Private Cost of Medical and Para-Medical Education in Kerala

N. Ajith Kumar

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Contents

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1. Introduction

The Kerala government spends more than one-fourth of its budget on education; yet, the educational sector of Kerala, particularly the higher educational sector, is facing a severe financial crisis. The crisis is the result of reduced allocation for education by the state and the central governments and the reduction in the cost-recovery ratio. While the State Government's fiscal constraints to meet increasing educational costs have formed the subject of several studies, few enquiries exist on the capacity of students and parents to meet educational costs.

In current discussions on costs of higher education, subsidy, etc., it is the fee component that receives most attention. In the present system, educational subsidy is confined largely to the fee component. Reduction in educational cost by subsidising fees is considered to make education virtually 'free'. The fact that students and parents incur costs on several non-fee educational items and on maintenance during education is often overlooked.

Educational expenses include expenses incurred by the government or public institutions (public cost) and expenses incurred by the student or his family (private cost). Private cost of education may be classified into academic cost and maintenance cost. Academic cost refers to expenses on items such as fees (tuition fees, examination fees, library fees, laboratory fees, etc), payments for private coaching, books, stationery, journals, instruments, etc. Maintenance costs include expenses incurred on dress, transport, board and lodging, and other sundry expenses. In the present study, on private costs of medical and para-medical education, both academic and non-academic cost (maintenance costs) is considered. The study also seeks to find out whether private costs incurred by the students set barriers to their access to higher education.

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N. Ajith Kumar is a researcher with Centre for Socio-economic and Environmental Studies, Kochi.

Review of literature

Only very few studies on private costs of higher education exist in Kerala. Abdul Salim estimated that household expenditure for a MA/MCom student, net of direct subsidies from the government, amounted to Rs 4877 per year as against the institutional costs of Rs 5718 during the early nineties (Salim, 1997). He composed private costs as between technical and general education, both at the degree and the postgraduate levels. More than one-half the private cost of students was found to be incidental expenses. The total private cost was estimated at Rs 5640 for Technical Education and Rs 4645 for General Education for the Degree and the PG levels, combined. Interestingly, in both types of education, households spent larger amounts per student at the degree level. Salim also found that higher income groups and parents in high level occupations spent, in general, larger amounts on private tuition and incidental items. Private cost formed 53 percent of at the degree level and 37 percent at the postgraduate level. The share of private cost in the total social cost was smaller in technical education than in general higher education.

Nair (1990) estimated the average per year household expenditure on higher education in Kerala (for PG courses during 1985-‘86) at Rs 5566.45 of which tuition fees accounted for only Rs 129.41 and the direct subsidy received, Rs 689.41.

A study made in the context of MBBS students (Gasper C, 1999) showed that the pre-admission expenditure worked out to Rs 8,817 and the average post-admission annual private expenditure to Rs 13,703 including hostel expenses. For the entire course, the private cost was Rs 68,515 and including the institutional cost it became Rs. 558,764 making the share of institutional cost a dominant 87.7 percent and private cost 12.3 percent. The rate of subsidisation in the year 1985-‘86 came to 99.53 percent of the unit institutional cost and this subsidy rate increased to 99.79 percent in the year 1992-‘93. The study also showed that a major section of the students come from the upper income strata and that there was scope for cost-sharing in medical education. It was also found that medical students are willing to pay 23 percent of the unit cost of medical education and that provision of credit facilities for medical students would boost up their willingness to accept higher rate of cost recovery.

A study on students enrolled in the professional courses of BTech, MBA, and MCA in Kerala found that academic expenses formed only 15 percent of the total educational expenses incurred by a BTech student in the regular stream (not the self-financing stream) staying in hostel or lodge. For MBA and MCA, the corresponding proportions were 30.1 percent and 34.7 percent respectively. Since colleges which are located mostly in urban and metropolitan areas, students from rural and semi-urban areas have necessarily to live in hostels and incur heavy maintenance costs. Against mounting private costs of higher education, the State makes only a token effort to help students, particularly poor students. The State relied mostly on giving hidden subsidies to students by charging them tuition fees at low rates, which do not discriminate between the poor and the rich students. Subsidies do not cover the non-fee component of the private educational costs. By not providing subsidies for non-fee costs, the system positively discriminates against the poor and act as a barrier to their entry into higher education.

There were definite handicaps; caused by low income, for about 95 percent of the households for entry into these courses. The expenses on fees for the regular courses ranged between Rs 1715 for BTech to Rs 4043 for MCA while those of the self-financing courses ranged between Rs 7400 for BTech to Rs 22000 for MBA. Thus, there are wide disparities in fees between regular and self-financing courses. The private cost formed 24 percent of the average family income of the BTech regular and MBA regular resident students while the corresponding proportions were as high as 50 percent in the case of MCA students of regular courses and 40 percent of students in MBA self-financing courses. The students of professional courses bear a substantially higher burden than students of arts and science courses. Fees and non-fee items of academic expenditure and maintenance costs for staying in hostels and lodges are much higher for the former. A considerable proportion of the population faced difficulties in obtaining admission to their children to professional courses due to low socio-economic and educational status of their parents and inconvenient location of residence (George K. K and N. Ajith Kumar, 1997).

It is in this context that the present study endeavours to calculate the private educational cost of medical and para-medical education. The results of the study may help the formulation of policies in respect of the extent and type of subsidies for higher education in the State.

Objectives

The following are the specific objectives of the study:

1. To calculate the private costs (costs incurred by students and their families) of medical and para-medical education incurred;
2. To examine the ability of students and their families to meet the private costs;
3. To examine whether there is any difference in the maintenance costs of education as between male and female students;
4. To examine whether there is any difference in the private costs as between rural and urban students; and
5. To examine non-financial barriers to entry into these courses, if any.

Methodology

The study is based on primary data collected from final-year students undergoing medical and para-medical courses in Kerala. The courses included in the study are MBBS, BDS, BSc. Nursing, and B.Pharm. Since private costs of different types of courses are likely to vary among themselves, the sample size has been worked out for each course separately. In view of the fact that variations in the number of students in the different courses are considerable - from 700 for MBBS to just 28 for B.Pharm - the sample size chosen is different for different populations. The study excluded students of the self-financing stream in these courses. Table 1.1 presents the intake of students in 1996 in the selected medical colleges. The students were selected from all the medical colleges in Kerala which offer courses included in the study in the regular stream viz., Thiruvananthapuram, Alappuzha, Kottayam, Thrissur, and Kozhikode.

Table 1.1 Intake of Students in Different Medical Courses in Kerala: 1996 admission (Regular Stream only) (No.)

Medical College	MBBS	BDS	BSc. Nursing	B.Pharm
Thiruvananthapuram	200	40	50	28
Alappuzha	100	—	—	—
Kottayam	100	—	50	—
Thrissur	100	—	—	—
Kozhikode	200	40	50	—
Total	700	80	150	28

Prior to the survey, the lists of final-year students (of the 1996 admission) of the courses selected for study were prepared from the enrolment registers of all the colleges where such courses are conducted. The number of final year students in each course and the colleges selected for the study are given in Table 1.2. It is seen that a large number of students have shifted to other courses or dropped out of the system by the fourth year of the course. The shifting or dropout was the highest for BSc Nursing and B.Pharm.

Table 1.2 No. of Final Year Students of Different Medical and Para-Medical Courses in Kerala (1996 Admission) (No.)

Medical College	MBBS	BDS	BSc. Nursing	B.Pharm
Thiruvananthapuram	174	41	33	18
Alappuzha	97	—	—	—
Kottayam	83	—	32	—
Thrissur	101	—	—	—
Kozhikode	195	32	24	—
Total	650	73	89	18

Sample size

Since the present study tries to estimate the private cost for each selected course, separate calculation is made for the sample size for each course.

The estimation of sample size was based on a pilot study conducted among students. The formula used for the estimation of the sample size was

$$n = \frac{N\sigma^2}{(N-1)D+\sigma^2}$$

Where n = estimated sample size

N = Population Size

σ^2 = Population variance

$D = B^{2\eth}/4$

B = error of estimation

The significance level was fixed at 5%.

Since the population variance is unknown, the sample size was estimated by replacing σ^2 by s^2 obtained from the pilot survey.

The sample size estimated on the basis of the pilot survey for different courses selected for the study and the strength of students in each college are presented in Table 1.3

Table 1.3 Sample Size of the Study (No.)

Course/College	**Sample Size**		
	Male	**Female**	**Total**
MBBS			
Thiruvananthapuram	22	22	44
Alappuzha	14	10	24
Kottayam	10	11	21
Thrissur	14	11	25
Kozhikode	31	18	49
Sub-Total for MBBS	**91**	**72**	**163**
BDS			
Thiruvananthapuram	7	14	21
Kozhikode	7	10	17
Sub-Total for BDS	**14**	**24**	**38**
BSc. Nursing			
Thiruvananthapuram	—	24	24
Kottayam	—	23	25
Kozhikode	2	16	18
Sub-Total for BSc. Nursing	**2**	**63**	**65**
B.Pharm			
Thiruvananthapuram	8	9	17
Sub-Total for B.Pharm	**8**	**9**	**17**

The samples were distributed among different institutions proportionate to the number of final-year students. Once the number of students to be surveyed was fixed, the list of students was classified into two categories viz., male and female students. Proportionate representation was given to both the sexes. The respondents were selected on random basis. The sex-ratio classification of the sample respondents is presented in Table 1.4.

