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An epidemiological study of utilization of Rajiv Gandhi Jeevandayee Arogya Yojana in a municipal tertiary care hospital located in a metro city

Radhakrishnan A.1*, Seema S. Bansode-Gokhe2

Department of Community Medicine, ¹RCSM GMC, Kolhapur, Maharashtra, India; ²LTMMC and SION Hospital, Mumbai, Maharashtra, India

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*Correspondence: Dr. Radhakrishnan A., E-mail: dr.ark03@gmail.com

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ABSTRACT

Background: Objective of the study was to study the epidemiological profile of study subjects benefited by Rajiv Gandhi Jeevandayee Arogya Yojana (RGJAY) and study the spectrum of surgical procedures/therapies/consultations. **Methods:** It was a hospital record –based retrospective cross sectional study. Approximately 7200 beneficiaries were enrolled in a year. This study was analyzed with 10% beneficiaries (730) data by the convenient purposeful sampling method. Data was analyzed by using SPSS 17 software.

Results: The majority of the study subjects (34.7%) belonged to the age group of 40-59 years. The mean age was 38.6.More study subjects were males (55.1%). 99.9% of study subjects had come directly without any referral. 95.2% study subjects were orange ration card holders, 4.1% were yellow ration card holders.78.8% of study subjects got approval from RGJAY society, whereas pre authorization status was cancelled in13.6%.In total surgeries majority of the study subjects utilized orthopaedics surgery (16.3%).In total therapies majority utilized paediatric medical management (18.5%). In conservative management majority utilized cardiology (94.7%) and burns (5.2%).

Conclusions: The majority of the study subjects belonged to the age group of 40-59 years. More were males. Majority had come directly without any referral. This reveals the increased awareness about RGJAY among people. This scheme is more utilized by orange ration card holders than yellow card holders. In total surgeries majority utilized orthopaedics surgery. In total therapies majority utilized paediatric medical management. In conservative management majority utilized cardiology and burns.

Keywords: RGJAY, Pre-authorization, Orange card, Yellow card

INTRODUCTION

The percentage of persons below the Poverty line in 2011-12 has been estimated as 25.7% in rural areas, 13.7% in urban areas and 21.9% for the country as a whole. In Maharashtra the percentage of persons below Poverty line 24.22% in rural areas and 9.12% in urban areas 17.35% as a whole. Health care costs, especially high out-of-pocket expenditure on health care, have a

devastating effect on the lives of low-income individuals. Insufficient or poor quality of public facilities around the country drives people towards seeking private care that obviously comes at a significantly higher price. This confirms the need of extended risk coverage of the population. India is one of the few countries which have public health spending of 1.2 per cent of GDP resulting in three quarters of the expense being met from out of pocket spending by individual households.³

Health insurance can provide financial protection to households and can reduce catastrophic out-of-pocket expenditure on health care. On the basis of this, the State Government of Maharashtra has adopted a new scheme on pilot basis named Rajiv Gandhi Jeevandayee Arogya Yojana, implemented since 2nd July 2012. This scheme provides free quality critical care for low income families and to 'improve access of Below Poverty Line (BPL) and Above Poverty Line (APL) families to quality medical care for 972 surgeries/ therapies/ procedures along with 121 follow up packages.⁴

The phase I of the scheme has been started in 8 districts – Amravati, Dhule, Nanded, Mumbai and Mumbai Suburbs, Gadchiroli, Raigad and Solapur - from 2nd July 2012, covering around 49 lakhs beneficiary families. In the present study, we have analyzed only phase I of RGJAY to assess the utilization and the spectrum of surgical procedures/therapies/consultations including follow up among study subjects, during the study period. It will provide basis for evolving strategies in the scheme, for enhancing the health security amongst the underprivileged population.

METHODS

It is a hospital record –based retrospective cross sectional study. The study was conducted in a tertiary care hospital situated in a metropolitan city. Permission was taken from Assistant Director of RGJAY society Government of Maharashtra. Study period was from July 2012 to July 2013. The sample size was 730.

