

ENTRY BARRIERS TO MEDICAL EDUCATION IN KERALA

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Introduction

Kerala, the southern most State in India, has been attracting attention from scholars the world over for its unique pattern of development often referred to as the Kerala model of development. Despite being one of the less prosperous states in India, the social development in the State is often compared with that of the middle income countries. The State has been successful in providing access to school education for most of the children in the school age group while it is still a distant dream at the all India level. The state has also been successful in providing relatively easy and equal access irrespective of gender, social class and income even in the case of admission to Arts & Science colleges¹. This has led, in the past, to social and occupational mobility in the State. However, it is observed that professional education, much sought after now for its large job potential² and high social status, has become increasingly elitist. As one of our earlier studies pointed out, it is as though passports to unemployment are issued to everyone, the same to employment are issued only to the elite groups carved out on the basis of their financial and social background³. It is found that there are several barriers to enter these courses for the socially and economically less privileged sections. This paper seeks to understand the dimensions of the financial and non-financial barriers to enter medical courses, the most sought after professional courses in the State. Till recently, medical education was offered only in the state-run institutions and the fees in these institutions are heavily subsidised by the State government. But the subsidies are largely confined to fees. The paper makes an estimate of the non-fee private costs of medical education to be incurred by students or their families to find out whether they act as entry barriers. The paper also seeks to draw the social and economic profile of the students of professional courses to find out the other non-financial barriers to entry into medical courses. It also discusses the academic, social and economic implications of these barriers.

The study is based on primary data collected from 266 randomly selected students undergoing the final year of the medical courses in 2001. The courses included in the

study are MBBS, BDS and BSc. Nursing⁴. The students were selected from all the five medical colleges in Kerala where the courses included in the study are offered in the regular stream⁵. Proportionate representation was given to both sexes. The selected students were interviewed using pre-tested schedules. The number of students in the final year and the sample size⁶ for each course selected for the study is presented in Table 1.

Table 1: Sample Size of the Study

Course	Number of students in the final year	Sample Size		
		Male	Female	Total
MBBS	650	91	72	163
BDS	73	14	24	38
BSc. Nursing	89	2	63	65

Private Cost- A Major Entry Barrier

In this section, we seek to find out whether the private cost to be incurred by the students limits access to medical education. The educational expenses of a student include the expenses incurred by the government or public institutions (public cost) and the expenses incurred by the students or their families (private cost). Private cost of education can be classified into two, viz., academic costs and maintenance costs. Academic costs refer to expenses on fees and non-fee academic expenses. The fee component of academic expenses includes tuition fees, examination fees and other miscellaneous fees. The non-fee component of academic expenses consists of expenses on books, stationery, study tour, dress for laboratory, use of internet for academic purposes etc. While the fee component of academic cost is the same for all the students undergoing a particular course, the non-fee component varies from student to student. Maintenance costs include cost of food, dress, transport, hostel charges and other individual expenses. In this section, both the academic and non-academic costs (maintenance costs) of students are worked out.

Table 2 presents the academic expenditure of the selected courses. The table reveals that non-fee academic expenditure is double the fee component.

Table 2: Average Annual Academic Expenditure per Student (in Rs⁷.)

Component	MBBS	BDS	BSc. Nursing
Fees	2875 (33.3)	2590 (31.9)	1948 (34.7)
Non-Fee Academic Expenses	5751 (66.7)	5520 (68.1)	3667 (65.3)
Total	8626 (100.0)	8110 (100.0)	5615 (100.0)

Note: Figures in parentheses indicate the share of each component in total academic expenditure

As the quantum and composition of maintenance expenses of day students and resident students can be different, they have been worked out separately for resident students and day students. About three fourths of the students (71.8 per cent in MBBS, 78.9 per cent in BDS and 75.4 per cent in BSc. Nursing) stay in hostel/lodge while undergoing their studies. These students are likely to spend more on their education compared to day students. The total average private cost of medical courses for resident students and day students are presented in Table 3.

Table 3: Average Annual Private Cost (in Rs.)