The selected students were interviewed using pre-tested schedules. Table 1.5 and Table 1.6 present the details on the classification of respondents according to their place of residence and community.

Table 1.4 Place of Residence of Respondents (in percentage)

Course	Rural	Urban
MBBS	47.9	52.1
BDS	50.0	50.0
BSc. Nursing	41.5	58.5
B.Pharm	47.1	52.9

Table 1.5 Classification of Respondents according to Community (in percentage)

Course	SC/ST	OBC/OEC	Forward
MBBS	9.8	42.3	47.9
BDS	7.9	31.6	60.5
BSc. Nursing	13.8	36.9	49.3
B.Pharm	11.7	35.4	52.9

Limitations of the study

The source of income data used in the study is statements made by the respondent students. Though there exists no special reason for the students to deliberately under-report income figures, such a tendency cannot be entirely ruled out. The exclusion of self-financing institutions and courses is also an obvious limitation. While it is ideal to include opportunity cost also in the discussion, we have not done so, mainly because the opportunities for employment for Plus 2 graduates in Kerala are extremely limited given the grave unemployment situation in the State. Therefore, "foregone earnings" that would have been earned had the pupil not attended the college was assumed to be zero.

Scheme of the report

This report is presented in the following order: Section 2 presents estimates of the private cost of medical and para-medical courses and a discussion on the affordability of these costs among different income groups. The sources of financing private costs are discussed in Section 3. Section 4 attempts to examine other barriers to entry into these much sought after courses. The major findings and recommendations of the study are presented in Section 5.

2. Private Cost of Medical and Paramedical Education

In this section, we analyse the private costs of medical and paramedical education. As noted in Section 1, private costs may be broadly divided into academic and maintenance costs. Academic costs consist of fee and non-fee components and maintenance costs are the costs incurred by students on maintenance (travel, food, dress, rent, etc) while undergoing the course. While the fee component of academic cost is the same for all students undergoing a particular course except for that availing fee concession, the non-fee component may vary from student to student.

Academic cost

The fee component of academic expenses includes tuition fee, examination fee, university fee, and miscellaneous fee. While MBBS and BDS courses are having the same tuition fees of Rs 1750 per year, BSc Nursing and B.Pharm students are required to pay a smaller amount of tuition fees. The details regarding the fees paid by students in the selected courses are presented in Table 2.1.

Table 2.1 Annual Fee Structure* (Rs)

Type of Fees	MBBS	BDS	BSc.Nursing	B.Pharm
Tuition Fees per year	1750	1750	1180	1180
Miscellaneous	616	616	279	225
University Fees	99	99	99	99
Examination Fees**	410	125	390	250
Total	2875	2590	1948	1754

Note: * Apart from the fees mentioned in the Table, a caution deposit of Rs 400 has to be remitted at the time of admission. Van Fees of Rs 275 is charged from the students in Thrissur and Alappuzha medical colleges for transportation between medical college and the medical college hospital. We have not included these components in further analysis.

** Includes the cost of application form, mark list and examination fees

The non-fee component of academic expenses consists of expenses on books, stationery, study tour, lab dress, and use of internet for academic purposes, etc. Table 2.2 gives the non-fee components of academic expenses.

Table 2.2 Average Annual Non-fee Academic Expenditure per Student (Rs)

Items	MBBS	BDS	BSc. Nursing	B.Pharm
Books/Records	3452.97(60.04)	3609.85(65.39)	1716.06(46.79)	1409.38(47.19)
Others	2297.87(39.96)	1910.45(34.61)	1951.19(53.21)	1577.18(52.81)
Total	5750.84 (100.0)	5520.30(100.0)	3667.25(100.0)	2986.56(100.0)

Note: 1. Others include expenses incurred on dress (lab), study tour, stationery etc.

2. Figures in parenthesis indicate the share of each component in total non-fee academic expenditure

MBBS and BDS students incur a larger amount on non-fee academic expenses. They incur more than Rs. 5500 towards these expenses. The non-fee academic expenses incurred by B.Pharm students are about one-half the expenses incurred by MBBS and BDS students. The above Table also reveals that more than 60 percent of the non-fee academic expenses incurred by MBBS and BDS students are on books and records. The share of books and records is less than 50 percent in the case of BSc. Nursing and B.Pharm students.

Table 2.3 presents the total academic expenditure of the selected courses. Only about one-third of the academic expenditure is on fees. While the average academic expense is more than Rs 8000 for MBBS and BDS courses, it is only about Rs 5600 for BSc Nursing and Rs 4700 for B.Pharm courses.

Table 2.3 Average Annual Academic Expenditure per student (Rs)

	MBBS	**BDS**	**BSc. Nursing**	**B.Pharm**
Fees	2875.00(33.33)	2590.00(31.93)	1948.00(34.69)	1754.00(37.00)
Non-Fee Academic Expenses	5750.84 (66.67)	5520.30(68.07)	3667.25(65.31)	2986.56(63.00)
Total	8625.84(100.0)	8110.30(100.0)	5615.25(100.0)	4740.56(100.0)

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

Maintenance expenses

The maintenance expenses incurred by students include expenses on food, lodging, dress, footwear, and other individual expenses. Students who stay in hostel/lodge have to incur additional expenses on board and lodging. It is also observed, as may be expected, that the travel expenses of day scholars is significantly higher than those of resident students. Therefore, maintenance costs have been worked out separately for resident students and day scholars. The places of stay of the students selected for the study are shown in Table 2.4.

Table 2.4 Place of Stay of Students (in percentage)

Place of Stay	**MBBS**	**BDS**	**BSc.Nursing**	**B.Pharm**	**Total**
Hostel	66.3	73.7	75.4	52.9	68.5
Lodge	5.5	5.2	0.0	0.0	3.9
With parents/ relatives	28.2	21.1	24.6	47.1	27.6
Total	100.0	100.0	100.0	100.0	100.0

Around three-fourths of the BDS and nursing students stay in hostels and lodges. The exception is the B.Pharm students about half of whom stay with parents. The non-academic (maintenance) expenses of day scholars and those staying in hostels or lodges (resident students) are presented in Table 2.5 and Table 2.6 respectively.

The average annual maintenance expense incurred by day scholars of MBBS course is Rs 12735. It was lower for B.Pharm and BDS (Rs 12416 and Rs 11580 respectively). It was the

Table 2.5 Average Annual Maintenance Expenses per Student: For Day-scholars (Rs)

Items	MBBS	BDS	BSc.Nursing	B.Pharm
Food	3929.50(30.86)	1833.33(15.83)	1382.86(15.68)	2172.50(17.50)
Dress & Footwear	2671.02(20.97)	2391.67(20.65)	2503.57(28.38)	1912.50(15.40)
Travel	4567.50(35.86)	4821.67(41.64)	3280.26(37.19)	6201.25(49.94)
Others	1567.27(12.31)	2533.33(21.88)	1654.29(18.75)	2130.63(17.16)
Total	12735.29 (100.00)	11580.00 (100.00)	8820.98 (100.00)	12416.88 (100.00)

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

lowest for nursing students. The non-academic expenses for BSc. Nursing came to only two-thirds of the expenses incurred by MBBS students. Travelling expenses constituted the most important component of maintenance expenses of day-scholars of all the courses. These expenses were higher in the case of B.Pharm students as majority of them were found to own two wheelers.

Table 2.6 Average Annual Maintenance Expenses per Student: Resident Students (in Rs)

Items	MBBS	BDS	BSc.Nursing	B.Pharm
Food&Lodging*	14290.60(63.03)	13204.07(59.45)	7616.49(55.96)	13087.25(55.63)
Dress&Footwear	2910.97(12.84)	2701.85(12.17)	2624.59(19.28)	2631.25(11.18)
Travel	3187.65(14.06)	3828.81(17.24)	1708.59(12.55)	5344.63(22.72)
Others	2283.01(10.07)	2473.15(11.14)	1661.29(12.21)	2463.50(10.47)
Total	22672.23 (100.00)	22207.88 (100.00)	13610.96 (100.00)	23526.63 (100.00)

* The average excludes SC/ST students as lodging and food are free for them.
Note: Figures in parenthesis indicate the share of each component to total academic expenditure

The average maintenance expenses per student of MBBS and BDS courses, staying in hostels/ lodges work out to Rs 22672 and Rs 22208 respectively. The corresponding figure for B.Pharm is still higher (Rs 23,527). The high maintenance cost of B.Pharm students is mainly because the majority of them among our respondents own either two-wheeler or four-wheeler, which resulted higher expenses on the travel component. The maintenance expenses of the B.Sc Nursing students are the lowest in the group with an average of Rs 13611. Table 2.6 shows that food and hostel charges constitute a major proportion of the maintenance expenses for resident students. On the average, nearly 60 percent is spent on this item: MBBS and BDS students spend a higher proportion on this component. The non-academic expenses of resident students are 1.5 to 2 times higher than that of day scholars. For day scholars, expenditure on food forms a much lower component, but the amount refers only to the expenses incurred by them outside home. We have not included the amount that is spent on their food in their families. We see that day scholars spending higher amounts on travel than their counterparts living in the hostels. The non-academic expenses of both day scholars and resident students were the lowest for the BSc. Nursing students.