Sampling method and sampling unit

This is a retrospective, cross sectional hospital based study of the records of the study subjects recorded under RGJAY from July 2012 to July 2013. So selection of records was done by following method:

- 1) On an average 20-25 cases were enrolled per day under the Rajiv Gandhi Jeevandayee Arogya Yojana during the study period as observed from the records.
- On an average 600 beneficiaries were enrolled in a month.
- 3) Approximately 7200 beneficiaries were enrolled in a year.
- 4) This study was analyzed with 10% beneficiaries (730) data that was quite large sample size by the convenient purposeful sampling method.
- 5) So, 2-3 case records per day were selected randomly by lottery method.
- 6) Approximately 730 study subjects' data were studied and analyzed during the study period.

Inclusion criteria

All cases registered under RGJAY last one year, i.e. From July 2012 to July 2013.

Exclusion criteria Nil

Ethical approval

Approval from the Institutional Ethical Committee was taken.

Study instruments

Analysis matrix was designed as per content mentioned in RGJAY records/formats and was validated by experts. An analysis matrix of RGJAY cases was used for collecting information from RGJAY records. The data collected was subjected to analysis.

Data collection

All records of the study subjects recorded in the RGJAY registered during the period of July 2012 to July 2013, were reviewed and observation were recorded. Formal discussions with managers and record assistance of RGJAY were held. The online mechanisms of compilation, transformation of information to RGJAY society were studied.

Statistical analysis

It was done by using SPSS version 17 and Epi info software. Statistical tools used were mean, standard deviation, proportion & percentage, chi-square test and others as per relevance.

RESULTS

The majority of the study subjects (34.7%) belonged to the age group of 40-59 years, followed by 29.3% of study subjects in the age group of 15-39 years. Among male and female, maximum study subjects belonged to age group of 40-59 years. In all age groups, number of males was higher than females.

Table 1: Age and sex wise distribution of study subjects (N =730).

Age	Sex		
group (years)	Male (%)	Female (%)	Total (%)
<1	31 (7.7)	20 (6.0)	51 (6.9)
1-14	43 (10.7)	28 (8.5)	71 (9.7)
15-39	115 (28.6)	99 (30.2)	214 (29.3)
40-59	137 (34.1)	116 (35.4)	253 (34.7)
>60	76 (18.9)	65 (19.8)	141 (19.3)
Total	402 (100)	328 (100)	730 (100)

In all age groups, number of males was higher than females (Table 1).

Among the study subjects most of them (82.7%) were from the Mumbai district only, followed by Raigad

district 8.6% and least study subjects were from Amravati district (0.5%) whereas no patient was registered from Gadchiroli. Residential proof was verified basis of ration cards submitted by them (Table 2).

Among the study subjects 99.9% had come directly without any referral. Only 0.1%, that means only one patient came through the referral source of primary health center (Table 3).

In the study, it is found that 95.2% study subjects were orange ration card holders, 4.1% were yellow ration card holders and 0.7% study subjects were antyodaya card holders (Table 4).

Based on pre-authorization status, 78.8% of study subjects got approval from RGJAY society, whereas pre authorization was cancelled in 13.6% of study subjects, got rejected in 7.1% of the study subjects and 0.5% were pending. Any deficiency in documentation and online updation of data and protocols by the provider which may lead to pending of Pre-authorization approval.

* Pre-authorization is a process by which an Insured Person obtains written approval for certain medical procedures or treatments, from RGJAY society/insurance (Figure 1).

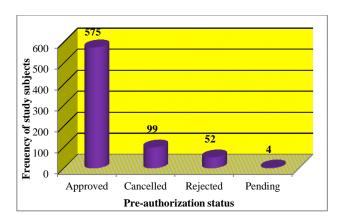


Figure 1: Pre-authorization status* of study subjects (N = 730).

In total surgeries majority of the study subjects utilized orthopaedics surgery (16.3%), followed by general surgery (11.7%), genitourinary system (11.1%), cardiothoracic surgery (10.1%), poly trauma (9.2%), neurosurgery (8.9%) and cardiology (8.3%). In total therapies majority of the study subjects utilized paediatric medical management (18.5), followed by medical oncology (14.2%), pulmonology (12.5%), gastroenterology (10.3%), critical care (9.9) and nephrology (9.5%). In conservative management majority of the study subjects utilized cardiology (94.7%) and burns (5.2%) (Table 5).

