

Chapter Epidemiological profile of Siliguri Municipal Corporation Area (SMCA)

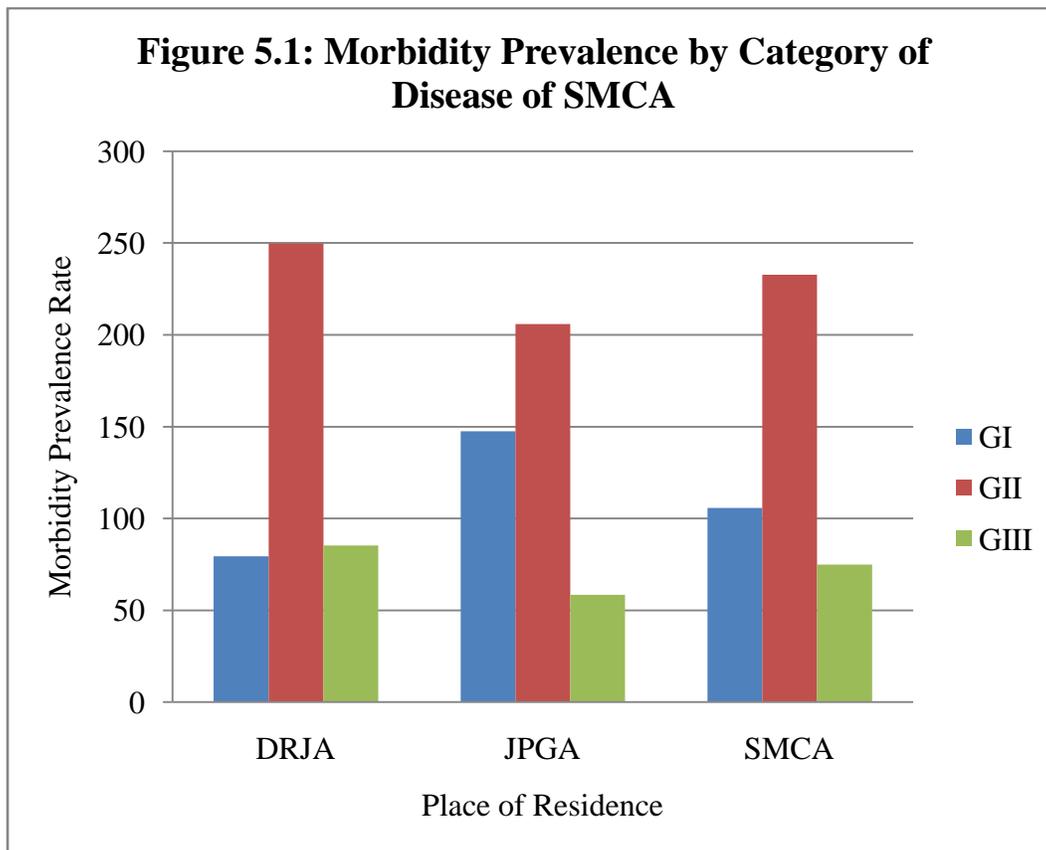
5.1 Introduction to Epidemiological profile of SMCA

Epidemiologic transition theory states that during the phase of modernisation or urbanisation of the society, pattern of morbidity and causes of mortality are changed, whereby acute infectious diseases are gradually displaced by chronic non-communicable, degenerative, man-made diseases and injuries (Omran, 1971). Finally, society experiences emergence and re-emergence of both old and new infectious and parasitic diseases which turns out to be the leading cause of morbidity and mortality. This chapter describes the epidemiological profile of the people living in Siliguri Municipal Corporation Area (SMCA) in the light of their demographic and socio-economic background. The chapter also covers the different dimensions of burden of disease, more specifically, morbidity pattern and disability among the people of SMCA according to the modalities of Global Burden of Disease Study. Variations in morbidity pattern between Darjeeling district and Jalpaiguri district area of SMCA, as well as, for the whole area of SMCA are analysed and discussed in detail in this chapter.

5.1.1 Disease Prevalence and its Pattern

Varied morbidity patterns according to disease category and place of residence are presented in table 5.1. Figures reveal that there are total 696 illness episodes in SMCA, out of which 428 episodes are from Darjeeling district area and 268 episodes are from Jalpaiguri district area. Out of 428 cases in Darjeeling district area, 19.16 percent are of communicable, maternal, peri-natal and nutritional conditions (Group I), about 60 percent are of non-communicable diseases (Group II) and more than 20 percent are of intentional and unintentional injury including accidents (Group III) episodes. However, morbidity prevalence rate per 1000 persons of this area for GI, GII and GIII category diseases are 79.38, 249.76 and 85.19 respectively. On the other hand, in Jalpaiguri district area, percentage of GI, GII and GII category illness episodes are 35.82, 50 and 14.18 respectively. In addition, morbidity prevalence rate per 1000 persons of this area for those

three-category illness episodes are 147.47, 205.84 and 58.37 respectively. The results indicate that communicable, maternal, peri-natal and nutritional conditions are more in Jalpaiguri district area, but cases of non-communicable diseases and intentional and unintentional injury episodes are more in Darjeeling district area. However, for the SMCA as a whole, out of total disease episodes, 25.6 percent are of communicable, maternal, peri-natal and nutritional conditions, 56.3 percent are of non-communicable diseases and 18.1 percent are of different types of injury cases. On the other side, morbidity prevalence rate per 1000 persons of SMCA for GI, GII and GIII category illness episodes are 105.70, 232.78 and 74.82 respectively. It indicates that though people of SMCA have considerable burden of communicable and maternal related diseases and intentional and unintentional injury including accidents, a majority of the people are at greater risk of affected by non-communicable diseases (depicted in Figure 5.1).



Note: DRJA = Part of SMCA falling under the jurisdiction of Darjeeling district, JPGA = Part of SMCA falling under the jurisdiction of Jalpaiguri district, SMCA= Siliguri Municipal Corporation Area; GI: Communicable, maternal, peri-natal and nutritional conditions; GII: Non-communicable diseases; GIII: Injuries and accidents