Item	MBBS		BDS		BSc.Nursing	
	Day Students	Resident Students	Day Students	Resident Students	Day Students	Resident Students
Fees	2875 (13.5)	2875 (9.2)	2590 (13.2)	2590 (8.5)	1948 (13.5)	1948 (10.1)
Non-Fee Academic expenses	5751 (26.9)	5751 (18.4)	5520 (28.0)	5520 (18.2)	3667 (25.4)	3667 (19.1)
Academic Expenses – Total	8626 (40.4)	8626 (27.6)	8110 (41.2)	8110 (26.8)	5615 (38.9)	5615 (29.2)
Maintenance Expenses	12735 (59.6)	22672 (72.4)	11580 (58.8)	22208 (73.3)	8821 (61.1)	13611 (70.8)
Total Private Cost	21361 (100.0)	31298 (100.0)	19690 (100.0)	30318 (100.0)	14436 (100.0)	19226 (100.0)

Note: Figures in parentheses indicate the share of each component to total private cost

The average annual private cost is the highest for MBBS course at Rs. 21,361 for day students and Rs. 31,298 for students residing with parents or relatives. The corresponding figures for BDS course is Rs. 19690 and Rs. 30318. In the case of BSc. Nursing, the day students spend, on an average Rs. 14436. The resident students of this course spend Rs. 19226. The table shows that fees form a minor component of the private educational expenses of medical courses. Nearly 90 percent of the cost is on non-fee expenses. The share of academic expenses itself as such range only between 17 to 29 per cent in the case of resident students. It's the maintenance expenses which form the major component of costs.

Economic Background of the Students

The cost of education, both academic and maintenance, puts a barrier to entry in the case of many students. To assess how inhibiting are these barriers, we examine in this section, the economic background of the students of medical courses. The average annual family income (median) of the students in MBBS was the highest at Rs. 1,92,000 per annum followed by BDS at Rs. 1,80,000. The average family income of the BSc Nursing students was Rs.1,20,000.

Table 4: Private Costs as a Percentage of Average Annual Family Income of Respondent Students and the Average Per capita Income of the State

Course	Private cost as a percentage of average Family Income of Respondent Students		Private cost as a percentage of average Per capita Income in Kerala	
	Day Students	Resident Students	Day Students	Resident Students
MBBS	11.1	16.2	97.8	143.3
BDS	10.9	16.8	90.1	138.8
BSc. Nursing	12.0	16.0	66.1	88.0

Note: Per capita state domestic product of Kerala in 2000-01 is Rs. 21847.

Table 4 shows that the total private expenditure is in the range of 16-17 per cent of the average annual family income for resident students and 11-12 per cent for day students. We have also tried to relate the private cost of education with the average per capita income of Kerala. The ratio of total expenses of resident students to average per capita income of Kerala ranged between 88 per cent in BSc. Nursing and 143 per cent for MBBS. For day students, the ratio ranged between 66 and 98 per cent.

The National Council of Applied Economic Research (NCAER) had given the distribution of households in Kerala according to five income groups in 1994. Taking into account the growth in average per capita income between 1994 and 2001 in Kerala, we have worked out the present income groups to correspond to the 1994 income groups on the assumption that the shares of income groups have not changed. The students in our sample are classified according to these reworked income slabs (see Table 5).

Table 5: Distribution of Students according to the Reworked Annual Family Income Groups (%)

Income Class	MBBS	BDS	BSc. Nursing	Percentage of population in this group
LIG Up to Rs. 36000	1.8	2.6	4.6	51.0
LMIG Rs 36001 – 72000	4.3	7.9	20.0	28.2
MIG Rs. 72001-105200	7.4	13.2	10.8	12.2
UMIG Rs. 105201 – 147400	22.7	21.1	29.2	6.0
HIG Above Rs. 147401	63.8	55.3	35.4	2.6

Note : LIG – Low Income Group; LMIG – Lower Middle Income Group; MIG – Middle Income Group; UMIG – Upper Middle Income Group ; HIG – High Income Group. The classification is according to the NCAER classification. The income classes have been reclassified according to the increase in SDP.