Table 2: District wise distribution of study subjects (N = 730).

District	Frequency	Percentage (%)
Mumbai (2)*	604	82.7
Raigad	63	8.6
Dhule	23	3.2
Nanded	22	3.0
Solapur	14	1.9
Amravati	4	0.5
Gadchiroli	0	0
Total	730	100

^{*} Mumbai and Mumbai suburban.

Table 3: Referral source of study subjects (N = 730).

Source	Frequency	Percentage (%)	
Direct	729	99.9	
РНС	1	0.1	
Total	730	100.0	

Table 4: Classification of study subjects on the basis of ration card type (N = 730).

Ration card type	Frequency	Percentage (%)
Orange	695	95.2
Yellow	30	4.1
Antyodaya	5	0.7
Total	730	100

Table 5: Speciality wise management of study subjects (N = 575).

Specialty	Surgical procedures	Therapies	Conservative management	Total
Burns	4 (1.2)	1 (0.4)	1 (5.2)	6 (1.0)
Cardiothoracic surgery	33 (10.1)	0 (0)	0 (0)	33 (5.7)
Cardiology	27 (8.3)	8 (3.5)	18 (94.7)	53 (9.2)
Critical care	0 (0)	23 (9.9)	0 (0)	23 (4.0)
Dermatology	0 (0)	6 (2.6)	0 (0)	6 (1.0)
Endocrinology	0 (0)	9 (3.9)	0 (0)	9 (1.5)
Ent surgery	16 (4.9)	0 (0)	0 (0)	16 (2.7)
Gastroenterology	0 (0)	24 (10.3)	0 (0)	24 (41)
General medicine	0 (0)	0 (0)	0 (0)	0 (0)
General surgery	38 (11.7)	0 (0)	0 (0)	38 (6.6)
Genitourinary system	36 (11.1)	0 (0)	0 (0)	36 (6.2)
Gynaec and obgy Surgery	9 (2.8)	0 (0)	0 (0)	9 (1.5)
Infectious diseases	0 (0)	0 (0)	0 (0)	0 (0.1)
Interventional radiology	15 (4.8)	0 (0)	0 (0)	15 (2.6)
Medical oncology	0 (0)	33 (14.2)	0 (0)	33 (5.7)
Nephrology	0 (0)	22 (9.5)	0 (0)	22 (3.8)
Neurology	0 (0)	20 (8.6)	0 (0)	20 (3.4)
Neurosurgery	30 (8.9)	0 (0)	0 (0)	30 (5.2)
Orthopaedics	53 (16.3)	0 (0)	0 (0)	53 (9.2)
Ophthal surgery	0 (0)	0 (0)	0 (0)	0 (0)
Paediatric surgery	12 (3.7)	0 (0)	0 (0)	12 (2.0)
Paediatrics	0 (0)	43 (18.5)	0 (0)	43 (7.4)
Plastic surgery	1 (0.3)	0 (0)	0 (0)	1 (0.1)
Poly trauma	30 (9.2)	7 (3.0)	0 (0)	37 (6.4)
Prosthesis	0 (0)	0 (0)	0 (0)	0 (0)
Pulmonology	0 (0)	29 (12.5)	0 (0)	29 (5.0)
Radiation oncology	0 (0)	0 (0)	0 (0)	0 (0)
Rheumatology	(0)	7 (3.0)	0 (0)	7 (1.2)
Surgical gastro enterology	9 (2.8)	0 (0)	0 (0)	9 (1.5)
Surgical oncology	11 (3.4)	0 (0)	0 (0)	11 (1.9)
Total	324 (100)	232 (100)	19 (100)	575 (100)

DISCUSSION

The study was conducted among study subjects of Rajiv Gandhi Jeevandayee Arogya Yojana at a tertiary care medical college hospital. A total of 730 study subjects' records were selected randomly and got information about socio-demographic characteristics, spectrum of surgical procedures, therapies and conservative management and pre-authorization and claim status of study subjects.