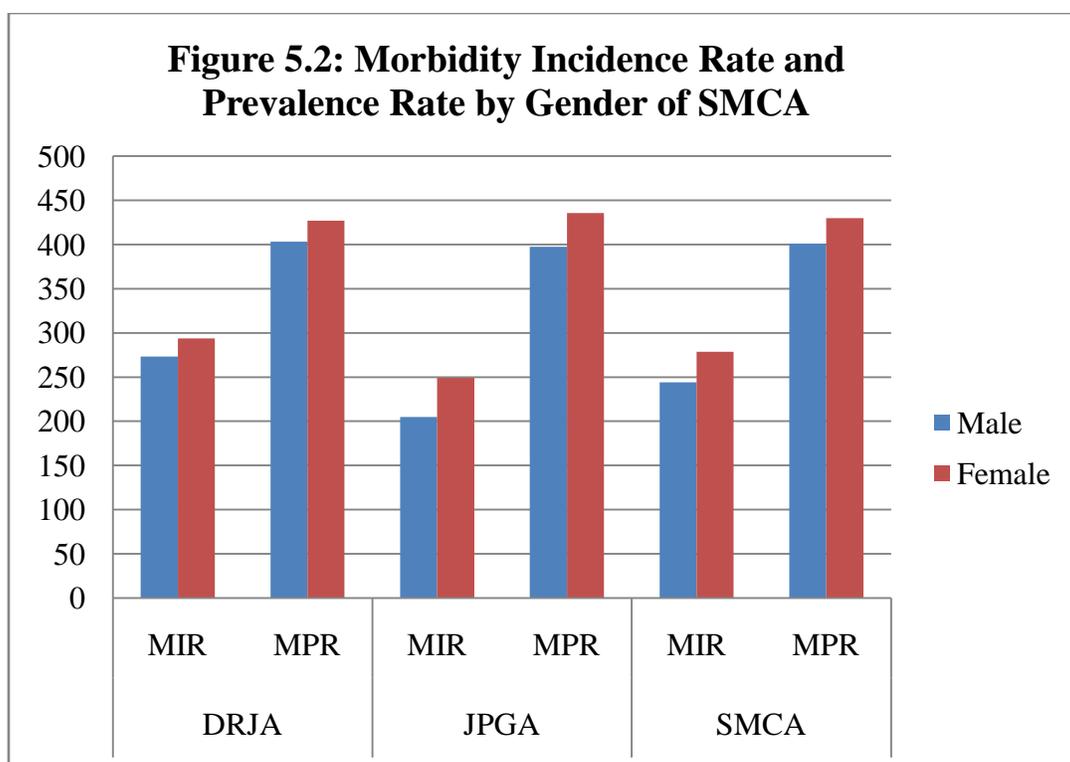
Table 5.1: Distribution of Illness Episodes by Category of Disease and Place of Residence

Disease Category	DRJA			JPGA			SMCA		
	n	%	MPR	n	%	MPR	n	%	MPR
GI	82	19.16	79.38	96	35.82	147.47	178	25.6	105.70
GII	258	60.28	249.76	134	50	205.84	392	56.3	232.78
GIII	88	20.56	85.19	38	14.18	58.37	126	18.1	74.82
Total	428	100	414.33	268	100	411.67	696	100	413.30

Source: Self-elaboration with survey data, Note: n = Number of Disease Episodes, MPR = Morbidity Prevalence Rate per 1000 persons, GI: Communicable, maternal, peri-natal and nutritional conditions; GII: Non-communicable diseases; GIII: Injuries and accidents, DRJA = Part of SMCA falling under the jurisdiction of Darjeeling district, JPGA = Part of SMCA falling under the jurisdiction of Jalpaiguri district, SMCA= Siliguri Municipal Corporation Area.

5.1.2 Incidence Rate and Prevalence Rate of disease

It is generally presumed that morbidity prevalence rates of the people of any region are higher than the morbidity incidence rates since former category includes both the previously existing disease cases and the newly existing cases, but the latter considers only the new disease cases during the reference period as depicted in table 5.2. Further, figure 5.2 shows that in both the segments of study area and as well as in SMCA, morbidity incidence rates and morbidity prevalence rates for females are higher than the male counterparts. It may be due to the fact that more reporting to the health facilities for pregnancy complications and child birth and other related issues. However, morbidity incidence rates per 1000 persons in Darjeeling district area, Jalpaiguri district area and SMCA as a whole, are found to be 283, 212.2 and 258.91 respectively, whereas prevalence rates per 1000 persons for those areas appeared to be 414.33, 411.7 and 413.3 respectively.



Note: DRJA = Part of SMCA falling under the jurisdiction of Darjeeling district, JPGA = Part of SMCA falling under the jurisdiction of Jalpaiguri district, SMCA= Siliguri Municipal Corporation Area. MIR = Morbidity Incidence Rate per 1000 persons, MPR =Morbidity Prevalence Rate per 1000 persons.

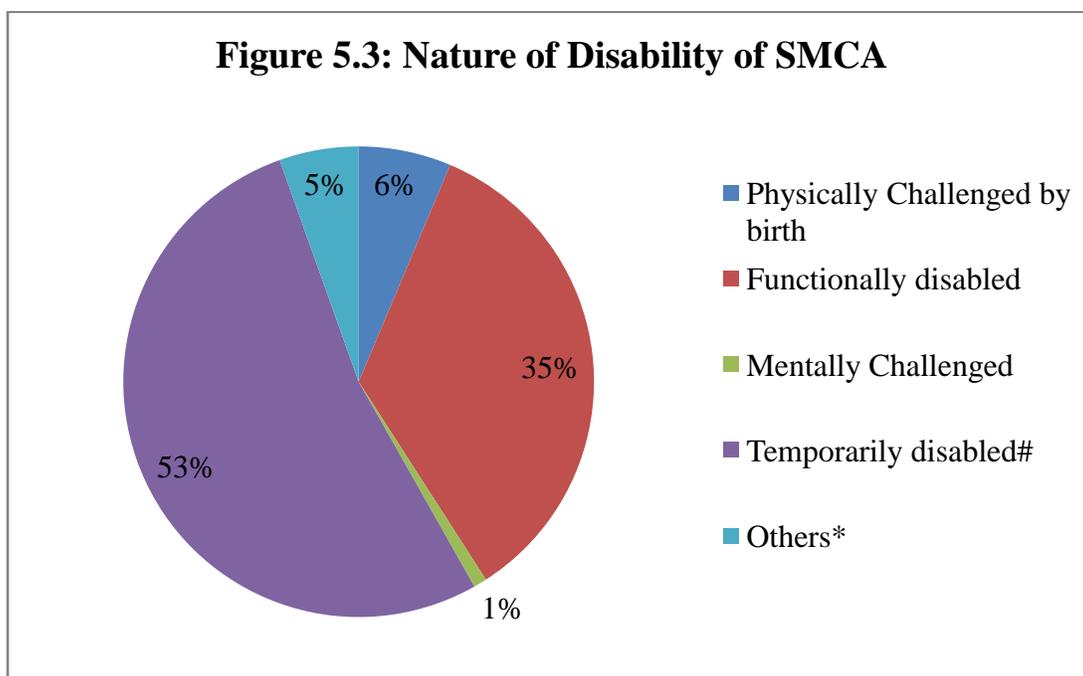
Table 5.2: Distribution of Incidence Rates and Prevalence Rates of disease by gender and place of residence

Gender	DRJA		JPGA		SMCA	
	MIR	MPR	MIR	MPR	MIR	MPR
Male	273.1	403.25	204.88	397.56	244.03	400.83
Female	293.8	427.08	248.96	435.68	278.78	429.96
Total	283	414.33	221.2	411.67	258.91	413.30

Source: Self-elaboration with survey data, Note:, MIR = Morbidity Incidence Rate per 1000 persons, MPR = Morbidity Prevalence Rate per 1000 persons, DRJA = Part of SMCA falling under the jurisdiction of Darjeeling district, JPGA = Part of SMCA falling under the jurisdiction of Jalpaiguri district, SMCA= Siliguri Municipal Corporation Area.

5.1.3 Nature of Disability among the People

Different types of disability cases among the sampled population are shown in table 5.3. It highlights that out of total 110 disability cases in SMCA, 71 cases are reported from Darjeeling district area and rest of 39 reported cases) are reported from Jalpaiguri district area. Thus, it is clear that percentage of disability case is more in Darjeeling district area than that of in Jalpaiguri district area. On the other hand, data explicitly reveal that there are about 6.3 percent of total sampled population (i.e. 1684 persons) are experiencing different types of disability in SMCA. Further, it is worked for SMCA as a whole that out of total 110 disability cases, 7 (i.e. 6.36 percent) are of physically challenged by birth, 38 (i.e. 34.55 percent) are of functionally disabled, 1 (i.e. 0.91 percent) are of mentally challenged, 58 (i.e. 52.73 percent) are of temporarily disabled and 6 (i.e. 5.45 percent) are of other types of disability such as hearing impaired, very low eye sight etc. (as shown in Figure 5.3).