Table 5 shows that vast majority of students belong to upper middle income and high income group of households as per the above NCAER classification. Yet only nine per cent of the households in Kerala belong to these two groups. These nine per cent of the

households captured 87 per cent of the seats in MBBS, 76 per cent in BDS and 65 per cent in BSc. Nursing. The table suggests the possibility that there are definite handicaps faced by children of 91 per cent of the households in Kerala to enter medical courses. This is despite the universal schooling in the state. The reasons can be both financial and non financial.

The analysis based on average income, however, camouflages the inability of the households in the lower income group, lower middle income group and middle income groups. Therefore, we have analysed the proportion of private cost as percentage of the average income (median) for different income groups. The results are presented in Table 6.

Table 6: Average Private Cost as Percentage of Average Annual Family Income of the Sample (median) of each Income Group

Income Group	MBBS		BDS		BSc. Nursing	
	Day Students	Resident Students	Day Students	Resident Students	Day Students	Resident Students
LIG	79.2	116.0	73.0	112.3	53.5	71.2
LMIG	35.6	52.2	32.8	50.5	24.1	32.0
MIG	22.7	33.2	20.9	32.2	15.3	20.4
HIG	17.8	26.1	16.4	25.3	12.0	16.0
VHIG	8.5	12.3	7.8	12.0	5.7	7.6

Note: Median Family Income is Rs. 26988 for LIG, Rs. 60000 for LMIG, Rs. 94,200 for MIG, Rs. 1,20,000 for UMIG and Rs. 2,52,000 for HIG.

The yearly educational expenses – academic and maintenance – incurred by the families of students of medical courses were more than the average income of the low income group except for BSc. Nursing. It is undoubtedly clear that these costs are prohibitively high for the low income group. In the case of ‘lower middle income group’ families, the average private cost is about 50 per cent of family income for all courses except BSc Nursing. About one third of the income of the “middle income families’ have to be spent on educating one child in medicine or allied courses. These figures indicate that giving education to even one child in medical courses place an undue burden on the lower income, lower middle income and middle income families. Normally, one more child will be studying simultaneously either in an Arts and Science College or a Professional

College. It becomes prohibitively expensive for the families of these three lower income groups to educate one more child in professional courses.

One of the main reasons for the very low proportion of students from the three lower income category families may be their inability to finance the medical education even at the existing partially subsidised fees. The private expenses of BSc Nursing students was relatively low and this must be one of the reasons for a relatively larger representation of the three lower income categories in this course⁸. Without substantial financial assistance, low-income students simply cannot afford medical education in Kerala. But the state makes only a token effort to help the poor families. Under the KPCR scheme⁹, all students whose annual family income is below Rs. 42, 000 is exempted from paying fees. If the family income is below Rs. 36,000 they are also entitled to get a pocket money and lump sum grant amounting to Rs. 1,200 per year. As may be seen from our discussion on the quantum of maintenance expenditure, these amounts are grossly inadequate to remove the entry barriers of poor students arising out of the high educational costs. The amount of lump sum grant offered to students from the poor families has not undergone any revision during the last several years. It was seen earlier that the students of low income, lower middle income and middle income group families are placed under excessive burden in meeting the private cost of medical education. But, the present income limit fixed for fee concession covers only the lower income group. The inadequate number of scholarships and insufficient grant provided has contributed to the perpetuation of the inequities in opportunities for medical education. The state's role in making free access to professional education is only token. Except for SC/ST¹⁰ students, the lump sum grants do not cover even a fraction of the maintenance expenses.

It was found from our survey that only five per cent have availed loans. This is in spite of the fact that banks have facilities for providing educational loans. Unlike in other countries, educational loans are not subsidised in India and the interest payments do not wait even for the completion of the course. The low demand for educational loans may possibly be due to the high interest rates, security requirements and the low moratorium period.

