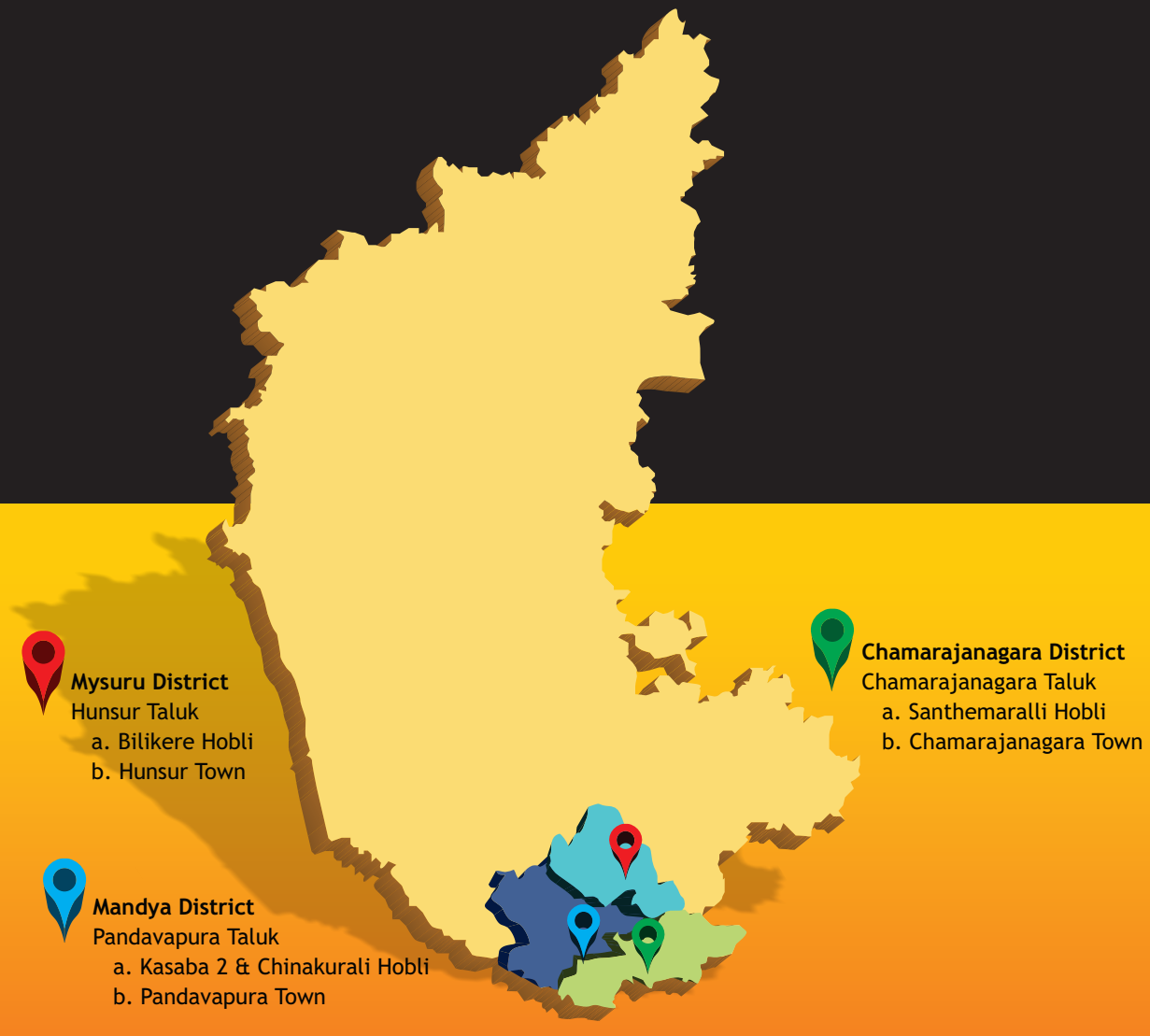
Report on the Survey of Communication Disorders Level IV - Phase I