Private cost

Based on the calculations made in the preceding tables, we have calculated the per student average private cost of medical and para-medical courses for resident students and day scholars separately. The results are presented in Table 2.7 and Table 2.8.

Table 2.7 Average Annual Private Cost per Student: Day Scholars (Rs)

Item	MBBS	BDS	B.Sc Nursing	B.Pharm
Academic Expenses				
Fees	2875.00 (13.46)	2590.00 (13.15)	1948.00 (13.49)	1754.00 (10.22)
Non-Fee Academic expenses	5750.84 (26.92)	5520.30 (28.04)	3667.25 (25.40)	2986.56 (17.41)
Sub-Total	**8625.84 (40.38)**	**8110.30 (41.19)**	**5615.25 (38.90)**	**4740.56 (27.63)**
Maintenance Expenses				
Food	3929.50 (18.40)	1833.33 (9.31)	1382.86 (9.58)	2172.50 (12.66)
Travel	4567.50 (21.38)	4821.67 (24.49)	3280.26 (22.72)	6201.25 (36.14)
Dress & Footwear	2671.02 (12.50)	2391.67 (12.15)	2503.57 (17.34)	1912.50 (11.15)
Others	1567.27 (7.34)	2533.33 (12.87)	1654.29 (11.46)	2130.63 (12.42)
Sub-Total	**12735.29 (59.62)**	**11580.00 (58.81)**	**8820.98 (61.10)**	**12416.88 (72.37)**
Total Private Cost	**21360.53 (100.00)**	**19690.30 (100.00)**	**14436.23 (100.00)**	**17157.44 (100.00)**

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

The average annual private cost is the highest for MBBS course at Rs 21360 for day scholars and Rs 31084 for students residing in lodges/hostels. The corresponding figures for BDS course is Rs 19690 and Rs 30318 respectively. In the case of B.Pharm and BSc. Nursing, the corresponding figures for day scholars are Rs 17157 and Rs 14436 respectively and for resident students Rs 28267 and Rs 19226 respectively.

Fees form only a minor component of the private educational expenses of medical and para-medical courses. Nearly 90 percent of the cost is incurred on non-fee expenses. The share of academic expenses ranges only between 17 to 29 percent in the case of resident students. It is the maintenance expenses, which form the major component of their costs.

Table 2.8 Average Private Cost per Student: Resident Students (Rs)

Item	MBBS	BDS	B.Sc Nursing	B.Pharm
Academic Expenses				
Fees	2875.00 (9.25)	2590.00 (8.54)	1948.00 (10.13)	1754.00 (6.21)
Non-Fee Academic expenses	5750.84 (18.50)	5520.30 (18.21)	3667.25 (19.07)	2986.56 (10.57)
Sub-Total	**8625.84 (27.75)**	**8110.30 (26.75)**	**5615.25 (29.21)**	**4740.56 (16.77)**
Maintenance Expenses				
Food & Boarding	14290.60 (45.97)	13204.07 (43.55)	7616.49 (39.62)	13087.25 (46.30)
Travel	3187.65 (10.26)	3828.81 (12.63)	1708.59 (8.89)	5344.63 (18.91)
Dress & Footwear	2910.97 (9.36)	2701.85 (8.91)	2597.70 (13.65)	2271.88 (9.31)
Others	2068.78 (6.66)	2484.09 (8.16)	1659.67 (8.64)	2297.06 (8.72)
Sub-Total	**22458.18 (72.25)**	**22207.88 (73.25)**	**13610.96 (70.79)**	**23526.63 (83.23)**
Total Private Cost	**31083.84**	**30318.18**	**19226.21**	**28267.19**

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

Economic background of students

High costs of education may act as a barrier to entry to the relatively poor students. To assess how formidable these barriers are, we examine in this section, the economic background of the students of medical and para-medical courses. Table 2.9 gives the average (medium) annual family income of the students. The median income of households of MBBS students is Rs 192000 per annum; the corresponding figures for BDS students are Rs 180000. The average family income of the BSc Nursing and B.Pharm students is relatively low, being Rs 120000 and Rs 132000 respectively.

Table 2.9 Average (Median) Annual Family Income of Students (Rs)

Course	Average Annual Family Income (Rs)
MBBS	192000.00
BDS	180000.00
BSc. Nursing	120000.00
B.Pharm	132000.00
All Courses	180000.00

Now, we examine private costs as proportion of the average annual family income. Table 2.10 presents the private expenses as a percentage of average annual family income.

Table 2.10 Private Costs as a Proportion of Average (median) Annual Family Income (percentage)

Item	MBBS	BDS	BSc. Nursing	B.Pharm
Fees	1.50	1.44	1.62	1.33
Non-Fee Academic Expenses	3.00	3.07	3.06	2.26
Academic Expenses-Total	4.49	4.51	4.68	3.59
Maintenance Expenses - Day Scholars	6.63	6.43	7.35	9.41
Maintenance Expenses - Resident Students	11.70	12.34	11.34	17.82
Total Private cost - Day Scholars	11.13	10.94	12.03	13.00
Total Private cost - Resident Students	16.19	16.84	16.02	21.41

Total private costs of professional education lie in the range of 16-17 percent of the average annual family income for resident students and 11-13 percent for day scholars for all medical courses except B.Pharm resident students. For B.Pharm, the proportion is higher at 21 percent for resident students. This is due mainly to the relatively high maintenance expenditure of B.Pharm students. The fee component is extremely low and lies in the range of 1-2 per cent for all the courses. But the analysis based on average income camouflages the inability of the poor households to meet the cost of medical and para-medical education. Hence we have tried to analyse the private costs in terms of different income groups.

The National Council of Applied Economic Research (NCAER) had given the distribution of households in Kerala according to five income groups for the year 1994 (Table 2.11). 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 (Table 2.12).

The vast majority of students are seen to belong to the upper middle income and the high income groups of households as per the reworked NCAER classification. Yet only nine percent of the households in Kerala belong to these two groups. These nine percent of the households have arrogated to themselves 80 percent of the seats in medical and para-medical courses. The low income, lower middle income, and middle income groups which account for 91 percent of the households in Kerala had only about 13 percent of the MBBS students. In BDS and B.Pharm, the share of these two groups was about 24 percent; for B.Sc Nursing, it was still higher at about 35 percent.

Table 2.11 Distribution of households by income groups at 1993-94 prices (in percentage)

Income Class/ (Annual Family Income)	Kerala			India		
	Urban	Rural	Total	Urban	Rural	Total
LIGUp to Rs 20,000	37.29	56.49	50.99	28.13	57.21	48.98
LMIGRs 20,000 to 40,000	31.28	26.99	28.22	34.55	28.97	30.55
MIG Rs 40,001 to 62,000	18.66	9.65	12.23	20.34	8.63	11.95
UMIGRs 62,001 to 86,000	7.60	5.31	5.96	9.63	3.12	4.96
HIG Above Rs. 86,000	5.17	1.56	2.60	7.35	2.07	3.56

Note: LIG – Low Income Group; LMIG – Low Middle Income Group; MIG – Middle Income Group; UMIG – Upper Middle Income Group; HIG – High Income Group
Source: India Consumer Market Demographics, NCAER, New Delhi, 1996.

Table 2.12 Distribution of Annual Family Income of the Students according to the Reworked Income Groups (in percentage)

Income Class	MBBS	BDS	BSc. Nursing	B.Pharm	Total
LIG Up to Rs 36000	1.8	2.6	4.6	5.9	2.8
LMIG Rs 36001-72000	4.3	7.9	20.0	11.8	8.8
MIG Rs 72001-105200	7.4	13.2	10.8	5.9	8.8
UMIG Rs 105201-147400	22.7	21.1	29.2	29.4	24.4
HIG Above Rs 147401	63.8	55.3	35.4	47.1	55.1

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.

Thus it is obvious that the vast majority (65 to 91 percent) of households in Kerala encounter serious barriers to enter medical and para-medical courses. This is despite the fact that universal schooling has been achieved in the State. The reasons for their inability could be financial and non-financial. The inequality access to professional higher education has serious implications not only for social mobility but also for academic excellence.

We have seen earlier that the private cost of medical and para-medical education as proportion of average annual family income is low at about 16 to 21 percent. But the burden of families in the lower income group and lower middle income group is much higher. The proportions of private cost as percentage of the average (median) income for different income groups are shown in Table 2.13.

The yearly educational expenses – academic and maintenance – incurred by the families of students of medical and para-medical courses were higher than the average income of the low income group except in the case of B.Sc. Nursing. It is therefore 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 comes to about 50 percent for all courses except BSc Nursing. For the 'middle income families' the corresponding proportion is nearly one-third.