Note: # Temporary disabled due to injury, fracture, accidents and other causes * others category includes hearing impaired, very low eye sight, stammering etc., SMCA= Siliguri Municipal Corporation Area.

Table 5.3: Distribution of Disabilities by Nature of Disability and Place of Residence

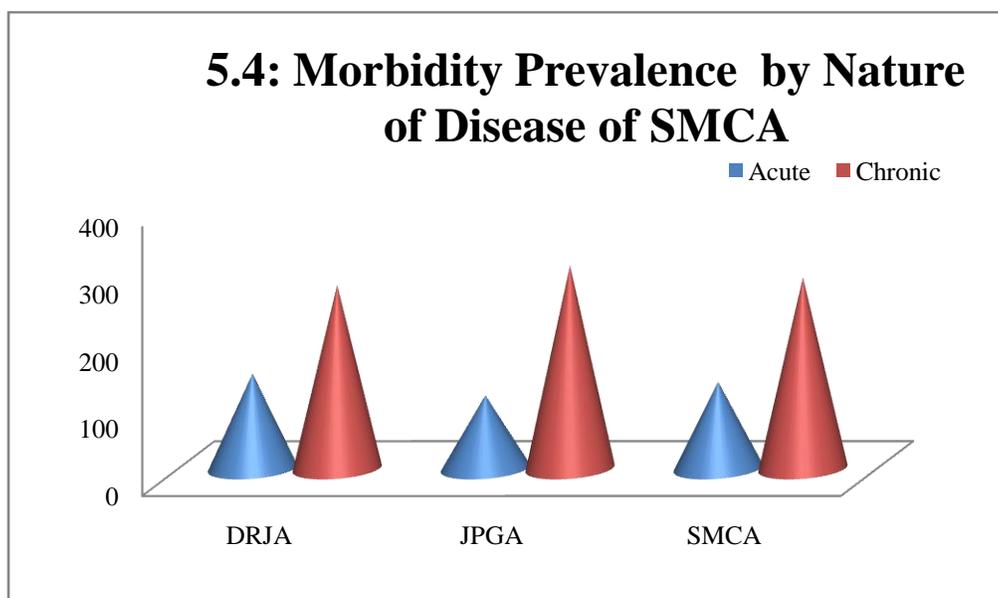
Nature of Disability	DRJA	JPGA	SMCA
Physically Challenged by birth	5 (7.04)	2 (5.13)	7 (6.36)
Functionally disabled	22 (30.99)	16 (41.03)	38 (34.55)
Mentally Challenged	0 (0.00)	1(2.56)	1 (0.91)
Temporarily disabled [#]	40 (56.34)	18 (46.15)	58 (52.73)
Others*	4 (5.63)	2 (5.13)	6 (5.45)
Total	71 (6.87)	39 (5.84)	110 (6.29)

Source: Self-elaboration with survey data, Note: Figures in the parentheses indicate the percentage of the character out of total sampled population, disabled due to injury, fracture, accidents and other causes or stopped the normal activity due to temporary impairment, * Others category includes hearing impaired, very low eye sight, stammering etc., DRJA = Part of SMCA falling under the jurisdiction of Darjeeling district, JPGA = Part of SMCA falling under the jurisdiction of Jalpaiguri district, SMCA= Siliguri Municipal Corporation Area.

5.1.4 Nature of disease and Prevalence of disease

Total illness episodes according to nature of disease and place of residence are provided in the table 5.4. The figures present that morbidity prevalence rate per 1000 persons for acute diseases in Darjeeling district area and Jalpaiguri district area are 141.34 and 109.06 respectively. On the other hand, morbidity prevalence rate per 1000 persons for chronic diseases in Darjeeling district area and Jalpaiguri district area are 272.99 and 302.61 respectively. Results indicate that morbidity prevalence rate for acute diseases is higher in Darjeeling district area and that of for chronic diseases is higher in Jalpaiguri district area (as depicted in Figure 5.4). However, for SMCA, as a whole, prevalence rate for chronic diseases (i.e. 284.44 per 1000 persons) is much

higher than that of for acute diseases (i.e. 128.86 per 1000 persons), higher prevalence of non-communicable diseases among the people could be one of the reason for this.



Note: *Acute Disease: Suffering for less or equal to 30 days; ^chronic Disease: Suffering for more than 30 days continuously, DRJA = Part of SMCA falling under the jurisdiction of Darjeeling district, JPGA = Part of SMCA falling under the jurisdiction of Jalpaiguri district, SMCA= Siliguri Municipal Corporation Area.

Table 5.4: Distribution of Illness Episodes by Nature of disease and Place of Residence

Nature of Disease	DRJA			JPGA			SMCA		
	n	%	MPR	n	%	MPR	n	%	MPR
Acute*	146	34.11	141.34	71	26.49	109.06	217	31.18	128.86
Chronic^	282	65.89	272.99	197	73.51	302.61	479	68.82	284.44
Total	428	100	414.33	268	100	411.67	696	100	413.30

Source: Self-elaboration with survey data, Note: *Acute Disease: Suffering for less or equal to 30 days; ^chronic Disease: Suffering for more than 30 days continuously, n = Number of illness episodes, MPR = Morbidity Prevalence Rate per 1000 persons, DRJA = Part of SMCA falling under the jurisdiction of Darjeeling district, JPGA = Part of SMCA falling under the jurisdiction of Jalpaiguri district, SMCA= Siliguri Municipal Corporation Area.

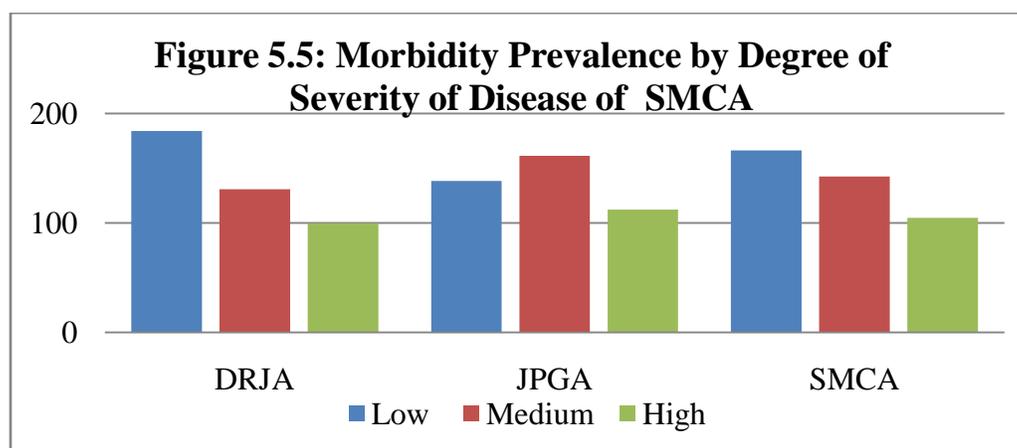
5.1.5 Severity of disease and Prevalence of disease

The table 5.5 depicts that diseases with low severity is comparatively much higher in Darjeeling district area than that of in Jalpaiguri district area, but both the medium and high severity diseases are higher in Jalpaiguri district area. But for the SMCA, as a whole, prevalence rate for low, medium and high severity diseases are 166.27, 142.52 and 104.51 respectively. Higher prevalence rate for low severity disease indicates that people perceive the diseases at the very beginning stage and start receiving treatment.