All India Institute of Speech and Hearing

Report on the
Survey of Communication Disorders
Level IV-Phase I
in
Hunsur Taluk, Mysuru District
[(a) Bilikere Hobli & (b) Hunsur Town]

Pandavapura Taluk, Mandya District
[(a) Kasaba 2 & Chinakurali Hoblis, (b) Pandavapura Town]

Chamarajanagara Taluk, Chamarajanagara District
[(a) Santhemaralli Hobli & (b) Chamarajanagara Town]

Project on
Survey of Communication Disorders by Trained ASHA Workers in the Districts of Mysuru, Mandya and Chamarajanagar

Ref No. SH/CDN/ARF/4.74/2015-16 dt 01.01.2016

Duration of Level IV-Phase I
11.05.2015 - 30.11.2016 (1 year, 7 months)

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	Mr. Chandan Kumar	From 24.03.2016 to 30.11.2016

PREAMBLE

The activities in Level IV, Phase 1 of the survey was based on the prototype established and revised for all the activities in Levels I, II and III of the project. The survey in Level IV, Phase 1 included three districts, ***Hunsur Taluk*** of Mysuru district, which included villages in (i) Bilikere Hobli located at a distance of 40 km from the All India Institute of Speech and Hearing (AIISH), Mysuru and (ii) Hunsur Town located at distance of 45 km from AIISH. The total population surveyed in Bilikere Hobli and Hunsur town was **1,06,414**. ***Pandavapura Taluk*** of Mandya district which included villages in (i) Kasaba II Hobli located at a distance of 36 km from the AIISH (ii) Chinakurali Hobli located at a distance of 40 km from AIISH and (iii) Pandavapura town located at a distance of 41 km from AIISH. The total population surveyed in the two Hoblis and town of Pandavapura Taluk was **90,871**. ***Chamarajanagara Taluk*** of Chamarajanagara district which included villages of (i) Santhemaralli Hobli located at a distance of 55 km from the AIISH and (ii) Chamarajanagara Town located at a distance of 75 km from AIISH (Appendix 1). The total population surveyed in the hoblis of Santhemaralli and Chamarajanagara town was **1,36,596.** Hence a total population of 3,33,881 surveyed is reported.

The protocol followed in Level IV was similar to that of Level III in terms of selection and training procedure for ASHA Workers and the process and outcome rehabilitation modules followed. The ASHA Workers were selected from the respective villages targeted for survey at this level and for the survey in town; Anganawadi teachers and ANM Worker were selected and trained as there was no availability of ASHA Workers in urban areas.

The project aimed to follow up 100% of persons identified with various communication disorders during survey. The follow up of persons identified with communication disorders was done by carrying out the evaluation at All India Institute of Speech & Hearing, Mysuru. Despite the arrangements made for their travel from respective villages to AIISH and back including the financial aspects, most of the patients identified with communication disorders could not come to AIISH for evaluation due to various reasons such as non availability of a caregiver to accompany elderly patients, lack of interest to undergo evaluation despite repeated counselling, busy with their work (loss of daily wages, health issues etc), out of station/not available on the days fixed for evaluation at AIISH, reduced problem/problem not present on the days fixed for evaluation at AIISH (for example, ear pain, ear discharge, throat pain etc.), consulted nearby health centres for treatment, other reasons including refusal to acknowledge that they have communication disorders. Hence, series camps were arranged in the nearby PHCs to evaluate those who did not come to AIISH. However, few persons identified with communication disorders could not attend the camps citing reasons similar to that offered for not coming to AIISH for evaluation, and therefore, such individuals were evaluated at their homes (door to door) by a team of Speech Language Pathologists and Audiologists.

