%) out of which 14.5% had completed their graduation, 13% had completed intermediate and 9% had completed till 10th standard. Majority of mothers were house wife (68.5%). The average income of the mothers in our study was Rs.10190 (SD=4432Rs). Among our study sample majority belonged to Hindu religion (61.5%) followed by Muslims (26%) and Christians (12.5%). Majority of mothers belonged to other backward casts (56%) followed by General category (30%) and Scheduled caste (14%). Obstetric history of mothers in our study sample showed 43%, 50.5% and 6.5% having parity 1, 2 and 3 respectively. Majority of mothers (53%) had normal full term vaginal delivery with duration of stay in hospital being 3 or less among 53%.

**Financial Assistance and out of pocket expenditure:** Almost 85% of mothers received all the instalments of the financial assistance provided by government (Table No.1). The median direct out of pocket expenditure among mothers in our study was Rs.500 i.e., 6.6 US $ (0 to 1600). The minimum and maximum expenditure was Rs.200 i.e., 2.66 $ and Rs.3500 i.e., 46.66 $ respectively. Out of pocket expenditure in any form was present among 68.5% of mothers included in our study. The indirect cost was estimated for only daily wage labourers which included 27.5% of study sample. The average daily income of daily wage labourer in Telangana was Rs.700 i.e., 9.33 $ for 8 hours. Considering 3 days for institutional delivery the indirect cost per person is Rs. 2100 i.e., 28 $. Only 31.5% of the study population were occupied which included 55(87.3%) daily wage labourers and 8(12.6%) teachers. The teachers could avail paid leaves for maternity. The components of Out-of-Pocket expenditure was elicited under sub categories like delivery, medicines, tests, accommodations and others (ward boy, house-keeping charges and travel charges, stationary items, disposables etc), (Table No.2). Even though government is providing delivery related services free of cost, it was found that 11.5% of study sample had to pay a delivery fee of Rs. 200 i.e., 2.66 $ at the hospital. The maximum out of pocket expenditure was for others followed by the lab tests for which median expenditure was Rs.1000 i.e., 13.3 $ followed by Laboratory tests Rs.900 i.e., 12 $.

**Table 1: Received government financial assistance (KCR kit)**

| Financial assistance | Frequency (%) | Median OOPE(IQR) |
|---|---|---|
| Yes | 171(85.5) | Rs.450(0-1500) 4 US $ |
| No | 29 (14.5) | Rs.500(500-2000) 6.66 US $ |
| Total | 200(100) | Rs.500 (0-1600) 6.66 US $ |

For conversion of US $ to rupee the conversion rate on 18th August 2020 was taken into account (1US $=75 Rupees).

**Table 2: Components of Out of Expenditure among study participants**

| Components | n (%) | Median Expenditure (IQR) |
|---|---|---|
| Delivery | 23 (11.5) | Rs.200 (Rs.100 to 200) 2.66 US $ |
| Medicine | 77(38.5) | Rs.500 (Rs. 200 to Rs.500) 6.66 US $ |
| Tests | 71(35.5) | Rs.900 (Rs.400 to Rs.1000) 12 US $ |
| Stay | 49(24.5) | Rs.500 (Rs.400 to Rs.500) 6.66 US $ |
| Others | 61 (30.5) | Rs.1000 (Rs. 500 to Rs. 1500) 13.33 US $ |

*Each component is 100%. Showing the frequency of those who had OOPE.

