

## CONTINUED MEDICAL EDUCATION

**Kuppuswamy's Socio-economic Status Scale: Updating Income Ranges for the Year 2015**Hema Thakkar<sup>1</sup>, C M S Rawat<sup>1</sup>Assistant Professor, <sup>2</sup>Professor, Department of Community Medicine, Government Medical College, Haldwani, Uttarakhand

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**Abstract**

Community and hospital based studies require assessment of socio-economic status of an individual/family. Socioeconomic status (SES) is an important determinant of the health, nutritional status, mortality, and morbidity of an individual. SES also influences the accessibility, affordability, acceptability, and actual utilization of available health facilities. (1)

There are many different scales to measure the SES of a family: Rahudkar scale 1960, Udai Parikh scale 1964, Jalota Scale 1970, Kulshrestha scale 1972, Kuppuswamy scale 1976, Shrivastava scale 1978, Bharadwaj scale 2001. (2,3,4,5,6,7,8) However, social transition and fast growing economy have reduced these scales effectiveness in measuring the SES over the years.

Kuppuswamy's socio-economic status scale is an important tool to measure socioeconomic status of families in urban areas. It was first proposed by Kuppuswamy in the in the year 1976. (6) ([Table-1](#)) This scale takes into account education, occupation of the head of the family and total income of the family per month from all the sources to categorize families into 5 groups; namely upper, upper middle, lower middle, upper lower and lower socioeconomic status. It is used by students and researchers in India for hospital and community based research. Mishra D and Singh HP (9) in their article on revision of Kuppuswamy's Socio-economic status scale have pointed that an income scale usually has relevance only for the period under study. They further

clarified that due to the steady inflation and consequent fall in the value of the rupee, the income criteria in the scale lose their relevance. There is an unprecedented demand from researchers for the updated version of this because changes in inflation rate change the monetary values of the monthly income range scores. Attempts to revise the original scale to bring the income subscale up to date are done by various authors.

The year wise reference indices are shown in [Table - 2](#). It tell us how index and base year have seen changes for reference index and has been used to calculate inflation based conversion factor. Mishra D therefore worked on this issue of revision of family's monthly income in rupees for the year 1976, when the price index was 296 according to base year 1960=100. Then he revised it for the year 1998 using base year 1982=100. The base year has been changed from 2001, Kumar N *et al.* (10) took into account the new base year 2001= 100 for revision of family's monthly income in rupees for the year 2007. Conversion factor for 1982, base year has changed with considering 2001 as base year. To get the updated conversion factor the following exercise is adopted as follows

For calculating the conversion factor for the year 2007, the All India Average Consumer Price Index for Industrial Workers (CPI-IW) has to be divided by 88.428. All India Average Consumer Price Index Numbers for Industrial Workers (Base 2001=100) shows general index as 128 on April 2007 (<http://>

labourbureau.nic.in/indexes.htm – Labour Bureau Government of India, as per survey done in 1999-2000). The conversion factor for year 2007=  $128/88.428=1.45$ . The income ranges for the year 2007 was obtained by multiplying 1998 income ranges by the conversion factor 1.45 to get the revised Kuppuswamy Socioeconomic status scale for the year 2007, Kumar N *et al.* (11) again revised the socioeconomic status in the year 2012 taking the base year 2001= 100 for revision of monthly income in rupees for the year 2012.

Conversion factor takes into account of hike in original price index as well as its change of base value as 100. Therefore conversion factor needs to be calculated every year using the All India Average Consumer Price Index Numbers for Industrial Workers (CPI-IW). It can be done by the exercise done below for a few years in serial.

Year CPI-IW Conversion factor

2008  $147/88.428=1.66$

2009  $169/88.428=1.91$

2010  $181/88.428=2.05$

2011  $185/88.428=2.09$

2012  $198/88.428=2.24$

The revised income criteria for the year 2012 was obtained by multiplying 1998 income criteria by the conversion factor 2.24 to get the revised Kuppuswamy Socioeconomic status scale for the year 2012.