Table 5.5: Distribution of Illness Episodes by Severity and Place of Residence

Severity of disease	DRJA			JPGA			SMCA		
	n	%	MPR	n	%	MPR	n	%	MPR
Low	190	44.39	183.93	90	33.58	138.25	280	40.2	166.27
Medium	135	31.54	130.69	105	39.18	161.29	240	34.5	142.52
High	103	24.07	99.71	73	27.24	112.14	176	25.3	104.51
Total	428	100	414.33	268	100	411.67	696	100	413.30

Source: Self-elaboration with survey data, *Note: Low: Normal activity with symptoms; Medium: Impairment of activities; High: Bed ridden for seven days or more, n = Number of illness episodes, MPR = Morbidity Prevalence Rate per 1000 persons, DRJA = Part of SMCA falling under the jurisdiction of Darjeeling district, JPGA = Part of SMCA falling under the jurisdiction of Jalpaiguri district, SMCA= Siliguri Municipal Corporation Area.



Note: Low: Normal activity with symptoms; Medium: Impairment of activities; High: Bed ridden for seven days or more

5.1.6 Severity of disease and Category of disease

Table 5.6 highlights that out of total 178 GI illness episodes of SMCA, 40.45 percent are of low severity, 33.71 percent are of medium severity and 25.84 percent are of high severity cases. On the contrary, percentage of low, medium and high severity cases for GII diseases are more or less same. But for GIII diseases, prevalence of low severe disease cases is much higher than other types. In addition, results show that people experience similar percentage of medium severe cases for all categories of diseases though variations reported in case of low and high severity cases.

Table 5.6: Distribution of Category of diseases by Severity and Place of Residence

Severity of disease	DRJA			JPGA			SMCA		
	GI	GII	GIII	GI	GII	GIII	GI	GII	GIII
Low	46(56.10)	95 (36.82)	49 (55.68)	26 (27.08)	46 (34.33)	18 (47.37)	72 (40.45)	141 (35.97)	67(53.18)
Medium	21 (25.61)	86 (33.33)	28 (31.82)	39 (40.63)	50 (37.31)	16 (42.10)	60 (33.71)	136 (34.69)	44 (34.92)
High	15 (18.29)	77 (29.84)	11 (12.50)	31 (32.29)	38 (28.36)	4 (10.53)	46 (25.84)	115 (29.34)	15 (11.9)
Total	82	258	88	96	134	38	178	392	126

Source: Self-elaboration with survey data, Note: Figures in the parentheses indicate the percentage of the character out of total cases, * Low: Normal activity with symptoms; Medium: Impairment of activities; High: Bed ridden for seven days or more, GI: Communicable, maternal, peri-natal and nutritional conditions; GII: Non-communicable diseases; GIII: Injuries and accidents. DRJA = Part of SMCA falling under the jurisdiction of Darjeeling district, JPGA = Part of SMCA falling under the jurisdiction of Jalpaiguri district, SMCA= Siliguri Municipal Corporation Area.

5.1.7 Duration of Illness Episode by the sick people

Duration of illness episode is another important component of burden of disease of the people of any region. It is generally presumed that the longer is the duration of illness episode, the more is the burden of disease of the people. This duration of illness episode is directly linked to degree of

seriousness of disease. Table 5.7 depicts that a majority of the persons with GI and GII category diseases suffered more than 10 days duration. Data in the table 5.7 reveals that in SMCA as a whole, there are 56.18 percent episode of GI category diseases, 68.11 percent of GII category disease and 34.94 percent of GIII category disease episodes suffered for more than 10 days duration. On the other hand, out of the three category diseases, a majority of the people experiencing GII category diseases suffered more than 10 days duration.

Table 5.7: Distribution of Illness Episodes by Duration and Category of disease

Place of Residence/Category of Disease	1-3		4-6		7-10		More than 10 days		Total illness Episodes
	n	%	n	%	n	%	n	%	
DRJA									
GI	6	7.32	17	20.73	16	19.51	43	52.44	82
GII	8	3.10	25	9.69	48	18.60	177	68.60	258
GIII	8	9.09	16	18.18	34	38.64	30	34.09	88
Total	22	5.14	58	13.55	98	22.90	250	58.41	428
JPGA									
GI	2	2.08	30	31.25	9	9.38	55	57.29	96
GII	5	3.73	18	13.43	21	15.67	90	67.16	134
GIII	6	15.79	10	26.32	10	26.32	12	31.58	38
Total	13	4.85	58	21.64	40	14.93	157	58.58	268
SMCA									
GI	8	4.49	47	26.40	25	14.04	98	55.06	178
GII	13	3.32	43	10.97	69	17.60	267	68.11	392
GIII	14	11.11	26	20.63	44	34.92	42	33.33	126
Total	35	5.03	116	16.67	138	19.83	407	58.48	696

Source: Self-elaboration with survey data, Note: n = Number of illness episodes, N = Total illness episodes, GI: Communicable, maternal, peri-natal and nutritional conditions; GII: Non-communicable diseases; GIII: Injuries and accidents. DRJA = Part of SMCA falling under the jurisdiction of Darjeeling district, JPGA = Part of SMCA falling under the jurisdiction of Jalpaiguri district, SMCA= Siliguri Municipal Corporation Area.

5.2 Description of Morbidity pattern in the light of Demographic and Socio-economic characteristics of the People of SMCA

5.2.1 Morbidity Prevalence rates according to Gender, Age and Education

Morbidity prevalence rates for different category of diseases by gender, age and education level are presented in table 5.8. Variation in morbidity prevalence rates is observed between male and female. Morbidity prevalence rate for GI and GII category diseases are higher for females than for males, but on the other hand, prevalence rate for GIII category, is higher for males than for females in both the segments of SMCA as well as in whole SMCA. However, age is an important demographic factor affecting morbidity pattern of the people. As age increases, risk of communicable diseases decreases and that of non-communicable and other diseases increases (as depicted in Figure 5.8). It is observed that in SMCA, while on the one side morbidity prevalence rate for GI category diseases is highest for children below 5 years age (i.e. 175.18 per 1000 persons), that of for GII category (i.e. 681.82 per 1000 persons), and GIII category (i.e. 98.48 per 1000 persons) are highest for people aged 61 and above years old. However, overall morbidity prevalence rate for people aged 61 and above years old is highest (i.e. 863.64 per 1000 persons), indicating that elderly people are more vulnerable to different types of disease in SMCA. It is generally perceived that educated people are more conscious and aware about their health, and maintain healthy and hygienic lifestyle, therefore, they are less exposed to infectious or communicable diseases as compared to less educated or uneducated people. Thus, data show that in SMCA illiterate persons reported highest (i.e. 195.65 per 1000 persons) and post-graduate persons reported lowest morbidity prevalence rate (i.e. 81.40 per 1000 persons) for GI category diseases. But for GII category diseases, people with different qualifications reported more or less similar morbidity prevalence rate, except for illiterate persons (456.52 per 1000 persons). However, NASA category reported lowest morbidity prevalence rate for GII (i.e. 44.78 per 1000 persons) and GIII category cases (i.e. 29.85per 1000 persons), it may be due to utmost care taken for the children. Further, post-graduates reported highest prevalence rate (i.e. 104.65 per 1000 persons) for GIII category diseases, it may be due to higher reporting to health facilities to avoid future uncertain consequences for little injury or wound and others, but rest of other groups reported quite similar morbidity pattern for GIII category cases. However, more awareness,

consciousness, early perception, knowledge, hygienic living and others may be possible reasons for the lower prevalence of other types of diseases among the post-graduates.