Table 2.13 Average Private Cost as Proportion of Average (Median) Annual Family Income of Sample Households by Income-Group (percentage)

Items	MBBS	BDS	BSc. Nurs.	B.Pharm
LIG				
Fees	10.65	9.60	7.22	6.50
Academic Cost	31.96	30.05	20.81	17.57
Maintenance Cost-Day Scholars	47.19	42.91	32.68	46.01
Maintenance Cost-Resident Students	83.22	82.29	50.43	87.17
Total Private Cost- Day Scholars	79.15	72.96	53.49	63.57
Total Private Cost- Resident Students	115.18	112.34	71.24	104.74
LMIG				
Fees	4.79	4.32	3.25	2.92
Academic Cost	14.38	13.52	9.36	7.90
Maintenance Cost - Day Scholars	21.23	19.30	14.70	20.69
Maintenance Cost -Resident Students	37.43	37.01	22.68	39.21
Total Private Cost- Day Scholars	35.60	32.82	24.06	28.60
Total Private Cost- Resident Students	51.81	50.53	32.04	47.11
MIG				
Fees	3.05	2.75	2.07	1.86
Academic Cost	9.16	8.61	5.96	5.03
Maintenance Cost-Day Scholars	13.52	12.29	9.36	13.18
Maintenance Cost-Resident Students	23.84	23.58	14.45	24.98
Total Private Cost- Day Scholars	22.68	20.90	15.33	18.21
Total Private Cost- Resident Students	33.00	32.18	20.41	30.01
UMIG				
Fees	2.40	2.16	1.62	1.46
Academic Cost	7.19	6.76	4.68	3.95
Maintenance Cost-Day Scholars	10.61	9.65	7.35	10.35
Maintenance Cost-Resident Students	18.72	18.51	11.34	19.61
Total Private Cost- Day Scholars	17.80	16.41	12.03	14.30
Total Private Cost- Resident Students	25.90	25.27	16.02	23.56
HIG				
Fees	1.14	1.03	0.77	0.70
Academic Cost	3.42	3.22	2.23	1.88
Maintenance Cost-Day Scholars	5.05	4.60	3.50	4.93
Maintenance Cost-Resident Students	8.91	8.81	5.40	9.34
Total Private Cost- Day Scholars	8.48	7.81	5.73	6.81
Total Private Cost- Resident Students	12.33	12.03	7.63	11.22

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.

Thus costs of professional education place heavy burden on lower income, lower middle income, and middle income families. Normally, a family will have to educate two children.

For families of these three lower income groups, it would be virtually impossible to finance the higher education of two children, even in cases in which one of them pursues Arts or Science courses. The private expenses of BSc. Nursing were relatively low and this must be one of the reasons for a relatively large representation of the lower three income categories in this course. Even with the existing subsidised rates of tuition and other fees, the lower income groups find it hard to educate their children in medical and para-medical courses. The educational institutions of higher learning today are able to attract students only from a small proportion of the households, namely of the rich and the affluent. Such a situation results in the failure of these institutions to attract the best talents in the society.

We have also tried to relate private cost of education with the average family income calculated on the basis of the average per capita income of Kerala and the average size of the family. The ratio of total expenses of day scholars to average family income ranged between 13 percent in BSc. Nursing and 19 percent for MBBS. For resident students, the ratio ranged between 17 and 28 percent (Table 2.14).

Table 2.14 Private Cost as Proportion of Average Annual Family Income of Kerala

(in percentage)

Items	MBBS	BDS	BSc. Nursing	B.Pharm
Fees	2.59	2.33	1.75	1.58
Academic Cost	7.77	7.30	5.06	4.27
Maintenance Cost-Day Scholars	11.46	10.42	7.94	11.18
Maintenance Cost-Resident Students	20.22	19.99	12.25	21.18
Total Private Cost- Day Scholars	19.23	17.73	13.00	15.45
Total Private Cost- Resident Students	27.98	27.29	17.31	25.45

Note: To arrive at the average family income of Kerala we have multiplied the average per capita SDP of Kerala (Rs 21046) by the average size of the family (5.278).

Sex-wise difference in private cost

Before discussing sex-wise differences in private costs, it will be worthwhile to examine whether there is difference in costs with respect to location of residence. Table 2.15 presents the details regarding the location of the residence of male and female students separately.

Table 2.15 Location of Residence by Sex (percentage)

Course	Male		Female	
	Rural	Urban	Rural	Urban
MBBS	48.4	51.6	47.2	52.8
BDS	53.8	46.2	48.0	52.0
BSc. Nursing	50.0	50.0	41.3	58.7
B.Pharm	—	—	44.4	55.6
Total	49.1	50.9	45.0	55.0

In the rural areas, the proportion of female students is slightly lower than the proportion of male students. Perhaps, the female students from rural areas have some barriers to entry, may be in the form of difficulties for attending entrance coaching institutions located mostly in cities. However, the differences are only marginal.

The place of stay of the male and female students while undergoing their studies is presented in Table 2.16.

Table 2.16 Place of Stay while Undergoing Studies: Sex-wise (percentage)

Course	Male		Female	
	With parents	Hostel/Lodge	With parents	Hostel/Lodge
MBBS	80.2	19.8	57.6	42.4
BDS	92.3	7.7	75.0	81.8
BSc. Nursing	—	—	77.8	22.2
B.Pharm	28.6	71.4	66.7	33.3
Total	78.2	21.8	68.4	31.6

Table 2.16 reveals that larger proportions of female students stay in hostels/lodges than male students. Staying in hostel/lodge definitely increases private costs of education. This implies that female students incur on an average, higher expenditure for higher education than male students.

In Table 2.17 the differences in the non-fee academic components of expenditure are shown.

Table 2.17 Average Non-Fee Academic Costs of Students by Sex (Rs)

	Non-fee Academic Cost		
	Mean	t value	p value
MBBS			
Male	5077.28	3.078	0.003
Female	6841.71		
BDS			
Male	5096.15	0.700	0.490
Female	5783.53		
BSc. Nursing			
Female	3785.03		
B.Pharm			
Male	3840.71	1.782	0.100
Female	2400.00		

The academic expenses of female students are higher than those of male students except for B.Pharm. The difference is statistically significant for MBBS and BDS at five percent level. Table 2.18 and Table 2.19 show the maintenance expenses of resident students and day scholars according to sex.

Table 2.18 Average Maintenance Cost of Students by Sex: Residents (Rs)

Item	MBBS		BDS		BSc Nurs.	B.Pharm	
	Male	Female	Male	Female	Female	Male	Female
Food& Lodging							
Mean	15404.06	12386.00	14635.50	12058.93	7616.49	15383.50	12321.83
t-value	2.614		1.676			0.829	
p-value	0.01		0.106			0.439	
Dress& footwear							
Mean	2796.62	3106.58	2533.33	2836.67	2624.59	3050.00	2491.67
t-value	0.976		0.498			0.570	
p-value	0.332		0.623			0.589	
Travel							
Mean	3695.66	2318.68	5105.83	2807.20	1708.59	5912.50	5155.33
t-value	2.752		2.024			0.489	
p-value	0.007		0.054			0.642	
Others							
Mean	2212.31	2403.95	2477.92	2469.33	1661.20	2459.00	2465.00
t-value	0.543		0.011			0.004	
p-value	0.588		0.991			0.997	
Maintenance Expenses							
Mean	24108.65	20215.21	24752.58	20172.13	13610.88	26805.00	22433.83
t-value	2.470		1.686			0.763	
p-value	0.015		0.104			0.475	

Male students spend, in general, larger amounts than female students on maintenance expenses. This is true for both day scholars and students staying in s or lodge. The difference is caused largely in items of food and travel.

It may be observed that the total private cost is lower for female students for all courses than for male students. The difference is mainly due to lower spending on food/lodging and travel by female students.

Rural-urban difference in private cost

The foregoing discussion clearly showed that the non-academic or the maintenance expenses are higher in the case of students staying in lodges or hostels. Table 2.21 presents the break-up of resident and non-resident students according to the location of residence.

A larger proportion of students from rural areas stay away from parents during the period of study than do urban students. This is true for all courses. As a consequence, rural students incur higher costs. The differences in the costs incurred by the rural and the urban students are presented in Table 2.22.