THE PROJECT

The Objectives in level IV, Phase I of the survey were (a) to train ASHA Workers (for village survey), Anganawadi Teachers and ANM Worker (for survey in town) for identification of various communication disorders in (i) Hunsur Taluk, with a total population of **1,06,414** persons by conducting house to house survey in 98 villages of Bilikere Hobli of Hunsur Taluk Mysuru

District falling under 6 PHC's with 15,082 houses and population of 62,125; Hunsur Town with 10,832 houses and population of 44,289 amounting to an overall population of 1,06,414, (ii) Pandavapura Taluk with a total population of **90,871** persons by conducting house to house survey in 66 villages of Chinakurali and Kasaba II Hoblis falling under 3 PHC's and 1 CHC (Chinakurali) with 17,025 houses and population of 70,907; Pandavapura Town with 5,181 houses and population of 19,964 and (iii) Chamarajanagara Taluk with a total population of 1,36,596 persons by conducting house to house survey in 54 villages of Santhemaralli Hobli falling under 4 PHC's and 1 CHC (Santhemaralli) with 15,713 houses and a population of 69,643 and Chamarajanagara town with 13,606 houses and a population of 66,953, (b) to conduct the survey using material that were field tested in Level I, which included Demographic sheets, Short checklist for screening persons with communication disorders, Checklist to screen for developmental milestones in speech, language, and hearing disabilities, High Risk Register for screening persons with communication disorders, Referral slips to be used by ASHA Workers and Anganawadi teachers, Survey booklet to enter the details after house to house survey by the ASHA Workers, Anganawadi teachers and ANM Worker, Resource Manual for the ASHA Workers (in English and Kannada), Feedback questionnaire for ASHA Workers and Anganawadi teachers, Questionnaire to check awareness for communication disorders among the general public, (c) establish the prevalence percentage of communication disorders for the population surveyed in the selected regions in this level of the project, (d) facilitate evaluations and diagnoses for persons identified with various communication disorders through the survey and ensure that they seek professional services of Speech-Language Pathologists at the All India Institute of Speech & Hearing, Mysuru, and (e) provide guidance and counseling support for tertiary rehabilitation process for those with established diagnoses of communication disorders.

METHOD

Selection of ASHA Workers and Anganwadi Teachers

ASHA Workers, who were catering to other health related screening programs of the Karnataka Government, were recruited for the survey. A total of 59 ASHA Workers were recruited to carry out survey in the villages of Bilikere Hobli of Hunsur Taluk of Mysuru District and 28 Anganwadi Teachers were recruited to carry out the survey in Hunsur Town (belonging to Hunsur Taluk) of Mysuru District. 68 ASHA Workers were recruited for survey in Kasaba II & Chinakurali Hobli (Pandavapura Taluk – Rural) and 18 Anganawadi Teachers were recruited to carry out the survey in Pandavapura Town (Pandavapura Taluk – Urban) 71 ASHA Workers were recruited in Santhemaralli Hobli (Chamarajanagara Taluk - Rural) and 42 Anganwadi Teachers and 1 ANM worker in Chamarajanagara Town (Chamarajanagara Taluk - Urban) of Chamarajanagara District.

Duration and details of the Survey

The survey was conducted in a single phase, initially covering the villages of Bilikere, Kasaba II, Chinakurali and Santhemaralli Hobli, followed by Hunsur, Pandavapura and Chamarajanagara Town. The duration included in this phase of the project was 19 months (from 11.05.2015 to 30.11.2016). The details are presented in Table 1.

Table 1.
Details of survey in Mysuru, Mandya and Chamarajanagara District

Sl. No.	*Villages/ Town of Hunsur Taluk*	*Hobli/s*	*Total No. of PHCs*	*Total No. of villages*	*Total No. of houses*	*Total population screened for communication disorders*	*No. of ASHA Workers/ Anganwadi Teachers included*
1.	Hunsur Villages (Rural)	Bilikere	6	98	15,082	62,125	59
	Hunsur Town (Urban)				10,832	44,289	28
		Total			25,914	1,06,414	87
2.	Pandavapura Villages (Rural)	Kasaba II	2	34	11,055	44,492	40
		Chinakurali	2	32	5,970	26,415	28
		Sub total	4	66	17025	70907	68
	Pandavapura Town (Urban)				5,181	19,964	18
		Total			22,206	90,871	86
3.	Chamarajanagara Villages (Rural)	Santhemaralli	5	54	15,713	69,643	71
	Chamarajanagara Town (Urban)				13,606	66,953	43
		Total			29,319	1,36,596	114