Table 5.8: Distribution of Morbidity Prevalence Rate by Category of diseases, Gender, Age and Education

Characteristics of sample	DRJA	JPGA	SMCA	SMCA		
	Morbidity Prevalence Rate per 1000 persons			Morbidity Prevalence Rate per 1000 persons		
	All Category (GI+ GII+ GIII)			GI	GII	GIII
Gender						
Male	403.25	397.56	400.83	94.50	225.34	81.00
Female	427.08	435.68	429.96	120.67	242.72	66.57
Age (In Years)						
<5	207.32	327.27	255.47	175.18	51.09	29.20
5-14	149.12	259.26	184.52	59.52	89.29	35.71
15-24	367.47	289.86	324.40	96.51	144.77	83.11
25-44	468.09	589.74	488.66	138.14	261.86	88.66
45-60	423.24	378.38	406.17	77.12	254.50	74.55
61 & Above	762.38	903.23	863.64	83.33	681.82	98.48
Education						
Illiterate	791.67	681.82	739.13	195.65	456.52	86.96
NASA*	197.53	339.62	253.73	179.10	44.78	29.85
Up to Primary level	567.01	571.43	581.97	131.15	385.25	65.57
Primary - Secondary	395.92	390.70	393.48	93.48	232.61	67.39
Secondary- HS*	458.33	341.46	402.23	100.56	220.67	81.01
HS- Graduate	386.90	489.36	416.32	89.96	240.59	85.77
Post Graduate	396.55	357.14	383.72	81.40	197.67	104.65

Source: Self-elaboration with survey data Note: HS= Higher Secondary; GI: Communicable, maternal, peri-natal and nutritional conditions; GII: Non-communicable diseases; GIII: Injuries and accidents, * NASA indicates not attaining school age; they cannot be treated as illiterate though their education level is nil. Here, preparatory school qualification is not considered. DRJA = Part of SMCA falling under the jurisdiction of Darjeeling district, JPGA = Part of SMCA falling under the jurisdiction of Jalpaiguri district, SMCA= Siliguri Municipal Corporation Area.

Figure 5.6: Morbidity Prevalence Rate by Age of people of SMCA

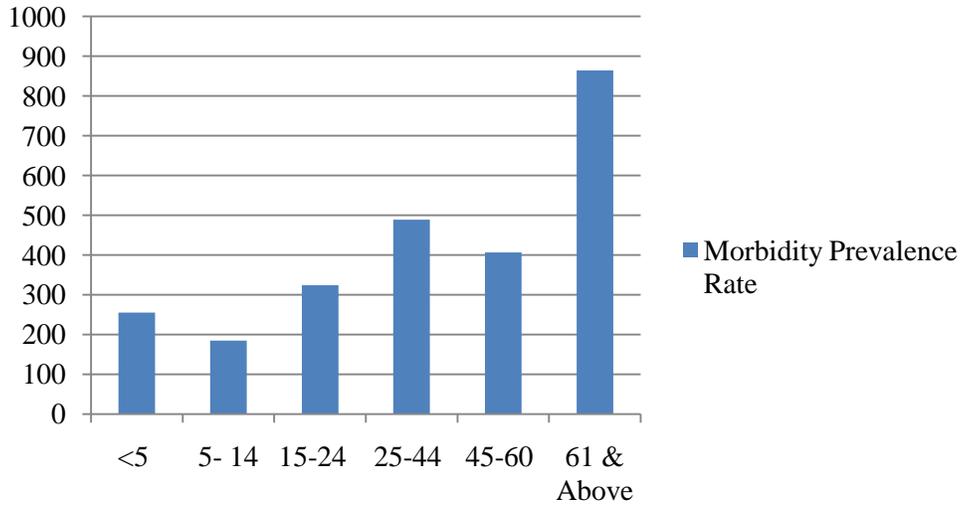
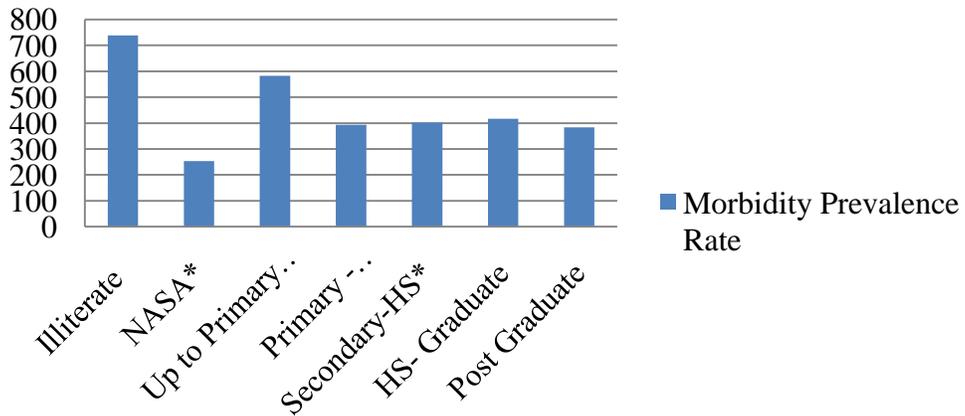