**Table 3: Association between receiving Government financial assistance and OOPE**

| Variables | OOPE | | OR (95% CI) | P value | aOR (95% CI)* | P value |
|---|---|---|---|---|---|---|
| | Present (%) | Absent (%) | | | | |
| **Financial Assistance** | | | | | | |
| Yes | 108(63.2) | 63(36.8) | 0.03 (0.00-0.48) | <0.001 | NA | |
| No | 21(100) | 0(0) | Ref | | | |
| **Age** | | | | | | |
| 19-24 | 54(56.8) | 41(43.2) | Ref | <0.001 | Ref | 0.011 |
| ≥25 | 83(79) | 22(21) | 2.86 (1.54-5.33) | | 3.51 (1.34 - 9.18) | |
| **Education** | | | | | | |
| Illiterates | 39(61.9) | 24(38.1) | Ref | 0.173 | Ref | 0.545 |
| Literates | 98(71.5) | 39(28.5) | 1.55 (0.82-2.90) | | 1.28 (0.58 - 2.82) | |
| **Occupation** | | | | | | |
| Unemployed | 117(85.4) | 20(14.6) | Ref | <0.001 | Ref | < .001 |
| Employed | 20(31.7) | 43(68.3) | 0.08 (0.04-0.16) | | 0.06 (0.02 - 0.13) | |
| **Income** | | | | | | |
| ≤10000Rs | 60 (61.9) | 37(38.1) | Ref | 0.05 | Ref | 0.003 |
| >10000Rs | 77(74.8) | 26(25.2) | 1.83 (0.99-3.34) | | 3.64 (1.57 - 8.44) | |
| **Parity** | | | | | | |
| 1 | 53 (61.6) | 33(38.4) | Ref | 0.069 | Ref | 0.533 |
| ≥2 | 84 (73.7) | 30 (26.3) | 1.74 (0.96-3.18) | | 0.75 (0.30 - 1.86) | |
| **Type of Delivery** | | | | | | |
| Normal | 65(61.3) | 41(38.7) | Ref | 0.020 | Ref | 0.369 |
| LSCS | 72(76.6) | 22(23.4) | 2.06 (1.11- 3.83) | | 0.68 (0.30 - 1.57) | |

*Multivariate logistic regression analysis

**Factors determining OOPE:** Chi-square test was done to find out the factors associated with OOPE. OOPE was dichotomously categorised into OOPE present and OOPE absent. Availability of government financial assistance, age and occupation of the mother and type of delivery was found to be significantly associated with p value <0.05. OOPE was 100 % among those mothers who didn't receive any financial assistance from the government. Among those receiving financial assistance 63.2% had OOPE. This association was statistically significant with p value <0.001 with unadjusted Odds Ratio of 0.03 (0.00-0.48). Higher proportion of elder mothers (79%) were found to have out of pocket expenditure compared to young mothers (56.8%) with p value <0.001[OR=2.86(1.54-5.33)]. Compared to mothers who were employed, house wives were having higher out of pocket expenditure related to delivery services (p value =<0.0001; OR=0.08(0.04-0.16)). Mothers who have Caesarean section were having higher out of pocket expenditure compared to those who had normal vaginal delivery and this association was found to be statistically significant with p value of 0.020[OR=2.06(1.11- 3.83)]. (Table 3)

**Multivariate analysis to find predictors of OOPE:** Multivariate logistic regression was done to find the predictors of OOPE. All factors having p value <0.25 was considered for multivariate analysis. Age, Occupation and Income were found to be the independent predictors of OOPE accounting for the confounding factors. Elderly mothers were having a 3.5 (1.34 – 9.18) times higher chances of having OOPE compared to younger mothers (p value=0.011). Occupation is a favourable factor towards OOPE with adjusted OR of 0.0572. Income also came out as an independent predictor of OOPE with those mothers with low income having 3.6 (1.6-8.4) times higher chances of OOPE (Table 3).

## DISCUSSION

The costs incurred during pregnancy and delivery has been for the antenatal check-ups, investigations, scanning, medicine, hospital stay, travel, food and other miscellaneous expenditure. The expenses for a poor family who cannot afford them can be burdensome. The JSY scheme implemented after NRHM had helped many poor women for safe institutional deliveries along with free ante-natal check-ups and food ration consisting of rice, pulses, eggs, oil provided from the Anganwadi center. The state government of Telangana is providing with financial assistance since 2017 to the mothers along with free institutional delivery. The financial assistance of Rs.12000 i.e., 160 $ is given in 3 instalments of Rs.4000 i.e., 55.33 $ per each instalment. In birth of a female child an additional Rs.1000 i.e., 13.33 $ is given along with the 3 instalments. The median direct out of pocket expenditure among mothers in our study was Rs.500 i.e., 6.6 $ (0 to 1600). In Telangana the average OOPE per delivery in public health facility is Rs.3846 i.e., 51.28 $(NFHS,2019-20).[5] The expenditure in Telangana has reduced compared to the NFHS data Rs.4218 i.e., 55.04 $(2015-16).[11] In the current study the expenditure is lesser because of the study was carried out after the financial assistance from government has been taken into account. The financial assistance as mentioned by the family members can be used as savings after the OOPE. In Hyderabad the average OOPE according to the DLHS is Rs.2911(39 $).[13] The mean OOPE for delivery in India is Rs.7978 (106 $). In Kerala it is highest Rs.16,149(215 $) and