Entrance Coaching – Another Barrier to Entry

The admission to the medical courses in Kerala is based solely on their rank in the entrance examination conducted by the Commissioner of Entrance Examinations, Government of Kerala. The marks obtained by the students in their qualifying examination have no bearing on the admissions. The way of admissions to medical institutions is presently made, private coaching for entrance examination has become an integral part of the process. It was found that 85 per cent of the MBBS and 84 per cent of BDS students have taken coaching before joining these courses. Two thirds (67.7 per cent) of the BSc Nursing students also have undergone entrance coaching. It was also found that those who have undergone coaching in the cities have undue advantage in getting admissions to these courses. It came out from the study that 84 per cent of those who have undergone coaching and got admission to MBBS course had their coaching in the cities. The corresponding figures for BDS and BSc. Nursing were 75 per cent and 59 per cent. The pattern of the location of good coaching centres definitely puts a barrier to the rural students in getting admission to the medical courses. This also necessitates additional costs for rural students.

Given the initial disadvantages of the lower income groups from the rural areas, this coaching might be more important for them as compared to the higher income groups from the urban areas who have access to better school education. Other pre-admission costs include the cost of application form (amounting to Rs. 500), expenses related to writing the entrance examination and attending interview before admission and postal charges.

Non-financial Barriers to Entry

The education system is expected to provide equal access for students from lower social and economic background. This could become a great social and economic equaliser in the society. But our analysis has shown that the gap between the rich and poor in participating in medical education is very high. Vast majority of the students are drawn from the relatively affluent sections of the society. In this section, we examine the non-

financial barriers to entry into medical courses. The factors considered include occupational and educational background of parents, nature of schooling of the students and their place of origin.

Kerala is much acclaimed for its universal enrollment at the school level. The state has been able to bring the rural-urban difference at the school level to the minimum. But the present study shows that medical education has a predominant urban bias. The study showed that urban residents have a better chance of getting admission to these courses. Table 7 presents the details regarding the place of origin of the students.

Table 7: Details on the Place of Residence (%)

Place of Residence	MBBS	BDS	BSc Nursing
Corporations	31.8	28.9	32.3
District Headquarter towns	4.2	7.9	9.3
Other Municipalities	16.1	13.2	16.9
Urban-Total	52.1	50.0	58.5
Panchayats	47.9	50.0	41.5

Table 7 shows that only 47 percent of those getting admission to medical courses are residing in panchayat areas. This share is much smaller than the share of panchayat areas in the state's population (83 percent). Further disaggregating the urban area brings into light the fact that about one third of the seats in medical courses go to city corporation areas. This shows that students from urban areas, particularly corporation areas, have definite advantage over others for access to medical courses. This could be because of access to better schooling, better entrance coaching facilities, libraries and bookstores. It may also be because of the better educational and occupational background of the parents in urban areas. It is also possible that the present system of entrance tests have further aggravated the urban bias.

Table 8 presents the details of the occupational background of the parents of the students. The table brings out the predominance of the children of the salaried class.

About three fourth of the fathers of students in these courses are salaried employees. Among the salaried class, children of government employees dominate these courses. The share of children of agriculturists is very low in the MBBS and BDS courses which are courses of high demand. In MBBS course, less than two percent of the respondent students' fathers are agriculturists. Table 8 also shows that more than 40 percent of the mothers are employed, of which large majority are employed in the government sector. The table suggests that admission to medical courses is largely restricted to the wards of the salaried people and that other segments of the society face some barriers to enter these much sought after courses. It implies that occupational mobility through professional education is limited.