Figure 5.7: Morbidity Prevalence Rate by Education level of people of SMCA

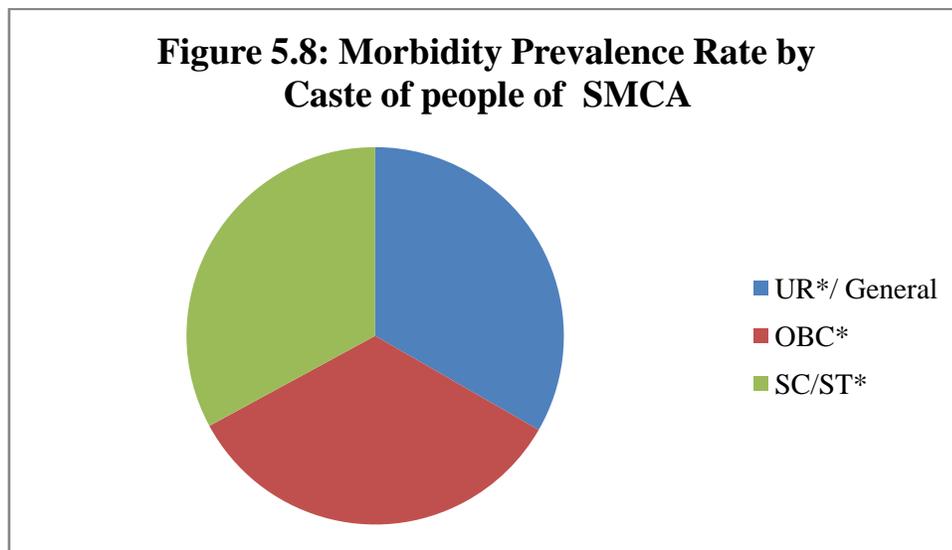


Note :NASA =Not attaining school age

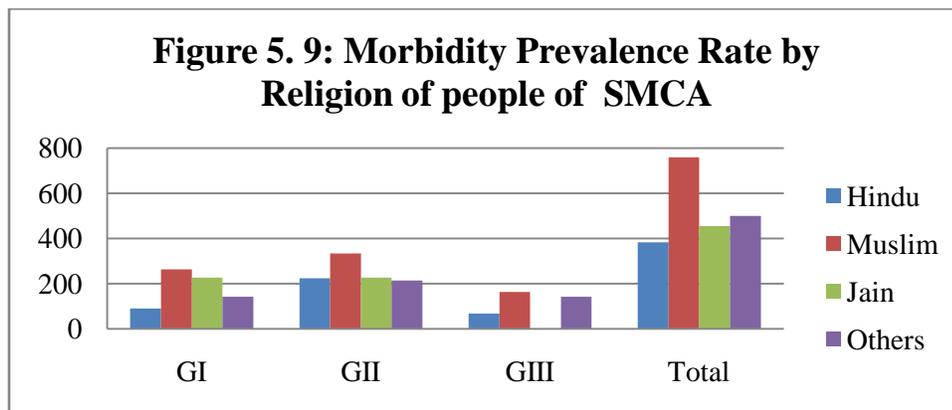
5.2.2 Morbidity Prevalence rates according to Caste, Religion, Marital status and Occupation

It is well known that people with different castes and religions have different beliefs, cultures, living styles and socio-economic backgrounds, therefore, these factors may also influence the morbidity patterns of the people. But, table 5.9 reveals that no such large variation in morbidity prevalence rates was found among the different castes of the people of SMCA, as also depicted in figure 5.9. It may be due to the fact that in SMCA, there is no water-tight division in the society with regard to caste. However, significant difference was found among the different religious groups as depicted in figure 5.10. Data show that Muslim communities have reported higher morbidity prevalence rates for all categories of diseases (i.e. 263.57 for GI type, 333.33 for GII type and 162.79 for GIII type diseases) as compared to other religions. Food habit, living condition, life styles, occupation, genetically transmitted diseases and others may be cited as the probable reasons for this. Unexpectedly no GIII type case was reported by Jain community people during the reference, thus, prevalence rate is 0 per 1000 persons. Further, disease pattern may also vary as marital status of the people varies as evident in the table 5.9. Data reveal that widower persons reported highest prevalence rate for communicable diseases (i.e. 307.69 per 1000 persons), widows reported highest prevalence rate for non-communicable diseases and married persons experienced highest number of injury and accident cases during the reference period of twelve months. On the other hand, figure 5.11 shows that for SMCA as a whole, it is worked out that morbidity prevalence rate is highest for widow (i.e. 777.78 per 1000 persons), followed by widower (i.e. 769.23 per 1000 persons), divorcee (i.e. 516.13 per 1000 persons), married (i.e. 468.00 per 1000 persons) and unmarried (i.e. 295.27 per 1000 persons). Higher prevalence rate among the widows, widowers and divorcees may be due to their physical or mental disturbance, nobody to care for them, social withdrawal, depression etc. But for GIII category diseases all category people with different marital status have more or less similar morbidity prevalence rate. The table also reveals that people belonging to different occupational groups are exposed to different types of physical as well as mental health problems. It can be observed in both the segments of SMCA and as well as in SMCA that people those have

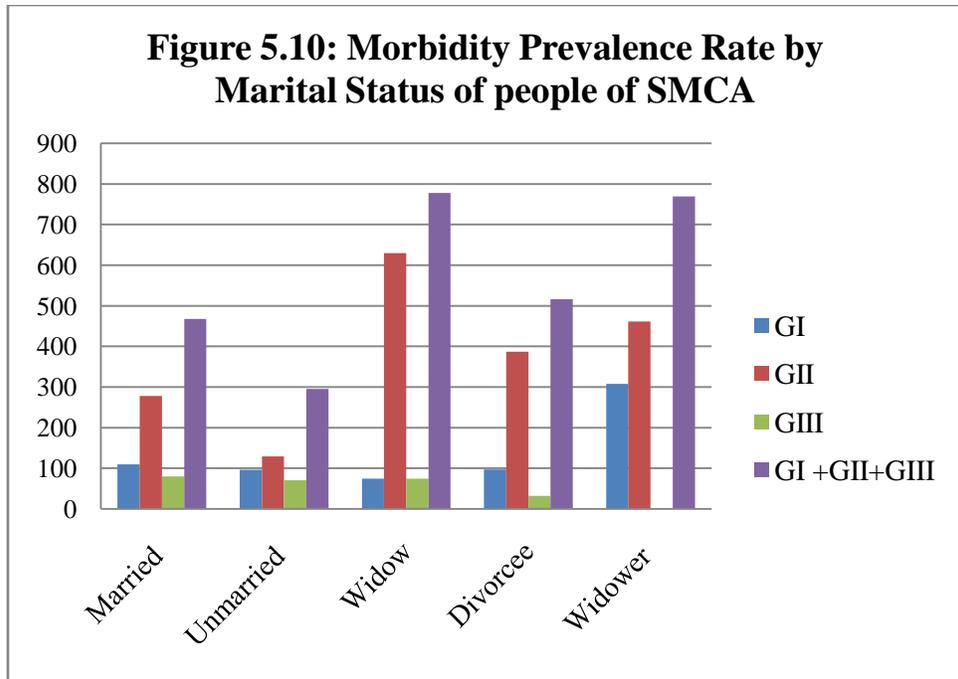
stopped work due to old age have reported highest prevalence rate, followed by retired person, wage earners etc. Further, it is worked that wage earners have comparatively higher prevalence rate (i.e. 153.85 per 1000 persons) for GI category diseases, retired persons have highest prevalence (i.e. 545.45 per 1000 persons) for GII category diseases and self-employed have highest prevalence (i.e. 220.78 per 1000 persons) for GIII category diseases compared to other occupation groups. Results indicate that as occupational status changes morbidity pattern also changes accordingly as portrayed in Figure 5.12. These changes in disease pattern among different occupation groups could be due to nature of work, working condition and environment, work load, occupational status and others.



Note: UR= Unreserved category, OBC = other backward Classes, SC= Schedule caste, ST= Scheduled Tribe.



Note: GI: Communicable, maternal, peri-natal and nutritional conditions; GII: Non-communicable diseases; GIII: Injuries and accidents,



Note: GI: Communicable, maternal, peri-natal and nutritional conditions; GII: Non-communicable diseases; GIII: Injuries and accidents.