Table 2.19 Average Maintenance Cost of Students by Sex: Day Scholars (Rs)

Item	MBBS		BDS		BSc Nurs.	B.Pharm	
	Male	Female	Male	Female	Female	Male	Female
Food& Lodging							
Mean	6492.06	2465.18	5500.00	1100.00	1382.86	2376.00	1833.33
t-value	4.136		3.651			0.285	
p-value	0.000		0.022			0.785	
Dress& footwear							
Mean	2256.25	2908.04	2500.00	2370.00	2503.57	1990.00	1783.33
t-value	1.247		0.056			0.373	
p-value	0.219		0.958			0.722	
Travel							
Mean	4654.38	4517.86	11000.00	3586.00	3280.36	6820.00	5170.00
t-value	0.118		2.213			0.558	
p-value	0.907		0.091			0.597	
Others							
Mean	1306.88	1716.07	1500.00	2740.00	1654.29	965.00	4073.33
t-value	0.751		0.313			1.134	
p-value	0.457		0.770			0.300	
Maintenance Expenses							
Mean	14709.56	11607.14	20500.00	9796.00	8821.07	12151.00	12860.00
t-value	1.703		1.538			0.128	
p-value	0.096		0.199			0.903	

Table 2.20 Average Private Cost of Students by Sex

	Residents		Day Scholars	
	Male	Female	Male	Female
MBBS	32060.93	29931.92	22661.84	21323.85
BDS	32438.73	28545.66	28186.15	18169.53
BSc Nursing	__	19343.91	__	14554.10
B.Pharm	32399.71	26587.83	17745.71	17014.00

Note: * - Only female students were taken into consideration for BSc. Nursing students as the male students are few in number to make any meaningful analysis.

With the exception of BDS students, the total private cost of medical and para-medical education is higher for rural students than for urban students. Higher cost may possibly be one of the reasons for the lower representation of rural students in medical and para-medical courses.

Table 2.21 Distribution of Students by Location of Residents According to Courses of Study (in percentage)

Course	Urban		Rural	
	Resident	Day scholars	Resident	Day scholars
MBBS	60.0	40.0	84.6	15.4
BDS	68.4	31.6	89.5	10.5
BSc. Nursing	73.7	26.3	77.8	22.2
B.Pharm	22.2	77.8	87.5	12.5
Total	84.1	15.9	62.3	37.7

Table 2.22 Average Maintenance Cost and Private Cost of Rural and Urban Students (Rs)

	Maintenance Cost			Private Cost		
	Mean	t value	P value	Mean	t value	p value
MBBS						
Rural	21569.60	2.033	0.044	30131.94	1.571	0.119
Urban	18698.13			27602.13		
BDS						
Rural	19577.62	0.592	0.558	27126.69	0898	0.377
Urban	21392.92			30070.43		
BSc. Nursing						
Rural	13088.29	0.025	0.980	19575.67	0.912	0.366
Urban	13059.85			18326.97		
B.Pharm						
Rural	22958.50	2.039	0.064	28718.33	2.189	0.049
Urban	13860.88			18071.13		

Cost of entrance coaching

Expense on entrance coaching is an important pre-admission cost incurred by the students of medical and para-medical courses. Other pre-admission costs include price of application form (amounting to Rs 500), expenses related to appearance at the entrance examination and interview before admission as well as postal charges. Table 2.23 presents the percentage of students who had undergone coaching for Entrance Examination.

Table 2.23 Proportion of Students who underwent Coaching for Entrance Examination (in percentage)

Course	Percentage of students who attended coaching classes
MBBS	85.3
BDS	84.2
BSc Nursing	67.7
B.Pharm	47.1
Total	78.8

The vast majority of the students had taken coaching before gaining admission to these courses, the percentages being far higher for MBBS and BDS courses than for the other courses. Thus, the way admission to medical institutions is secured indicates that coaching has become an integral part of the process. The expenditure on coaching further limits the chances of entry for the poorer sections and the inhabitants of remote areas.

It is estimated that the average total coaching expenses amounted to Rs 10500. This is a huge amount and may act as a single most important barrier to entry if coaching becomes crucial for entry into medical and para-medical courses. And given the initial disadvantages of the lower income groups, the need for coaching would be higher for them as than for the higher income groups. The average duration for the course of study is 11 months and the coaching fees alone come up to Rs 4831.

Nearly four-fifths of those who have undergone coaching studied in coaching centres located in Corporation areas. Only 17 percent went for coaching in other centres (Table 2.24). This pattern of the location of the coaching centres definitely puts a barrier to rural students in getting admission to these courses.

Table 2.24 Distribution of Students by Major Centres where they had Undergone Entrance Coaching

	MBBS	**BDS**	**BSc Nursing**	**B.Pharm**	**Total**
Thrissur	37.4	18.8	13.6	50.0	**30.5**
Thiruvananthapuram	23.7	43.8	27.3	50.0	**28.3**
Ernakulam	8.6	9.4	4.5	0.0	**7.6**
Kollam	10.1	0.0	4.5	0.0	**7.2**
Kozhikode	4.3	3.1	9.1	0.0	**4.9**
Sub-Total	**84.1**	**75.1**	**59.0**	**100.0**	**78.5**
Other Centres –Kerala	10.8	18.6	38.6	0.0	**16.9**
Outside Kerala	5.1	6.3	2.4	0.0	**4.5**

The expenses on entrance coaching incurred by rural students are considerably higher than those of urban students. This could be possibly because of the higher expenditure they have to incur for staying away from their houses. Nearly 60 percent of the students living in hostels and lodges were from rural areas. It was also found that a higher proportion of students from rural areas (32 percent) live in hostels and lodges as compared to 20 percent of those from urban students (Table 2.25).

Table 2.25 Coaching Expense Classified according to Location of Residence & Sex (Rs)

Classification	**MBBS**	**BDS**	**BSc. Nursing**	**B.Pharm**
Location of Residence				
Urban	9726	9296	8595	5875
Rural	12549	11187	9041	11625
Sex				
Male	10955	9671	__	11750
Female	11220	10773	8739	5750

Students from rural areas incur higher expenses by way of coaching expenses than their counterparts from urban areas. There was also some difference in coaching expenses as between male and female students, though the difference is not significant.

3. Sources of Finance

The private cost of medical and paramedical education ranges from Rs 170,000 in the case of MBBS *(5* 1/2 years) to Rs 1,00,000 in the case of BSc. Nursing. Parents belonging to lower income and middle income groups would find it nearly impossible to finance education of their wards at this level. The sources of financing of households for medical and para-medical education may be broadly classified into household incomes and other sources. The major sources of household incomes are salary/wage income, income from agriculture or business, interest or dividend receipts, savings or profits investments. 'Other sources' include scholarships and loans. Table 3.1 gives the important sources of financing education of the sample.

Table 3.1 Most important Source of Financing Private Cost (in percentage)

Source	**MBBS**	**BDS**	**B.ScNurs.**	**B.Pharm**	**Total**
Salary of Parents	62.0	60.5	64.6	47.1	61.5
Income from Business	7.4	5.3	4.6	17.6	7.1
Retirement Benefits of Parents	7.4	5.3	—	5.9	6.0
Support from Siblings	6.1	5.3	1.5	5.9	4.9
Income from Agriculture	4.9	10.5	12.3	11.8	7.8
Loan From Banks	4.9	2.6	3.1	—	3.9
Support from Other Relatives	3.1	2.6	1.5	—	2.5
Scholarships / Fee Concession	1.2	7.9	3.1	—	2.5
Loans from Non-Banking	0.6	—	—	—	0.4
Self-Employment	0.6	—	1.5	5.9	1.1
Others	1.8	—	4.8	5.8	2.3
Total	100.0	100.0	100.0	100.0	100.0

Salaries / wages are the most important source of financing the education of the students in medical and paramedical education. Income from agriculture, income from business, and retirement benefits of parents are considered most importance sources only by 6-7 percent each. Only 2.5 percent held scholarships fee concessions as the most important source. Loans from banks were the most important source for only 3.9 percent. Support from siblings and relatives and income generated through self-employment were also named as the most important funding sources but only by small proportions. For a relatively large number of B.Pharm students, the most important sources of finance were business incomes and incomes from agriculture.

Table 3.2 shows the distribution of sources according to share in financing private cost for all the courses under study taken together. Salary income forms the biggest single source for financing private cost of education. More than 60 percent of the students depend on parent's salary to finance more than *75* percent of their expenditure and 72 percent of the students depend on this source to finance at least a portion of their expenses. About 12 percent are depending on agriculture and 11 percent on business. Siblings and other relatives is also an

important source for about 12 percent of the students; but for majority, the amount of support from this source is less than 25 percent of total expenses.

Table 3.2 Distribution of the Sources of Financing Private Cost (in percentage)

Source of Finance	Share of the source in financing private cost						
	No support	1-25%	26-50%	51-75%	76-99%	100%	Total
Salary of Parents	27.7	4.9	7.4	4.9	18.4	36.7	100
Income from Business	88.8	2.6	2.6	1.1	2.1	2.8	100
Retirement Benefits of Parents	90.1	1.8	4.3	1.8	1.1	1.1	100
Support from Siblings	88.0	*5.7*	2.6	0.7	2,1	1.1	100
Income from Agriculture	87.6	3.6	2.1	0.4	4.9	1.4	100
Loan From Banks	95.6	0.4	1.8	1.8	—	0.4	100
Support from Other Relatives	88.4	8.1	1.4	0.7	0.7	0.7	100
Scholarships / Fee Concession	64.8	30.3	4.2	—	0.7	—	100
Loans from Non-Banking Sources	98.5	0.7	0.4	—	—	0.4	100
Self-Employment	98.9	—	—	0.4	0.7	—	100
Sale of Family assets	98.9	0.7	0.4	—	—	—	100
Others	95.0	2.1	2.1	0.4	0.4	—	100

The share of scholarship constitutes more than 50 percent of total private cost only for less than 1 percent of the respondents. This fact indicates the inadequacy of existing scholarships in meeting private costs of professional courses. Loans were availed from banks by less than five percent of the respondents. Nor have other sources of finance contributed significantly.