Vijaya *et al* (12) also attempted to revise the income groups for the year 2013 to redefine Kuppuswamy's socioeconomic status scale for the year 2013 taking the All India Average Consumer Price Index Numbers for Industrial Workers (CPI-IW) in the month of May (13). It is calculated as  $228/88.428=2.58$ . This conversion factor obtained was multiplied to the income criteria of the year 1998 for getting the new income criteria for the year 2013 and therefore the new socioeconomic status scale for the year 2013. Oberoi SS (14) also updated the income ranges for the year 2014 using AICPI-IW. It was calculated as  $244/88.428=2.759$ . This conversion factor was multiplied to the income criteria of the year 1998 for getting the new income criteria for the year 2014

For undergoing current researches, it has become the need of the hour to provide an updated version of the Kuppuswamy Socioeconomic status scale. We therefore attempted to revise the income groups for the year 2015 to update Kuppuswamy's socioeconomic status scale taking the All India

Average Consumer Price Index Numbers for Industrial Workers (CPI-IW) in the month of September (15). It was calculated as  $266/88.428=3.01$ . This conversion factor obtained was multiplied to the income criteria of the year 1998 for getting the new income criteria for the year 2015 and therefore the new socioeconomic status scale for the year 2015. (Table-3)

The round figures were used wherever applicable. The shortcomings however remain as with the income, the educational and occupational scales also need to be revised regularly. With the increasing prices or inflation the income grading needs to be updated on a regular basis. However, further larger sample survey and validation is needed.

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## Tables

TABLE 1 ORIGINAL KUPPUSWAMY'S SOCIO-ECONOMIC STATUS SCALE

Category	Score
<b>A. Education</b>	
Professors or honours	7
Graduate or post graduate	6
Intermediate or post high school diploma	5
High school certificate	4
Middle school certificate	3
Primary school certificate	2
Illiterate	1
<b>B. Occupation</b>	
Profession	10
Semi-profession	6
Clerical, shop-owner, farmer	5
Skilled worker	4
Semi-skilled worker	3
Unskilled worker	2
Unemployed	1
<b>C. Family income per month in Rs. (1976)</b>	
>2000	12
1000 – 1999	10
750 – 999	6
500 – 749	4
300 – 499	3
101 – 299	2
<100	1
<b>Socio-economic class</b>	
Upper (I)	26-29
Upper middle (II)	16-25
Lower middle (III)	11-15
Upper lower (IV)	5-10
Lower (V)	<5

TABLE 2 YEAR –WISE REFERENCE INDICES

Year	Reference index
1960	100 (base)
1976	296
1982	490 – 100 (new base, applied by Mishra D <i>et al.</i> , <sup>9</sup> for updating in 1998)
1998	405
2001	458 – 100 (new base applied by Kumar N <i>et al.</i> , <sup>10</sup> for updating in 2007)
Price index by old base for 2001 = 458	
Assuming price index by new base for 2001 = 100	
Price index by old base for 1998 was 405	
Price index by new base for 1998 = $100/458 \times 405 = 88.428$	

TABLE 3 KUPPUSWAMY'S SOCIOECONOMIC SCALE: UPDATE OF INCOME RANGE

Score	1998	2007	2008	2009	2010	2011	2012	2013	2014	2015
12	13500	19575	22410	25785	27675	28215	30375	34830	36997	40,635
10	6750-13499	9788-19574	11205-22409	12892-25784	13837-27674	14107-28214	15188-30374	17415-34829	18498-36996	20317-40634
6	5050-6749	7323-9787	8383-11204	9645-12891	10352-13836	10555-14106	11362-15187	13029-17414	13874-18497	15200-20316
4	3375-5049	4894-7322	5602-8382	6446-9644	6919-10351	7053-10554	7594-11361	8707-13028	9249-13873	10158-15199
3	2025-3374	2936-4893	3361-5601	3867-6445	4151-6918	4233-7052	4556-7593	5224-8706	5547-9248	6095-10157
2	676-2024	980-2935	1122-3360	1291-3866	1386-4150	1413-4232	1521-4555	1744-5223	1866-5546	2034-6094
1	675	979	1121	1290	1384	1412	1520	1743	1865	2033