ASHA Workers & Anganwadi Teachers recruited

Figures 1 to 3 show ASHA Workers and Anganwadi Teachers recruited in Level IV Phase I in Hunsur Taluk of Mysuru district, Figures 4 to 7 show ASHA Workers and Anganwadi Teachers recruited in Level IV Phase I in Pandavapura Taluk of Mandya district and Figures 8 to 11 show ASHA Workers, Anganwadi Teachers and ANM Worker recruited in Level IV Phase I in Chamarajanagara Taluk of Chamarajanagara district.

Figure 1: ASHA Workers selected from PHCs of (i) Karimuddanahalli (ii) Bolanahalli (iii) Dharmapura for Level IV Phase I in Hunsur Taluk of Mysuru District

Figure 2: ASHA Workers selected from PHCs of (i) Bilikere (ii) Gerasanahalli (iii)

Challahalli for Level IV Phase I in Hunsur Taluk of Mysuru District

Figure 3: ASHA Workers selected from PHCs of (i) Bilikere (ii) Gersanahalli (iii) Challahalli (iv) Bolanahalli for Level IV Phase I in Hunsur Taluk of Mysuru District

Figure 4: ASHA Workers selected from (i) Chinakurali (ii) Aralakuppe (iii) Bannangadi for Level IV Phase I in Pandavapura Taluk of Mandya District


ಎಡದಿಂದ ಬಲಕ್ಕೆ: ಬನ್ನಂಗಡಿ: ಸವಿತಾ ಪಿ ಎಸ್., ಮೀನಾಕ್ಷಿ, ಮಂಜುಳ ಎಂ ಕೆ, ಪೂರ್ಣೆಮ ಜಿ, ನಿರ್ಮಲ ಬಿ ಜೆ , ಸ್ಫೂರ್ತಿ


ಎಡದಿಂದ ಬಲಕ್ಕೆ: ಶೋಭ, ರಂಜಿತ

Figure 5: ASHA Workers selected from (i) Bannangadi (ii) Aralakuppe for Level IV Phase I in Pandavapura Taluk of Mandya District

Training of ASHA Workers and Anganwadi Teachers

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ಎಡದಿಂದ ಬಲಕ್ಕೆ: ಕ್ಯಾತನಹಳ್ಳಿ: ಜಯಮ್ಮ ಕೆ. ಪಿ., ಸರಸ್ವತಿ ವಿ. ಕೆ., ಗೀತಾ, ವಿನೋದ ಕೆ. ಎಸ್., ಮಂಗಳಮ್ಮ, ರಾಜಮಣಿ ಹೆಚ್. ಕೆ., ಕಾಳಮ್ಮ ವಿ. ಎಮ್., ಸುಧಾಮಣಿ ಹೆಚ್. ಎಮ್., ಭಾಗ್ಯ ಕೆ. ಎಸ್., ಶೃತಿ ಆರ್., ಸುಧಾ ಕೆ. ಎನ್., ಭಾಕ್ಷಾಯಣಿ ಕೆ. ವಿ., ಮೋಹನ್ ಕುಮಾರಿ ವಿ., ಜ್ಯೋತಿ ಎಂ., ಎ.,