Table 8: Occupation of Parents (%)

Occupation	MBBS		BDS		BSc. Nursing	
	Father	Mother	Father	Mother	Father	Mother
Employed/ Retd-Govt Service	53.4	33.7	55.3	31.6	50.8	29.2
Employed/Retd-Public Sector Employee *	6.1	1.8	5.3	5.3	7.7	4.6
Sub. Total	59.5	35.5	60.6	36.9	58.5	33.8
Employed-Private Sector	14.1	9.2	5.3	5.3	13.8	1.5
Total Salaried Class	73.6	44.7	65.9	42.2	72.3	35.3
Self Employed	17.8	3.7	26.3	2.6	9.2	0.0
Agriculture	1.8	0.7	5.3	0.0	10.8	0.0
Expired	4.9	0.0	2.5	2.6	4.6	0.0
Housewife	--	50.9	--	52.6	--	64.7
Others	1.9	0.0	0.0	0.0	3.1	0.0
Total	100.0	100.0	100.0	100.0	100.0	100.0

Now, we examine the parental education of the students. It is widely accepted that parental education has a direct or indirect effect on the education of children. The direct effect of parents' education may stem from its impact on the economic resources of the family. It may also be because parents with a higher level of education provide a family

atmosphere favouring scholastic advancement. In any case, a society which plans to improve the social mobility through education must make it possible for students with less educated family environment to access higher education. Against this backdrop, Table 9 provides a dismal picture.

Table 9: Education of Parents (%)

Educational Qualification	MBBS		BDS		BSc Nursing	
	Father	Mother	Father	Mother	Father	Mother
Below SSLC	5.5	6.1	2.6	2.6	6.1	9.2
SSLC	8.6	16.6	5.8	23.7	23.1	30.8
Above SSLC but below Graduation	13.5	15.3	15.8	13.2	27.7	26.2
Graduate & Above	72.4	62.0	65.8	60.5	43.1	33.8

Table 9 brings out the fact that medical education is practically closed for students whose parental educational attainment is low. Nearly three fourth of the fathers of MBBS students are graduates and above. In the case of BDS, about two third of the fathers are graduates or above. It seems that entry barriers on account of parental education is relatively low in BSc Nursing course. Even though mother's education is not up to the level that of the fathers, more than fifty percent of the mothers have education up to or above graduation except in BSc Nursing course where only one third of the mothers of students have completed graduation. This means that students whose parents have had access to higher education largely corner medical education in Kerala.

The type of school in which the students attended the matriculation classes is another important factor determining entry into medical courses. The details are presented in Table 10.

Table 10: Type of Management of the School in which the Respondent Studied in Class

X (%)

Type of Management	MBBS	BDS	BSc Nursing
Government owned	18.4	26.3	29.2
Government Aided	39.3	42.1	52.3
Private Schools			
Private Unaided	42.3	31.6	18.5

Table 10 shows that more than three fourth of the students studied in private aided and unaided schools. The share of unaided schools is very much disproportionate to their share in class X enrollment. The table shows that 42 percent of the MBBS students studied their class X in unaided schools which accounted for just 5.1 percent of the class X enrollment in the state (including CBSE, ICSE). One third of the BDS students and one fifth of BSc Nursing students are from unaided schools. The government schools which account for 38.5 percent of high school enrollment have only a representation of just 18 percent in MBBS. However, a relatively larger number of BDS and BSc Nursing students are from government schools. The foregoing discussion clearly shows that the students from government and aided schools have a disadvantage over those studying in private unaided schools in securing admissions to medical courses.

Implications

The present study clearly shows that admission to medical courses in Kerala is largely restricted to the elite group in terms of financial as well as social background. Students from more than ninety percent of the households face definite handicaps due to their lack of capacity to meet the high private cost of attending these courses. Students from government schools and rural areas find it difficult to secure admission to these much sought after courses, especially MBBS and BDS. First generation students whose parental education is low have only marginal representation in these courses. Children of agriculturists and self employed also find it difficult to get admission. Thus, the medical education system leaves very little scope for social and occupational mobility.

Our findings have serious implications on academic excellence also. The institutions offering medical courses have narrowed their choice to a small group and do not make an effort to search for talents from wider circles. This reduces the range of talents in these institutions. This has important implications to the social and economic development of the state and the country. The quality of the medical professionals in the State has a direct bearing on the health status of the State. Kerala has been depending heavily on the income from migrants including medical professionals to sustain its economy. The failure to attract latent talents from 90 per cent of the households will reduce Kerala's competitiveness in the international job market for medical professionals. .