Scholarship

Despite the fact that private cost is mounting, the state makes only a token effort to ameliorate the difficulties of poor households to finance education. The income limit fixed for eligibility for KPCR scholarship is Rs 42,000 (Rs 3500 per month)[1]. In order to become eligible for availing lump sum grants/pocket money under KPCR, the income limit is fixed at a still lower limit, Rs 36,000 (which is currently equivalent to the upper income limit of the Low Income Group). We have already seen that private cost of medical and para-medical courses often exceed the annual family income of households below this limit. It was seen that lower middle income and middle income households also find it difficult to meet private costs of medical and para-medical courses. Table 3.3 presents the ratio of average private cost to the upper income limit for availing the KPCR scholarship.

At the level of family income of Rs 42,000 only very few students are found to be able to

Table 3.3 Ratio of Private Expenses to the Upper Income Limit (Rs. 42,000) for Availing Fee Concession under KPCR (in percentage)

Item	MBBS	BDS	Nursing	BPharm
Fees	6.8	6.2	4.6	4.2
Non-Fee Academic Expenses	*13.7*	13.1	8.7	7.1
Academic Expenses-Total	20.5	19.3	13.3	11.3
Maintenance Expenses- Day Scholars	31.9	28.1	21.2	30.8
Maintenance Expenses- Resident Students	53.3	52.8	32.3	54.8
Total Private cost- Day Scholars	52.4	47.4	34.5	42.1
Total Private cost- Resident Students	73.8	72.1	45.6	66.1

afford the private costs of education. Under the KPCR scheme, all students whose annual family income is below Rs 42, 000 are 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. It is very clear that this amount is not sufficient to meet even the non-fee academic expenses which range from Rs 2987 in BPharm to Rs 5751 in MBBS. These amounts are grossly inadequate to remove the entry barriers of poor students arising out of high educational costs. The amount of lump sum grant offered to students from poor families has not undergone any revision during the past several years. As observed earlier, private costs of medical and para-medical education impose on students of lower middle and middle income groups of households an unbearable burden. However, the present income limit fixed for fee concession covers only the lowest income group. The increasing private costs of education and the lack of sufficient number of scholarships/fellowships have made the situation extremely difficult for middle and lower income families also. The inadequate number of scholarships and insufficient amounts of grant provided has contributed to perpetuation of the inequities in opportunities for medical and para-medical education. The state's role in making free access to professional education remains nominal. Except for SC/ST students, the lump sum grants do not cover even a small fraction of maintenance expenses.

Table 3.4 present the details regarding fee concessions and scholarships availed of by the respondents.

Table 3.4 Distribution of students availing scholarships/Fee Concessions by Community

Community	MBBS	BDS	Nursing	BPharm	AllCourses
Forward	26.9	39.1	*37.5*	0.0	**29.6**
OBC/OEC	36.2	*25.0*	33.3	66.7	**36.0**
SC/ST	100.0	100.0	100.0	100.0	**100.0**
All Community	38.0	47.4	31.6	22.2	35.1

Our survey showed that one third of students undergoing medical and para-medical courses receive scholarships. All SC/ST students are entitled for scholarships. Apart from fee concession, the expenses on board and lodging of students staying in hostels are also met by the government. Day scholars are offered a monthly stipend of Rs 270 if residing within eight km of the educational institution and Rs 315 if residing outside the 8 km limit. SC/ST

students are also entitled for an annual lump sum grant of Rs 1375 in the case of MBBS, BDS and BPharm courses. For B.Sc. Nursing students, the corresponding amount is Rs 440. Even this much of help is not adequate to meet all the private expenses. The merit scholarships offered by the different universities in Kerala do not contribute even a tiny fraction of private costs of professional courses, the scholarship amount is only Rs 900 per year.

The principal has to be repaid within 48 months. Repayment will commence one year after the completion of the course or getting a job or whichever is earlier. The interest rate for the student loan is 12 percent for loans up to Rs 2,00,000 and 14.5 percent for amounts of more than Rs 2,00,000.

The condition that the interest has to be paid during the course of the study puts a burden on the students (Table 3.5). The annual expenses on interest for bank loan for a resident MBBS student who takes up loan to finance 90 percent of his/her private cost in different years is presented in Table 3.5.

Table 3.5 Interest Burden on Bank Loan Financing 90 % of the Private Cost of a MBBS Resident Student

Year	Annual Interest Amount(Rs.)
IYear	3348
II Year	6696
III Year	10044
IV Year	13392
V Year	16740
VI Year	20088

Note: Calculated for 90 percent of Rs 31,000 per year at an interest rate of 12 percent

Unlike in other countries, educational loans are not subsidised in India and the interest payments do not wait even for completion of the concerned course. The low demand for educational loans may possibly be due to the high prevailing interest rates, security requirements, and low moratorium period.

4. Non-Financial Entry Barriers

The education system is expected to provide equal access to all students irrespective of differences in social and economic background. The pursuance of such a policy would become a great social and economic equaliser. But our analysis has shown that the gap between the rich and the poor in their participation rates in medical and para-medical education is wide. The vast majority of the students are drawn from the relatively affluent sections of the society. In this section, we examine non-financial barriers to entry into medical and para-medical courses. The factors considered include occupational and educational background of parents, nature of schooling of students, and place of origin and ownership of assets.

Occupation of parents

Tables 4.1 and 4.2 present the occupational background of the parents. The numerical predominance of children of the salaried class is observed in every medical and para-medical course. The fathers of about three-fourths of the students in these courses are salary earners. Further desegregation of the salaried group reveals the predominance of government or other public sector employees, who constitute about 60 percent. Only one-sixth belong to the self-employed category. Agriculturists constitute only five percent. While the share of agriculturists is above 10 percent in BSc Nursing and B.Pharm, their share is much lower in MBBS and BDS courses which are the courses in high demand. In the MBBS course, only less than two percent of the parents are agriculturists.

Table 4.2 shows that more than 40 percent of the mothers are employed, of which a large majority are employed in the government sector. The percentage of employed mothers is lower in BSc Nursing and B.Pharm. Both the parents were employed in the case of 45 percent of MBBS students. The percentage of students with both the parents employed was the lowest for B.Pharm (Table 4.3).

Table 4.1 Occupation of Father

Occupation	**Course**				
	MBBS	**BDS**	**BSc -Nursing**	**B.Pharm**	**Total**
Employed/ Retd.- Govt.Service	53.4	55.3	50.8	52.8	**53.0**
Employed/Retd.- Public Sector Employee	6.1	5.3	7.7	11.8	**6.7**
Sub. Total	**59.5**	**60.6**	**58.5**	**64.6**	**59.7**
Employed - Private Sector	14.1	5.3	13.8	11.8	**12.7**
Total Salaried Class	**73.6**	**65.9**	**72.3**	**76.4**	**72.4**
Self-Employed	17.8	26.3	9.2	11.8	**16.6**
Agriculture	1.8	5.3	10.8	11.8	**4.9**
Expired	4.9	2.5	4.6	-	**4.3**
Others including Casual Workers	1.9	0.0	3.1	-	**1.8**
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

*Includes those employed in Public Sector Companies, public Sector Banks, etc.

Table 4.2 Occupation of Mother

Occupation	Course				
	MBBS	BDS	BSc -Nursing	B.Pharm	Total
Employed/ Retd.-Govt Service	33.7	31.6	29.2	23.5	**31.8**
Employed/Retd.- Public Sector Employee *	1.8	5.3	4.6	—	**2.8**
Sub. Total	**35.5**	**36.9**	**33.8**	**23.5**	**34.6**
Employed-Private Sector	9.2	5.3	1.5	—	**6.4**
Total Salaried Class	**44.7**	**42.2**	**35.3**	**23.5**	**41.0**
Self Employed	3.7	2.6	—	5.9	**2.8**
Agriculture	0.7	—	—	—	**—**
Expired	—	2.6	—	—	**0.4**
Housewife	50.9	52.6	64.7	70.6	55.8
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

*Includes those employed in Public Sector Companies, public Sector Banks, etc.

Admission to medical and para-medical courses is thus found to be largely restricted to the wards of the salaried group; the other segments of the society face barriers of different magnitudes, to enter these much sought after courses implying that the chances of socio-economic and occupational mobility through acquisition of professional education are slim in Kerala.

Table 4.3 Proportions of Students whose Father and Mother are Both Employed

Course	Percent
MBBS	44.8
BDS	36.8
BSc Nursing	29.2
B.Pharm	23.5
Total	**38.9**

Note: Including persons retired from service.