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ಕುಳಿತಿರುವವರು
ಎಡದಿಂದ ಬಲಕ್ಕೆ: ಅಶ್ವತ್ ಕೆ., ವಾಕ್ – ಶ್ರವಣ ತಂತ್ರಜ್ಞ., ತೇಜಸ್ವಿನಿ ಜಿ. ಎಮ್., ವಾಕ್ ಶ್ರವಣ ತಂತ್ರಜ್ಞ., ಸುಷ್ಮ ಮಂಜುನಾಥ್, ಎಸ್.ಎಲ್.ಪಿ. ಗ್ರೇಡ್ ೧, ಡಾ. ಎಸ್.ಆರ್. ಸಾವಿತ್ರಿ, ನಿರ್ದೇಶಕರು., ಡಾ. ಆರ್. ಮಂಜುಳ, ಪ್ರೊಫೆಸರ್ – ಸ್ಪೀಚ್ ಪೆಥಾಲಜಿ., ಪ್ರೀತಿ. ಆರ್., ಎಸ್.ಎಲ್.ಪಿ. ಗ್ರೇಡ್ ೧, ಪುನೀತ್ ಕುಮಾರ್ ಬಿ., ಸಾಮಾಜಿಕ ಕಾರ್ಯಕರ್ತ.

Figure 6: ASHA Workers selected from Kyathanahalli for Level IV Phase I in Pandavapura Taluk of Mandya District

ಎಡದಿಂದ ಬಲಕ್ಕೆ: ಮೊದಲ ಸಾಲು: ಕೋಮಲ, ಉಷ, ಚಿಕ್ಕತಾಯಮ್ಮ, ಮೋಸಿನ, ಕಮಲಮ್ಮ, ಮೋಕ್ಷ.ಬಿ.ಜಿ, ಚೈತನ್ಯ, ಪ್ರತಿಮ, ಭಾರತಿ, ಪ್ರೇಮಾಂಬ, ಸುಲೋಚನ.
ಎಡದಿಂದ ಬಲಕ್ಕೆ: ಎರಡನೇ ಸಾಲು: ಹಾರ್ದತಮ್ಮ, ಮೇರಿ ಆಂಟೋನಿ, ಇಂದುಮತಿ, ರುಕ್ಮಿಣಮ್ಮ, ಕಲಾವತಿ, ಜಯಲಕ್ಷ್ಮಿ, ಪುಷ್ಪಲತ

Figure 7: Anganwadi Workers selected from Pandavapura Town in Pandavapura Taluk of Mandya District

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ಎಡದಿಂದ ಬಲಕ್ಕೆ: ಸಂತೆಮರಳ್ಳಿ: ಮಾಲತಿ. ಹುಚ್ಚಾಯಮ್ಮ. ವಸಂತ. ಮಂಗಳಮ್ಮ. ಶೈಲಾ. ಸಾವಿತ್ರಿ. ಉಮಾ. ವೇಬಿ. ನಾಗರತ್ನ. ರಾಜಮ್ಮ. ನೀಲಮ್ಮ. ರತ್ನಮ್ಮ.
ಮಾಗೆ. ಕೆಂಪಮ್ಮ. ರಾಣಿ. ರತ್ನಮ್ಮ. ವಸಂತಕುಮಾರಿ

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*Figure 8:*ASHA Workers selected from (i) Santhemaralli (ii) Ummathuru for Level IV Phase 1 in Chamarajanagara Taluk, Chamarajanagara District

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ಎಡದಿಂದ ಬಲಕ್ಕೆ: ಕುದೇರು: ಮಹದೇವಮ್ಮ. ಶೀಲಾ. ಉನ್ನಿಸ್ ಮಾಲಿನಿ. ಕಮಲಮ್ಮ. ನಾಗರತ್ನಮ್ಮ. ಜ್ಯೋತಿ. ಪದ್ಮ. ಕುಮಾರಿ. ಶೋಭ. ಹುಚ್ಚ. ಲಲಿತ
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ವಸಂತಕುಮಾರಿ. ರಾಜಮ್ಮ. ಪಂಕಜಾಕ್ಷಿ. ಗಾಯತ್ರಿ. ರುಕ್ಮಿಣಿ

Figure 9: ASHA Workers selected from (i) Kuderu (ii) Hallikerehundi and (iii) Honganuru for Level IV Phase 1 in Chamarajanagara Taluk, Chamarajanagara District