lowest in Madhya Pradesh, Rs.4150(55 $).[12] It is observed that there is wide variation of expenditure among the states and could be due to the various differences of schemes offering financial assistance to pregnant mothers, delivery conditions at the public health facility and how far the community is availing these services. In a study done by Sahu et al in Orissa the mean OOPE was Rs.2766 (37 $).[14] A study done by Jolene SW et al in Mumbai slum has shown the expenditure for delivery as Rs.3200 (43 $).[15] In a study by Gupta N et al the expenditure was Rs.1800 (24 $) for delivery at public sector and is similar to the present study.[16]

The expenditure differences between normal and caesarean sections exist. There is a significant association between C-section delivery and increased OOPE in the present study. In a normal delivery the mother can be discharged from the hospital in a day or two, where as in C-section she has to stay in the hospital for 3-5 days until the suture wound heals. Staying in the hospital for long duration is spending more money for stay, medicines, food and other expenses. In the present study the mean expenditure for normal delivery is Rs.604(8 $) and for C-section it is Rs.1444 (19 $). A study by S. Das et al has shown mean expenditure for normal delivery as Rs.704(5.3 $) and Rs.1800 (24 $) for C-section.[17] A study done by Issac A et al has given the mean expenditure for normal and C-section as Rs.680 (9 $) and Rs.970 (13 $) respectively.[18] It was Rs.1192 (15.8$) and Rs.3941 (52.54$) was normal and C-section as per the study done by Sahu et al.[14] A study by Modugha et al has shown Rs.1624 (21.6$) and Rs.5934 (79.1$) for normal and C-section deliveries respectively.[19] These expenses are only pertaining to deliveries conducted at public institutions. A wide variation in cost for deliveries at private institutions were reported among above mentioned studies.[14,18,19]

The median expenses spent during the hospital stay comprised of the following such as, Rs.500(6.66$) for medicine, Rs.200(2.66$) for delivery, Rs.900(12$) for tests, Rs.500(6.66$) for stay and Rs.1000(13.3$) for other expenses. A study done by Issac A et al[18] has shown mean expenditure of Rs.100 (1.3 $) for medicines as well as tests and Rs.265 (3.5 $) for stay. Mean expense spent according to S. Das et al[17] study was Rs.200 (2.6 $) for medicine as well as delivery and Rs.1104 (14.7$) for other expenses. A study done by Goli et al has shown Rs.2068(27.5$) for medicines, Rs.246(3.28$) for delivery and Rs.654 (8.7$) for stay as the mean expenditure.[21]

The present study has shown significant association between age of the mother and the OOPE. Mothers who are married at a younger age of 19 and became pregnant were less likely to utilize the financial assistance. On the other hand, mothers at 25 had considerable knowledge about the financial assistance and have utilized it. A study done by Issac A et al[18] has shown mothers above 25 years have spent more while Mondal J et al study[20] has shown mothers between age groups 21-25 have spent less. A study done by Goli et al[21] has revealed that mothers above 30 years have utilized the services more compared to the other age groups.

The current study has shown significant association between occupation and availing the government financial assistance. The unemployed have utilized the services more than the employed. This is similar to the study done by Gupt A et al[22]. Studies done by S Das et al[17] and Mondal et al[20] have not shown any association between the occupation and availing of financial assistance.

## Limitations

As the duration of the study was restricted to 6 months, this study was conducted as a cross sectional study. If a cohort study with follow up of the child till 1 year is done the exact expenditure spent can be traced.

## Conclusion

The components of OOPE include delivery charges, medicine charges, laboratory charges, stay in hospital and others. Around 85% of mothers received government financial assistance in the form of KCR kit. The median direct OOPE is Rs.500(0-1600) 6.66 $. OOPE was seen in elderly mothers, housewives and mothers who underwent C-section. We also explored the deficit in reach of government financial assistance and tried to find out if financial assistance availed by the mothers have reduced the OOPE. The OOPE is raising and there is a need for government financial assistance in the form of such schemes to help mothers for safe institutional delivery and provide financial aid.