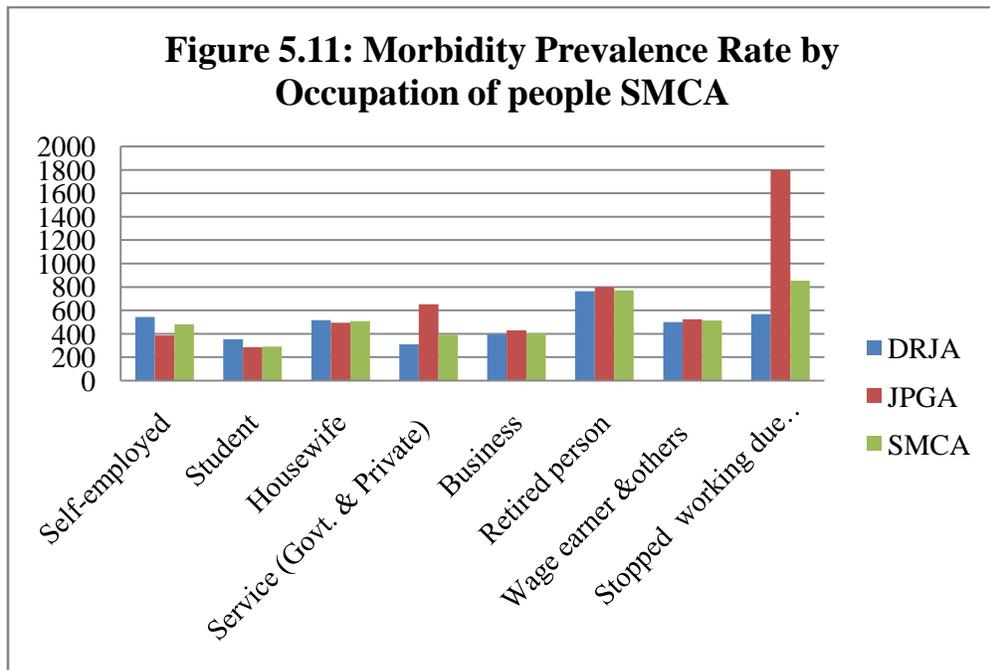


Table 5.9: Distribution of Morbidity Prevalence Rate by Category of disease, Caste, Religion, Marital status and Occupation

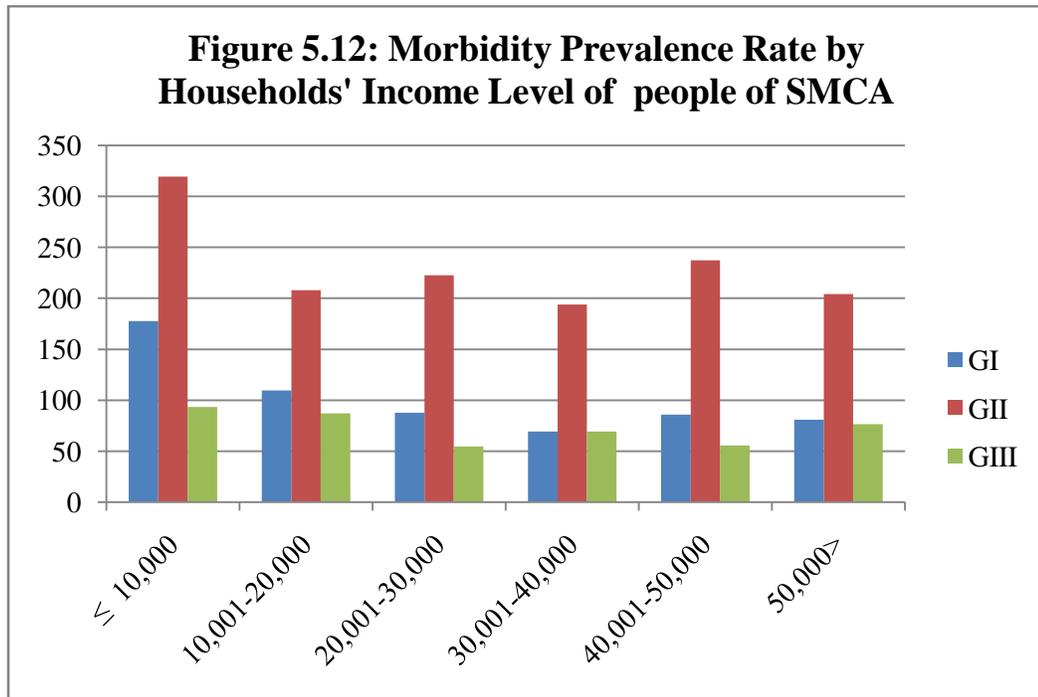
Characteristics of sample	DRJA	JPGA	SMCA	SMCA		
	Morbidity Prevalence Rate per 1000 persons			Morbidity Prevalence Rate per 1000 persons		
	All Category (GI+ GII+ GIII)			GI	GII	GIII
Caste						
UR*/ General	319.25	400.53	413.00	104.00	233.00	76.00
OBC*	486.91	344.63	418.48	105.98	236.41	76.09
SC/ST*	390.89	577.32	408.23	110.76	227.85	69.62
Religion						
Hindu	389.79	371.24	382.49	90.19	224.49	67.81
Muslim	659.34	1000.00	759.69	263.57	333.33	162.79
Jain	363.64	545.45	454.55	227.27	227.27	0.00
Others	500.00	340.91	500.00	142.86	214.29	142.86
Marital Status						
Married	458.33	484.04	468.00	110.00	278.00	80.00
Unmarried	338.24	271.60	295.27	96.25	128.87	70.15
Widow	250.00	769.23	777.78	74.07	629.63	74.07
Divorcee	578.95	416.67	516.13	96.77	387.10	32.26
Widower	833.33	714.29	769.23	307.69	461.54	0.00
Occupation						
Self-employed	543.48	387.10	480.52	64.94	194.81	220.78
Student	353.26	284.36	291.14	88.61	154.43	48.10
Housewife	517.37	493.33	508.56	119.80	320.29	68.46
Service (Govt. & Private)	308.46	651.52	391.79	89.55	223.88	78.36
Business	393.55	428.57	405.17	90.52	241.38	73.28
Retired person	764.71	800.00	772.73	90.91	545.45	136.36
Wage earner & others	500.00	523.81	512.82	153.85	256.41	102.56
Stopped working due to old age (No Earning)	568.63	1800.00	853.72	131.15	491.80	230.77

Source: Self-elaboration with survey data Note: NASA, Unemployed etc not included in the occupation. GI: Communicable, maternal, peri-natal and nutritional conditions; GII: Non-communicable diseases; GIII: Injuries and accidents, UR= Unreserved category, OBC = other backward Classes, SC= Schedule caste, ST= Scheduled Tribe. DRJA = Part of SMCA falling under the jurisdiction of Darjeeling district, JPGA = Part of SMCA falling under the jurisdiction of Jalpaiguri district, SMCA= Siliguri Municipal Corporation Area.

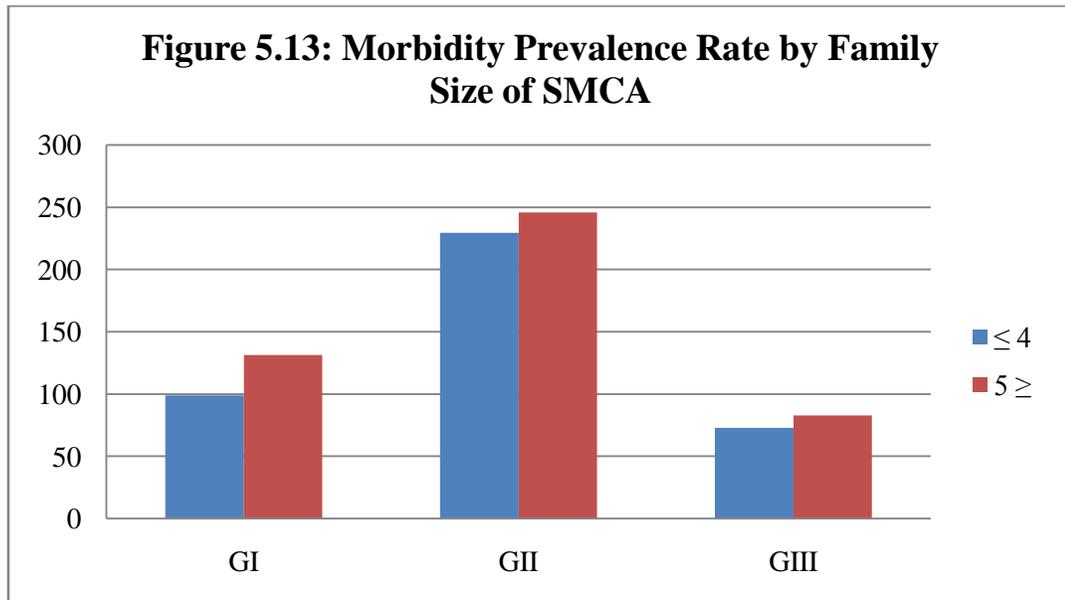
5.2.3 Morbidity Prevalence rates according to Economic status and Household Size