Table 1 shows that the majority of the study subjects (34.7%) belonged to the age group of 40-59 years, followed by 29.3% of study subjects in the age group of 15-39 years. Among males (34.1) and also among females (35.4) the maximum study subjects were belonged to the age group of 40 to 59 years.

Table 2 shows that among the study subjects most of them (82.7%) were from the Mumbai district, followed by Raigad district 8.6% and least study subjects were from the Amravati district (0.5%) whereas no patient was

registered from Gadchiroli. Residential proof was verified basis of ration cards submitted by them.

Similar findings were also noted on the RGJAY website on 02/12/2014 at 21:16 in which most of the beneficiaries were from Mumbai (25.1%) and least from Gadchiroli (0.5%) among all the districts in the Maharashtra.⁷

The study by Rao et al found that thirty hospitals (24 private and 6 public) had administered more than 50% of the treatments, with 39% of these treatments being provided in Hyderabad, the capital of AP.⁵

In Kalaignar's life saving scheme of Tamilnadu, metropolitan areas of the state account for 40 percent of all scheme expenditure.⁶

In Vajapayee Arogyashree Scheme of Karnataka, the top 20 hospitals provided 76.7% of all care by monetary value, and the top 3 hospitals alone accounted for 40% of claims. Thirteen of these twenty hospitals, including the top 6 facilities, are located in Bangalore.⁸

This study reveals the decreased accessibility of health care services and decreased awareness about RGJAY among people of Gadchiroli.

Table 3 shows that among the study subjects 99.9% had come directly without any referral. Only 0.1%, that means only one patient came through the referral source of Primary Health Center. This reveals the increased awareness about RGJAY among people.

Table 4 shows that 95.2% study subjects were orange ration card holders, 4.1% were yellow ration card holders and 0.7% study subjects were antyodaya card holders.

This shows that the families belonged to any of the districts of Maharashtra and holding a yellow ration card, Antyodaya Anna Yojana card (AAY), Annapurna card and orange ration card were eligible for this scheme and more utilization of this scheme by orange ration card holders. This shows that 95.2% of the study subjects utilized RGJAY belonged to the above poverty line, whereas only 4.8% of the study subjects who utilized the RGJAY belonged to the below poverty line.

In the present study poverty status of the people was determined based on ration card type. As defined by the civil supplies department of Maharashtra yellow ration card, Annapurna card and Antyodaya card holders were considered as BPL people and Orange ration card holders were considered as APL People.

Figure 1 shows that based on pre-authorization status in this study, 78.8% of study subjects got approval from RGJAY society, whereas pre authorization status was cancelled in13.6% of study subjects, got rejected in 7.1% of the study subjects and pending were 0.5%. But among total beneficiaries of RGJAY in all these 8 districts 87.5% got pre-authorization approval and 7.8% got cancelled as per RGJAY website on 02/12/2014 at 21:16.7

Table 5 shows that in total surgeries majority of the study subjects utilized orthopaedics surgery (16.3%), followed by general surgery (11.7%), genitourinary system (11.1%), cardiothoracic surgery (10.1%), poly trauma (9.2%), neurosurgery (8.9%) and cardiology (8.3%). In total therapies majority of the study subjects utilized paediatric medical management (18.5), followed by medical oncology (14.2%), pulmonology (12.5%), gastroenterology (10.3%), critical care (9.9) and nephrology (9.5%). In conservative management majority of the study subjects utilized cardiology (94.7%) and burns (5.2%).

CONCLUSION

The majority of the study subjects belonged to the age group of 40-59 years. The mean age of study subjects was 38.6. More study subjects were males. 99.9% of study subjects had come directly without any referral. This reveals the increased awareness about RGJAY among people. This scheme is more utilized by orange ration card holders than yellow card holders. RGJAY is utilized more by APL than BPL families. In total surgeries majority of the study subjects utilized orthopaedics surgery (16.3%). In total therapies majority of the study subjects utilized paediatric medical management (18.5). In conservative management majority of the study subjects utilized cardiology (94.7%) and burns (5.2%).

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Ethical approval: The study was approved by the

Institutional Ethics Committee

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