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ಹೊಂಗನೂರು: ಮೈನಾವತಿ
ಸಂತೇಮರಳ್ಳಿ: ಭಾಗ್ಯಮ್ಮ, ಸುಮ ಬೈ.ಆರ್, ಮಂಜುಳ, ಜ್ಞೇಮ, ನಾಗಮ್ಮ,

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Figure 10: ASHA Workers selected from (i) Santhemaralli and (ii) Honganuru for Level IV Phase 1 in Chamarajanagara Taluk, Chamarajanagara District

ಮೊದಲನೇ ಸಾಲು: ಎಡದಿಂದ ಬಲಕ್ಕೆ: ಚಂದ್ರಮ್ಮ, ಕಮ್ಮ ಉನ್ನಿಸ, ಮಮತ, ರುಕ್ಸಾನಾ ಬೇಗಂ, ಮೌಸಿಂ ಫಾತಿಮಾ, ಸಮೀನಾ ಉನ್ನಿಸ, ಶಹನಾಜ್ ಬೇಗಂ, ಮಲ್ಲಿಕಾ ರುಕ್ಸಾನಾ,
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ಎಡದಿಂದ ಬಲಕ್ಕೆ : ಶಶಿರೇಖಾ, ಯಶೋಧ, ಪದ್ಮಜ, ಲೀಲಾವತಿ, ಪೈಲೆಟ್ ಕೃಪಾನಿಧಿ, ತಾಯಮ್ಮ, ಸಿ.ಕೆ. ನಾಗಮಣಿ, ರೇವಮ್ಮ, ಭಾಗ್ಯಮ್ಮ, ಟಿ. ರತ್ನಮ್ಮ,
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ಎಡದಿಂದ ಬಲಕ್ಕೆ: ಚಂದ್ರಮ್ಮ(ಎ.ಎನ್.ಎಮ್.),ಶಶಿಕಲಾ, ರಾಜಮ್ಮ, ಸಂಪತ್ ಕುಮಾರಿ, ಸಿದ್ದಮ್ಮ, ವರಲಕ್ಷ್ಮೀ, ಸಿ.ಆರ್. ಸರಸ್ವತಿ, ತುಳಸಮ್ಮ

Figure 11: Anganwadi Teachers and ANM Worker selected from Chamarajanagara Town in Chamarajanagara Taluk, Chamarajanagara District

Details on Geographical locations, Population & ASHA workers and Anganwadi Teachers

The villages in Bilikere Hobli of Hunsur Taluk, Mysuru District were located at a distance of 30 Kms from AIISH, Mysuru (***Appendix 1)*** and Hunsur town was located at a distance of 45 Kms from AIISH. Villages in Kasaba II Hobli and Chinakurali Hobli were located at a distance of 36 Kms and 40 Kms from AIISH respectively ***(Appendix 1)*** and Pandavapura town was located at a distance of 41Kms from AIISH.

In this leg of the survey, villages included in Santhemaralli Hobli were located at a distance of 55 Kms from AIISH ***(Appendix 1)*** and Chamarajanagara town was located at a distance of 75Kms from AIISH, Mysuru**.**

Geographical locations covered in Mysuru, Mandya and Chamarajanagara districts in Level IV Phase 1 are given in tables **2 to 4.**

Table 2
Details of Bilikere Hobli of Hunsur Taluk in Mysuru district

Bilikere Hobli			
List of Villages in PHCs of Bilikere, Bolanahalli & Gerasanahalli		*List of Villages in PHCs of Challahalli, Dharmapura & Karimuddanahalli*	
	A		**D**
	Bilikere PHC		***Challahalli PHC***
1.	Bilikere-A	1.	Challahalli
2.	Jeenahalli	2.	Benkipura
3.	Dastikola	3.	Anarayanapura
4.	Bilikere-B	4.	Gohalli
5.	Dallalu	5.	Mahadevapura
6.	Bilikere-C	6.	Mahadevapurahadi
7.	Mallinathapura (Bilikere-C)	7.	Gagenahalli
8.	Sabbanahalli (Bilikere-C)	8.	Nanjammanakoppalu (Hulegowdanakoppalu)
9.	Dallalukoppalu (Bilikere-C)	9.	Vaderahosahalli
10.	Bilikere-D	10.	Hallikere
11.	Handanahalli (Bilikere-D)	11.	Chikkabeechanahalli
12.	Doddabeechanahalli (Bilikere-D)	12.	Eranadasikoppalu
13.	Elachavadi (Bilikere-D)	13.	Haradanahalli (Rampura)
14.	Manuganahalli	14.	Shankhahalli