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## References

1. National Health Accounts Technical Secretariat. National Health Systems Research Centre. National Health Accounts Estimates: 2019-20. Ministry of Health and Family Welfare, Government of India: 2021.
2. Wagstaff A, Flores G, Hsu J, Smitz MF, Chepynoga K, Buisman LR, etal. Progress on catastrophic health spending in 133 countries: a retrospective observational study. The Lancet Global Health. 2018 Feb 1;6(2):e169-79.
3. Mishra S, Mohanty SK. Out-of-pocket expenditure and distress financing on institutional delivery in India. International journal for equity in health. 2019 Dec;18(1):99.

4. National Health Accounts Technical Secretariat. National Health Systems Research Centre. National Health Accounts Estimates: 2004-05. Ministry of Health and Family Welfare, Government of India: 2009.
5. International Institute for Population Sciences (IIPS) and ICF. 2021. National Family Health Survey (NFHS-5), 2019-21:State Fact Sheet. Telangana-Key indicators,India. Mumbai: IIPS.
6. World Health Organisation. Sustainable Developmental Goal: Overview and SDG 3. World Health Organisation. Geneva; 2015.
7. World Health Organisation. Universal Health Coverage: How can countries make progress. World Health Organisation. Geneva; 2021.
8. World Health Organisation. Millennium Developmental Goal: Overview: World Health Organisation. Geneva; 2000.
9. Janani Suraksha Yojana: Nationa Health Mission. Available at : https://www.nhm.gov.in/index1.php?lang=1&level=3&sublinkid=841&lid=309. Accessed on August 18th, 2022
10. KCR Kit: Hyderabad District: Government of Telangana; Sept 2017-July 2022. Available at https://hyderabad.telangana.gov.in/scheme/kcr-kit/. Accessed on August 20th 2022.
11. Ambade M, Sarwal R, Mor N, Kim R, Subramanian SV. Components of Out-of-Pocket Expenditure and Their Relative Contribution to Economic Burden of Diseases in India. *JAMANetwOpen.* 2022;5(5):e2210040.
12. International Institute for Population Sciences (IIPS) and ICF. 2016. National Family Health Survey (NFHS-4), 2015-16: India. Mumbai: IIPS.
13. International Institute for Population Sciences (IIPS) and ICF. 2016. District Family Health Survey (DFHS-5), 2015-16: State Fact Sheet. Telangana-Key indicators. India. Mumbai: IIPS.
14. Sahu KS, Bharati B. Out-of-Pocket health expenditure and sources of financing for delivery, postpartum, and neonatal health in urban slums of Bhubaneswar, Odisha, India. Indian J Public Health 2017;61:67-73.
15. Skordis-Worrall J, Pace N, Bapat U, Das S, More NS, Joshi W, *et al*. Maternal and neonatal health expenditure in Mumbai slums (India): A cross sectional study. BMC Public Health 2011;11:150.
16. Gupta N. Out of pocket expenditure in health care; result of study in five states of India. Rajasthan: Prayas; 2011.
17. Das S, Sundaramoorthy L, Bhatnagar T. Out-of-pocket expenditure for delivery at home and public health facilities in the context of conditional cash transfer and free delivery care programs: An analytical cross-sectional study in South 24 Parganas district, West Bengal, India, 2017. Clinical Epidemiology and Global Health. 2020 Dec 1;8(4):1395-401.
18. Issac A, Chatterjee S, Srivastava A, Bhattacharyya S. Out of pocket expenditure to deliver at public health facilities in India: a cross sectional analysis. Reproductive health. 2016 Dec;13(1):1-9.
19. Modugu : State and socio-demographic group variation in out-of-pocket expenditure, borrowings and Janani Suraksha Yojana (JSY) programme use for birth deliveries in India. BMC Public Health 2012; 12:1048.
20. Mondal J, Mukhopadhyay DK, Mukhopadhyay S, Sinhababu A. Does Janani Shishu Suraksha Karyakram ensure cost-free institutional delivery? A cross-sectional study in rural Bankura of West Bengal, India. Indian J Public Health 2015;59:279-85.
21. Goli, Srinivas; Rammohan, Anu; Moradhvaj.Out-of-pocket expenditure on maternity care for hospital births in Uttar Pradesh, India. Health Economics Review. Springer, Heidelberg.2018; 8(5): 1-16. ISSN 2191-1991
22. Gupt A, Kaur P, Kamraj P, Murthy BN. Out of Pocket Expenditure for Hospitalization among Below Poverty Line Households in District Solan, Himachal Pradesh, India. PLoS ONE. 2016;11 (2): e0149824.