The lack of diversity in the social, economic and educational background of the students also has some serious academic and professional implications. The medical courses are able to access the latent talents from only 10 percent of the households in Kerala. As a result, almost all students come from more or less the same socio-economic background. It becomes difficult for these students to communicate and empathise with patients who come from diverse and lower backgrounds. The urban elite students may also be unwilling to work in rural areas.

It is time to think about changing the ways in which the admissions to these courses are made. The present method of basing admissions solely on the ranks in the entrance tests adds to the difficulties of the disadvantaged groups as the success in these tests largely depends on the special coaching provided in costly coaching institutions located in cities. At present, the performance of students in the Plus 2 level examination has no bearing on the admissions to these courses. This results in a situation whereby the students neglect their regular studies at the Plus 2 level and concentrate on preparing for entrance examination. Consequently, even those who finally settle for the graduate level courses in the Arts & Science colleges will be under prepared leading to lowering the quality of science education in the State.

Our study was restricted to those who have got admission to these courses of high demand. But there are large number of students who might not even have applied for these courses because of the prohibitively high private educational cost of medical education and their inability to meet these costs. The present system subsidises only the fee component of the private costs. This has not helped in promoting equity as fees constitute only a small component of the educational expenses of students. Yet, all discussions in the State on subsidising education are largely centred around the fee component. If the State wants to bring down entry barriers, it must think of providing larger number of scholarships and the quantum of scholarship should be enhanced to meet the non-fee educational expenses which are quite substantial.

Another major finding of our study is that there is a gradation of courses with Nursing at the lower end and MBBS and BDS at the higher end. MBBS and BDS are courses of higher demand because of better job prospects, better future earnings and above all better social status. Compared to BSc Nursing students, MBBS and BDS students are found to have higher family 'income'. Students from private unaided Schools are found to have larger representation in these courses. Educational qualifications and occupational status of parents are also higher. These courses have a larger urban bias. While majority in MBBS and BDS courses is male students, most of the BSc Nursing students are female. All these indicate that medical education perpetuates the present social and income divide and does not help social and occupational mobility.

Notes

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¹ Arts & Science Colleges are non-professional colleges where under graduate and post graduate courses are offered in social sciences, humanities, commerce (Arts) and natural and physical sciences (Science).

² Kerala is faced with severe unemployment problem particularly that of the educated unemployed.. The unemployment rate in Kerala (20.97 per cent) was almost three times the national figures (7.32 per cent).

³ CSES, *Entry Barriers to professional Education in Kerala*, Mimeo, 1997.

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- ⁴ MBBS -Bachelor of Medicine and Bachelor of Surgery; BDS- Bachelor of Dental Surgery; BSc Nursing- Bachelor degree in Nursing.
- ⁵ In the regular stream, the course fee is partially subsidised by the government. In the case of medical education, these courses are mostly in the government owned institutions. From the mid 90s, a new stream of unsubsidised courses termed as 'self financing courses' were started in Kerala. The students in the self financing courses are required to finance both the capital and recurring expenditure. In the present study, these self financing courses were not covered.
- ⁶ The sample size was estimated on the basis of the results obtained from a pilot study. Private cost of medical education was the factor considered for determining the sample size.
- ⁷ The dollar exchange rate of Rupees at the time of the study was approximately \$1=Rs. 42.
- ⁸ Another reason for the relatively high participation of children from lower income families could be the lower social status ascribed to the BSc Nursing course compared to the other two courses. The low preference for Nursing course among male students also may have contributed to the situation.
- ⁹ KPCR — Kumara Pillai Commission Report. Based on this report, fee waiver is provided to non SC/ST students belonging to the low income groups irrespective of religion and caste. The beneficiaries under this scheme are also eligible for nominal amounts to meet their non-fee expenses.
- ¹⁰ Scheduled Casts (SC) and Scheduled Tribes (ST) are castes belonging to the lowest social status. Being marginalised communities, they are given fee concession and stipend for meeting their private costs as part of State's efforts towards affirmative action.

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