Educational qualification of parents

In this section, we try to examine the parental education of the students of medical and para-medical courses. The effect of parent's education is one of the key factors considered to be influencing children's education, directly and indirectly. The direct effect may stem from its impact on the economic resources of the family. Parents with higher levels of education provide a family atmosphere favouring scholastic advancement. In any case, a society which plans to improve social mobility through education must make it possible for students in less educated families to access higher education. Looked against this backdrop, Table 4.4 and Table 4.5 provide a dismal picture.

Table 4.4 Education of Father

Educational Qualification	Course				
	MBBS	BDS	BSc Nursing	B.Pharm	Total
Below SSLC	5.5	2.6	6.1	-	**4.9**
SSLC	8.6	5.8	23.1	23.5	**13.8**
Above SSLC but below Graduation	13.5	15.8	27.7	17.6	**17.3**
Below Graduation	27.6	34.2	56.9	41.2	**36.0**
Graduate & Above	72.4	65.8	43.1	58.8	**64.0**

Table 4.5 Education of Mother

Educational Qualification	Course				
	MBBS	BDS	BSc Nursing	B.Pharm	Total
Below SSLC	6.1	2.6	9.2	-	**6.0**
SSLC	16.6	23.7	30.8	29.4	**21.6**
Above SSLC but below Graduation	15.3	13.2	26.2	17.7	**17.7**
Below Graduation	38.0	39.5	66.2	47.1	**45.3**
Graduate & Above	62.0	60.5	33.8	52.9	**54.7**

It is observed that medical and para-medical education is practically closed for students whose parental educational attainment is low. Table 4.4 shows that nearly three-fourths of the fathers of MBBS students are graduates and above. In the case of BDS, about two-thirds of the fathers are graduates or above. It seems that entry barriers on account of parental education are relatively low only in B.Sc Nursing course. Even though mother's education does not seem to be as decisive as education of father, more than 50 percent of the mothers have education up to or above graduation except in the case of B.Sc Nursing course in which only one-third of the mothers had completed graduation. This high representation of the higher educated parents has to be viewed against the backdrop of the fact that the higher educated constituted only 3.9 percent of the population in Kerala[2]. This means that medical and para-medical education in Kerala is appropriated largely by students of highly educated parents.

Place of origin

Kerala is universally acclaimed for its universal enrolment at the school level. The State has been able to bring rural-urban differences in school enrolment to extremely low levels. But the present study shows that medical and para-medical education has a predominant urban bias. Urban residents are seen to have better chances of getting admission to these courses. Table 4.6 presents distribution of students by place of origin for the different medical and para-medical courses.

Only 47 percent of persons getting admission to medical and para-medical courses are found to have residence in *panchayat* areas whereas *panchayat* areas account for 83 percent of the

Table 4.6 Distribution of the Place of Residence by Locality (in percentage)

Place of Residence	Course				
	MBBS	**BDS**	**BscNurs.**	**B.Pharm**	**Total**
Corporations	31.8	28.9	32.3	41.2	**32.2**
District Headquarter towns	4.2	7.9	9.3	-	**5.7**
Other Municipalities	16.1	13.2	16.9	11.8	**15.5**
Urban-Total	**52.1**	**50.0**	**58.5**	**53.0**	**53.4**
Panchayats	**47.9**	**50.0**	**41.5**	**47.0**	**46.6**

State's population. Even among those who come from urban areas one-third have residence in Corporation areas. The great advantage of students from Corporation areas could be their easy access to better schooling, better entrance-coaching facilities and rich bookstalls and library facilities. It may also be because of the better educational and occupational background of parents in the urban areas. Further exploration is necessary to find out whether the present system of entrance tests has further aggravated the urban bias of the population of the State as a whole.

Educational background of students

The schools which the students attended at the school and the plus two levels are another important factor determining access to medical and para-medical courses (Table 4.7).

Table 4.7 Schools Attended at the School and the Plus Two Levels by Type (in percentage)

	MBBS	**BDS**	**BSc Nursing**	**B.Pharm**	**Total**
Class I-IV					
Government	18.4	28.9	26.2	41.2	23.0
Aided	33.1	26.4	50.7	23.5	35.7
Unaided	48.5	44.7	23.1	35.3	41.3
Class V-X					
Government	18.4	26.3	29.2	41.2	23.4
Aided	39.3	42.1	52.3	29.4	42.0
Unaided	42.3	31.6	18.5	29.4	34.6
Plus 2					
Government	26.4	21.1	23.1	35.3	25.5
Aided	52.8	55.3	66.2	58.8	56.5
Unaided	20.8	23.6	10.7	5.9	18.0

Table 4.7 shows that more than three-fourths of the students who secured admission to medical and para-medical courses had studied in private-aided and private unaided schools. The share of unaided schools is disproportionately high when compared to their share in class X enrolment. More than two-fifths of the students in these courses had attended class X in unaided schools which accounted for a mere 5.1 percent of the class X enrolment in the

State (including CBSE, ICSE). The share of unaided schools was much higher in MBBS than in other courses. However, only 18.5 percent of BSc Nursing students had their high school in unaided institutions. In the case of MBBS course, the share of unaided schools was far higher than that of aided schools which account for 56.4 percent of high school enrolment in the State.

The government schools which account for 38.5 percent of high school enrolment have only a representation of 23 percent. The share of students from government schools is only 18.4 percent in MBBS. However, the proportions of B.Pharm and BSc Nursing students who had high school education in government schools are higher. The foregoing discussion clearly shows that the students from government and aided schools have some disadvantage over students from unaided schools in securing admissions to medical and para-medical courses.

Syllabus at the school level

It is seen that students who had followed the CBSE and ICSE syllabi at the school level have definite advantage over those who followed the Kerala State syllabus, in the matter of securing admission to medical and para-medical courses (Table 4.8).

Table 4.8 Syllabi followed by the Respondents at High School and Plus Two Level (percentage)

	MBBS	**BDS**	**BSc Nursing**	**B.Pharm**	**Total**
Class X					
State Syllabus	64.4	73.7	78.5	82.4	**70.0**
Others (CBSE, ICSE)	35.6	26.3	21.5	17.6	**30.0**
Plus 2					
State Syllabus	69.9	73.7	81.5	82.4	**73.9**
Others (CBSE, ICSE)	30.1	26.3	18.5	17.6	**26.1**

Thirty percent of the seats in these courses are secured by students who had followed syllabi other than of the State. As against this, the share of enrolment of the non-State systems is only 2.6 percent at the high school level. The share of students following non-State syllabus at the high school and the Plus-2 levels was the highest in MBBS courses.

Location of schools

Table 4.9 presents the details of the location of the schools where our sample of students had studied.

More than half the students are seen to have studied at the high school level in urban centres in Municipalities and Corporations. This is surprising since more than four-fifths of the schools in Kerala are located in *panchayat* area, the proportions in Corporation areas and municipal areas being only 5.3 percent and 13.3 percent respectively.

Table 4.9 Location of Schools in which the Respondents had Studied (percentage)

Type of Schools	Courses				
	MBBS	BDS	BSc Nursing	B.Pharm	Total
Class I-IV					
Panchayat	49.1	50.0	52.3	52.9	50.2
Municipality	17.2	23.7	16.9	5.9	17.3
Corporation	30.1	26.3	29.3	41.2	30.0
Schools Abroad	3.6	0.0	1.5	0.0	2.5
Class V-X					
Panchayat	45.2	42.1	46.2	52.9	45.6
Municipality	19.5	26.3	23.1	11.8	20.8
Corporation	31.7	31.6	29.2	35.3	31.5
Schools Abroad	3.7	0.0	1.5	0.0	2.1

Medium of instruction

The details of the medium of instruction at the school level of the respondents are presented in Table 4.10

Table 4.10 Distribution of Respondents of Medium of Instruction at School Level (percentage)

Medium	Courses			
	MBBS	BDS	BSc Nursing	B.Pharm
Class I-IV				
English	74.2	65.8	50.8	58.8
Others	25.8	34.2	49.2	41.2
Class V-X				
English	77.3	71.1	55.4	58.8
Others	22.7	28.9	44.6	41.2

A large majority of the students enrolled in MBBS and BDS had English medium education right from class I itself. The proportions are lower for B.Sc Nursing and B.Pharm students. However, even in these courses, the proportions are relatively high, particularly at the secondary school level. For B.Sc Nursing, the proportion of students who had English as medium of instruction at the secondary school level was 55; for B.Pharm, the corresponding figure was 5 percent. It may be borne in mind that only 8.5 percent of the class X students are enrolled in English medium classes[3].

Asset ownership of the family

Table 4.11 present some information on the housing conditions of the households of the respondents. About two-thirds of the respondents lived in houses with tiles/marble/granite or mosaic flooring. The proportion of such houses was the highest for students of MBBS

and the lowest for students of BSc. Nursing. A large majority (83 percent) of the houses of the respondents have concrete roofing.