15. Kempammana Hosuru
16. Chikkadanahalli
17. Ankanahalli
18. Devarahalli
19. Hullenahalli
20. Boochahalli
21. Moodalakoppalu

B

Bolanahalli PHC

1. Bolanahalli-1
2. Bolanahalli-2
3. Cholanahalli
4. Rangayyanakoppalu
5. Emmekoppalu
6. Hosaramanahalli
7. Kuppe
8. Kolaghatta
9. Jeenagara
10. Tulasikoppalu
11. Shyanuboganahalli
12. Shravanahalli
13. Rayanahalli

C

Gerasanahalli PHC

1. Gerasanahalli
2. Kommegowdanakoppalu
3. Tenkalakoppalu
4. Maidanahalli
5. Kempanahalli
6. Ayarahalli
7. Harohalli
8. Husenpura
9. Halebeedu
10. Vaddarahalli
11. Halladakallahalli
12. Bettaduru

E

Dharmapura PHC

1. Dharmapura
2. Halladakoppalu
3. Mallegowdanakoppalu
4. Rangayyanakoppalu
5. Tharikallu
6. Bastimadanahalli
7. Shivajinagara
8. Nadappanahalli
9. Gowripura
10. Nanjapura
11. Thippuru
12. Halepura
13. Hosapura

F

Karimuddanahalli PHC

1. Karimuddanahalli
2. Gejjaiahanavaddaragudi
3. Devagalli-A
4. Devagalli-B
5. Devagalli-C
6. Elachanahalli
7. Soolekere
8. Narasegowdara Colony
9. Shantipura
10. Asvalu
11. Maranahalli
12. Singaramaranahalli
13. Sonahalli
14. K.S. Gaddige
15. Kuttavadi
16. Basavanahalli
17. Kendagannapura
18. Kadavaddaragudi
19. Tekkaladi
20. Madaiahanahadi
21. Ambedkarnagara
22. Sanjeevanagara
23. Hanumanthapura
24. Devalapura
25. Mayurapura

Total

	Hoblis	**Town**
Total No. of Villages	**98**	**-**
Total No. of ASHA Workers (Hobli)/Anganawadi Teachers/ANM Worker (Town) included in the survey	**59**	**28**
Total No. of Houses included in the survey	**15,082**	**10,832**
Total Population in the survey	**62,125**	**44,289**
Total population		**1,06,414**

Table 3

Details of Kasaba II and Chinakurali Hoblis of Pandavapura Taluk in Mandya District