Table 5.10 presents the morbidity pattern of the people with regard to household characteristics such as households' monthly income, major source of household income, economic class and size of the households. Households having main source of income as wages have reported highest prevalence rate for GI category diseases, self-employed and professional households have reported highest prevalence rate of GII category and pensioners have reported highest prevalence rate of GIII category. Further, data reveal that as the level of households' income increases morbidity prevalence rate decreases. It may be due to high capacity to meet medical expenses or high affordability, wishing to live quality life, over seriousness with disease, able to manage time etc. Further, it is observed from figure 5.13 that for SMCA as a whole, individuals belonging to households' monthly income less than Rupees. 10,000 have reported highest prevalence rate for all category of diseases. However, overall morbidity prevalence rate is highest among the households having monthly income less than Rupees. 10,000 followed by households having monthly income Rupees. 10,001-20,000 and all other income groups have reported more or less similar prevalence rate. It is also evident that households with major source of income as wages have highest prevalence rate for communicable related disease and pensioners have highest prevalence rate for both non- communicable and injury cases in the study area. It is also worked out that households belonging to BPL (Below Poverty Line) category have higher morbidity prevalence rate (i.e. 493.73 per 1000 persons) than the APL (Above Poverty Line) category (i.e. 388.33 per 1000 persons). Further, it is observed that BPL families have reported higher prevalence rate for all category diseases category diseases, it could be due to their lack of nutrition, poor housing, sanitation, low awareness, unhygienic living etc. Finally, the table shows that in SMCA, households with equal to or more than five members have higher morbidity prevalence rate (i.e. 460.00 per 1000 person) than the households having less than or equal to four members as shown in Figure 5.14, it may be due to the fact small sized

family can pay more attention to each and every members of the family whereas other cannot do so in that way.



Note: GI: Communicable, maternal, peri-natal and nutritional conditions; GII: Non-communicable diseases; GIII: Injuries and accidents.



Note: GI: Communicable, maternal, peri-natal and nutritional conditions; GII: Non-communicable diseases; GIII: Injuries and accidents.

Table 5.10: Distribution of Morbidity Prevalence Rate by economic characteristics of the household

Characteristics of sample	DRJA	JPGA	SMCA	SMCA		
	Morbidity Prevalence Rate per 1000 persons			Morbidity Prevalence Rate per 1000 persons		
	All Category (GI+ GII+ GIII)			GI	GII	GIII
Monthly Income (In Rupees)						
≤ 10,000	632.98	534.72	590.36	177.71	319.28	93.37
10,001-20,000	405.23	403.94	404.49	109.55	207.87	87.08
20,001-30,000	355.03	380.95	364.96	87.59	222.63	54.74
30,001-40,000	345.74	306.93	332.18	69.20	193.77	69.20
40,001-50,000	384.15	352.94	378.79	85.86	237.37	55.56
50,000>	345.03	435.19	361.70	80.85	204.26	76.60
Major Source of Household Income						
Salary	391.14	363.64	381.20	83.76	215.38	82.05
Wages	522.39	512.20	516.78	201.34	228.19	87.25
Business	429.52	419.09	425.90	112.23	244.60	69.06
Pension	500.00	357.14	468.75	93.75	281.25	93.75
Professionals/Self - employed and others	309.28	425.53	366.49	78.53	230.37	57.59
Economic Class						
BPL	465.12	546.10	493.73	152.88	260.65	80.20
APL	397.42	374.51	388.33	91.05	224.12	73.15
Household Size						
≤ 4 members	398.92	403.72	401.05	98.95	229.39	72.71
5 ≥ members	453.61	491.53	460.00	131.43	245.71	82.86

Source: Self-elaboration with survey data Note: GI: Communicable, maternal, peri-natal and nutritional conditions; GII: Non-communicable diseases; GIII: Injuries and accidents, APL: Above Poverty Line; BPL: Below Poverty Line, Authentication is not verified, categorisation is based on type of ration card holding. DRJA = Part of SMCA falling under the jurisdiction of Darjeeling district, JPGA = Part of SMCA falling under the jurisdiction of Jalpaiguri district, SMCA= Siliguri Municipal Corporation Area.

5.3 Summary

Descriptive results highlight that while one segment of the study area (i.e. Jalpiguri district area) has higher morbidity prevalence rate for communicable and other maternal related diseases, the other segment (i.e. Darjeeling district area) is experiencing higher morbidity prevalence rate for non-communicable diseases and intentional and unintentional injury cases. Difference in socio-economic and demographic characteristics of the people of two places may be the reason for this. Higher morbidity prevalence rate for females than the males indicates the high education level among females, more reporting to the health facilities for pregnancy complications and child birth and other related issues. Thus, study finds gender disparity with regard to morbidity prevalence rate. The study also reveals that as age increases morbidity pattern also changes. Low prevalence rate of infectious or communicable diseases among the educated people indicates their more awareness, consciousness, early perception, knowledge, hygienic living etc. Lowest prevalence of injury and wound cases for the children may be due to utmost care given on them. Further, physical or mental disturbance, nobody to take care, social withdrawal, depression etc. are the probable causes of higher morbidity prevalence rate among widow, divorcee and widower persons. Further, higher morbidity prevalence rate among low income groups points out that they ignore the minor health problems and rarely report to the doctor or other health facilities because of their low capacity to meet medical expenses or low affordability, unable to predict future consequences, no seriousness with disease, cannot able to manage time etc. In addition, poor housing condition, unclean sanitation, low awareness, unhygienic living etc. could be the probable reason for higher prevalence rate of communicable, other maternal, perinatal and nutritional deficiency cases among BPL families. On the contrary, sedentary life style, overweight, abdominal obesity, hypertension, over reporting to the healthcare facilities due to high affordability etc., may be the reasons for higher prevalence for non-communicable diseases among APL families. In the study area, though there is no such difference in morbidity prevalence among the different castes but considerable difference is found among the different religions. Further, study finds opposite relationship between morbidity prevalence rates and other household characteristics such as monthly income, economic class, but has direct relationship

with family size of the households. Thus, study finds that morbidity has complicated and multifaceted features and it varies across the different demographic and socio-economic characteristics of the people. However, it can be said that morbidity pattern of Siliguri Municipal Corporation Area (SMCA) is dominated by the non-communicable diseases; still a considerable number of people are exposed to a greater risk of being affected by communicable, maternal and peri-natal conditions, followed by injuries including accidents indicating the region is moving towards advanced phase of epidemiological transition.