Table 4.11 Housing Conditions of the Respondents (in percentage)

	Courses				
	MBBS	**BDS**	**BSc Nursing**	**B.Pharm**	**Total**
Type of Roofing					
Thatched	1.9	2.6	1.5	0.0	1.8
Tiles	12.3	13.2	26.2	5.9	15.2
Concrete	85.8	84.2	72.3	94.1	83.0
Total	100.0	100.0	100.0	100.0	100.0
Type of Flooring					
Cement	26.4	31.5	49.3	35.3	32.9
Mosaic	49.1	47.4	33.8	47.1	45.2
Tiles/Marble/Granite	24.5	21.1	16.9	17.6	21.9
Total	100.0	100.0	100.0	100.0	100.0

Thirty percent of the families of the respondents own one or more cars/jeeps. As in the case of housing conditions, the proportion of families owning four-wheeler is the highest for households of MBBS and lowest for BSc. Nursing students. Another 16 percent owns a two wheeler each.

Table 4.12 Vehicles Owned by families of Respondents (in percentage)

Vehicles Owned	**MBBS**	**BDS**	**BSc Nursing**	**B.Pharm**	**Total**
One Car/Jeep	36.2	34.2	6.2	29.4	**28.6**
More than one Car/Jeep	1.8	0.0	1.5	0.0	**1.4**
Two Wheeler(s)	14.7	13.2	15.4	41.2	**16.3**
None	47.3	52.6	76.9	29.4	**53.7**
Total	100.0	100.0	100.0	100.0	100.0

The majority of the households own TV, music system, mixy, fridge, and telephone (Table 4.13), a reflection of their comfortable standard of living. The proportion of households having such facilities is higher among students of MBBS and BDS courses; such facilities include computers, mobile phones, air conditioners, vacuum cleaners and washing machines, but the proportions are lower, in general, than for the other items. Here again it is students of medical courses (MBBS, BDS) who are the more advantaged.

Conclusion

A large proportion of students in medical and para-medical courses come from a small upper segment of the State's population. Medical and para-medical courses have become the exclusive privilege of the well-to-do. More than 90 percent of students who aspire for entry

Table 4.13 Ownership of Durables by Households of Respondents

Type of Durable	MBBS	BDS	BSc Nurs.	B.Pharm	Total
A. Entertainment Items					
1. Colour T V					
One	87.1	81.6	78.5	88.2	**84.5**
More than One	5.5	5.3	9.2	5.9	**6.4**
Total households with Colour TV	92.6	86.9	87.7	94.1	**90.9**
2.VCR/VCP	62.4	66.7	32.3	52.9	**47.3**
3.Music System	84.7	76.3	73.8	88.2	**81.3**
B. Kitchen Appliances					
1. Mixy	98.2	86.8	92.3	100.0	**95.4**
2. Grinder	59.5	63.2	35.4	47.1	**53.7**
3. Fridge	89.0	81.6	66.2	82.4	**82.3**
C. Communication Equipment					
1.Telephone-one	82.8	71.1	72.3	76.5	**78.4**
2.Telephone-More than One	11.0	18.4	7.7	11.8	**11.3**
Total Telephone-Owning Households	93.8	89.5	80.0	88.3	**89.7**
3. Mobile Phone	25.2	13.2	10.8	11.8	**19.4**
D. Other Durables					
1.Washing machine	66.3	55.3	46.2	47.1	**59.0**
2.Vacuum Cleaner	37.4	23.7	23.1	23.5	**31.4**
3. Air Conditioners	10.4	10.5	1.5	0.0	**7.8**
4. Inverter	15.3	13.2	10.8	11.8	**13.8**
5. Computer	20.9	13.2	10.8	11.8	**17.0**

into these courses face definite handicaps due to high private costs involved. But finance is not the only entry barrier into these courses. Students from government schools and rural schools find it difficult to secure admission to them, especially MBBS and BDS. Students of the Malayalam medium courses at the school stage are very few in medical colleges. First generation students whose parental education is low also have only marginal representation in these professional courses. Children of cultivators, wage-earners, and the petty producers too find it difficult to get admission to these courses. Unless educational standards in government and aided schools and rural schools are improved, the already fragile chances of socio-economic and occupational mobility through professional education are likely to become even weaker.

5. Conclusion

Kerala has made considerable achievements in providing universal access to school education. However, access to higher education, particularly professional education remains highly in-egalitarian. The present study finds that innumerable obstacles hinder children from unfavourable socio-economic background from gaining access to medical and para-medical courses, which are in great demands. The impact of the high private cost and socio-economic factors inhibiting access are examined in this study, by using a representative sample of students underlying MBBS, BDS, BSc Nursing and BPharm courses in Kerala, as the sample. The present financial sources of the concerned households for meeting the educational expenditure for these courses have also been examined.

The high private costs of professional education act as an entry barrier to medical and para-medical courses. The average annual private cost of the medical and para-medical courses ranged from Rs 19226 for BSc Nursing to Rs 31083 for MBBS in the case of students staying in hostels/lodges. For day scholars, it ranged from Rs 14436 from to Rs 21360. The maintenance cost is the major component of private costs. The share of this component is close to 75 percent in the case of resident students and to about 60 percent in the case of day scholars. Non-fee private cost comes about 90 percent of the total. The present system of subsidising the fee component of private costs has not helped in promoting equity as fees constitute only an extremely small proportion of the educational expenses of students. Yet, all our discussions on subsidising education are largely centred on the fee component. If the state wants to bring down the entry barriers, it must think in terms of providing scholarships liberally, which would meet also the non-fee component of private educational expenditure which constitutes a substantial part of total private costs of professional education.

Analysis of cost in relation to family income shows that the average private costs exceed the annual income of the low income families. It forms about 50 percent in the case of lower middle income families and about 30 percent in the case of middle income families. Thus the private cost becomes prohibitively high for these three income groups; the cost becomes heavier, if another child from the family is also pursuing higher education.

The study examined whether there exists any difference in private costs as between males and females. It is found that a larger proportion of female students stay in hostels/lodges than male students. Staying in hostel/lodge definitely increases costs. However, it was observed that the total private cost is lower for female students than for male students, irrespective of whether they are resident students and day scholars; and this is so for all courses mainly due to lower spending on food/lodging and travel by female students.

Our study was restricted to students who secured admission to these courses. But there are large number of students who might not even have applied for these courses because of their prohibitively high private educational costs and their inability to meet their costs.

An examination of the source of finance for meeting the students' educational expenditure shows that a very large share of the finance comes from within the family itself. Except for SC/ST students, the educational grants and scholarships provided by the government and the universities do not cover even a fraction of the non-fee component of academic expenses. The amount of scholarship given under KPCR scheme is a case in point. It is grossly inadequate to remove the entry barrier of poor students arising out of high educational costs. The present income limit fixed is extremely low and the scheme is also unscientific as it excludes students from lower middle income and middle income families from its scope. In fact, these groups groan under the heavy burden of high educational costs. Inadequate number of scholarships, adherence to income limits which fixed long time ago and the insufficient amount that a scholarship carries make them an ineffective tool for reducing the cost burden of poor families.

The student loans in vogue were not found attractive to students. Only less than five percent have availed of loans from banks. There are two reasons for the hesitation: the interest on bank loans has to be paid during the study period itself; and banks lay down short limits for loan repayment. According to the present system, the repayment date begins four years after graduation.

The study finds that, many socio-economic factors influence admission to the much sought after courses. The educational background of the parents is one among the many important factors. Parents with high education normally pay great attention to their children's education, provide congenial learning environment home, and willingly finance their educational costs. The study reveals that there are much fewer rural students than urban students in the medical courses. While more than 83 percent of the general population live in *panchayat* areas in Kerala, only less than half of the students in the medical and para-medical courses have their homes in these areas. Students from government schools and from Malayalam-medium are under-represented in these courses. The proportion of students who had their education in rural schools is also small. The representation of students who had studies under the state syllabus is meagre considered in terms of their proportion among school-going children. Thus, the students from rural areas who have studied in government and aided schools and belonging to poor social and economic background faces several formidable barriers to entry into the courses selected in the present study.

The study also indicated that there is a gradation of courses with Nursing and BPharm at the lower end and MBBS and BDS at the higher end in terms of demand. MBBS and BDS are courses of higher demand because of better job prospects, higher expectations of future earnings and greater improvements in social status than those of BSc Nursing and BPharm. MBBS and BDS students are found to have higher family 'income' than the other two. Students from unaided English-medium schools are found to have larger representation in these two courses. Educational qualifications and occupational status of parents are also higher. These courses have a larger urban bias. All these facts indicate that professional education accentuates the present social and income divide. Upward social and occupational mobility is also rendered difficult for the vast majority of the population.

Upward mobility through higher education would be possible only if the huge disparities in school education are brought down. It is high time that the State considered ways to remove entry barriers to professional education.

End Notes

1. KPCR, Kumara PilIai Commission Report. Based on this report, fee waiver is provided to non-SC/ST students belonging to low income groups irrespective of religion and caste. The beneficiaries under this scheme are also eligible to meet their non-fee expenses of small amounts.

2. Tilak J B G, *Higher Education and Development in Kerala*, Working Paper No. 5, Centre for Socio-economic and Environmental Studies, Kochi, 2001.

3. Educational Statistics, Directorate of Public Instruction, Government of Kerala, 1999.

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