Kasaba II Hobli		*Chinakurali Hobli*	
List of Villages in Kyathanahalli & Aralakuppe PHCs		*List of Villages in Chinakurali CHC & Bannagadi PHC*	
	A		**A**
	Kyathanahalli PHC		***Chinakurali PHC***
1.	Kyathanahalli-A	1.	Chinakurali
2.	Kyathanahalli-B	2.	Kanive koppalu
3.	B.T. Koppalu	3.	Honaganahalli
4.	Hulkere Koppalu	4.	Sindaboganahalli
5.	Hulkere	5.	K Mallenahalli
6.	Chagashettahalli	6.	Doddaboganahalli
7.	K. Bettahalli	7.	Chikkaboganahalli
8.	Vaddarahalli	8.	Ragimuddanahaslli
9.	Haravu	9.	Hoovinahalli
10.	Y.H. Koppalu	10.	Honnenahalli
11.	Railway Station	11.	Hellavara Koppalu
12.	Jayanthi Nagar	12.	Basavanagudi Koppalu
13.	Kennalu	13.	Valathikatte Koppalu
14.	Shambunahalli	14.	Gummanahalli
15.	M. Bettahalli	15.	Kumbarakoppalu
16.	Hosa Elekere	16.	Hunasekatte Koppalu
17.	Damadahalli	17.	Hosuru
18.	D.G. Koppalu	18.	Ankegowdana Koppalu
19.	Haralahalli		
20.	V.V. Nagar		**B**
21.	C.A Koppalu		***Bannagadi PHC***
22.	Halelekere	1.	Bannangadi
23.	Shyadanahalli	2.	Ankanahalli
		3.	Hosa Kanmbadi
	B	4.	Giriyarahalli
	Aralakuppe PHC	5.	Basthihalli
1.	Aralakuppe	6.	K G Koppalu
2.	Seethapura	7.	Bindhihalli
3.	J Mallenahalli	8.	Yaraganahalli
4.	K. Hosuru	9.	Malligere
5.	Katteri	10.	Dinka
6.	ChikkaYarahalli	11.	Halesayapanahalli
7.	North Bank	12.	Hosasayappanahalli
8.	Alpahali	13.	Sundahalli
9.	Haganahalli	14.	Dinkashettahalli
10.	Babi		
11.	Kaveripura		

Total		
	Hoblis	**Town**
Total No. of villages	**66**	**-**
Total No. of ASHA/ Anganawadi *Teachers* included in the survey	**68**	**18**
Total No. Houses included in the survey	**17,025**	**5,181**
Total Population included in the survey	**70,907**	**19,964**
Total population		**90,871**

Table 4

Details of Santhemaralli Hobli of Chamarajanagara Taluk in Chamarajanagara District

Santhemaralli Hobli		*Santhemaralli Hobli*	
List of Villages in Santhemaralli CHC, and Honganuru PHC		*List of Villages in Hallikerehundi, Kuderu and Ummathuru PHCs*	
	A		**A**
	Santhemaralli CHC		***Hallikerehundi PHC***
1.	Basavatti	1.	Naviluru
2.	Kamaravadi	2.	Jannuru
3.	Nadakalamole	3.	Ganganuru
4.	Karadimole	4.	Aalduru
5.	Chungadipura	5.	Ganganurupura
6.	Kaavudavadi	6.	Godlehundi
7.	Thellanuru	7.	B M.K.Hundi
8.	Banahalli	8.	Hallikerehundi
9.	Mangala	9.	Jannuru&Hossuru
10.	Singapura	10.	Sathnundi
11.	MangalaHossuru		
12.	Kennegala		**B**
13.	Kempanapura		**Kuderu PHC**
14.	Marallimole	1.	Kuderu
15.	Deshavalli	2.	Honnegowdanahundi
16.	Heggavadipura	3.	Yalakkuru
17.	Mahanthalapura	4.	Heggavadi
18.	Yadiyuru	5.	Doddamole
19.	Santhemaralli	6.	Bhogapura
20.	Hulepura	7.	Kalamballi
		8.	Kasturu
	B	9.	Kallahalli
	Honganuru PHC	10.	K. Basavapura
1.	Honganuru	11.	K. Mukkalli
2.	Masanapura	12.	Chikkamole
3.	Chatipura		
4.	Irasavadi		**C**
5.	Suturu		**Ummathuru PHC**
6.	Gangavadi	1.	Ummathuru
7.	Kallipura	2.	Mudalagrahara
		3.	Bagli
		4.	Demahalli
		5.	Ninganapura

Total		
	Hobli	**Town**
Total No. of villages	**54**	**-**
Total No. of ASHA/ Anganwadi teachers/ANM Worker included in the survey	**68**	**43**
Total No. Houses included in the survey	**15,713**	**13,606**
Total Population included in the survey	**69,643**	**66,953**
Total population		**1,36,596**

Time line

The time line for Level IV of the survey, including follow up evaluation and guidance offered to persons identified with communication disorders was as shown in Figure 12.

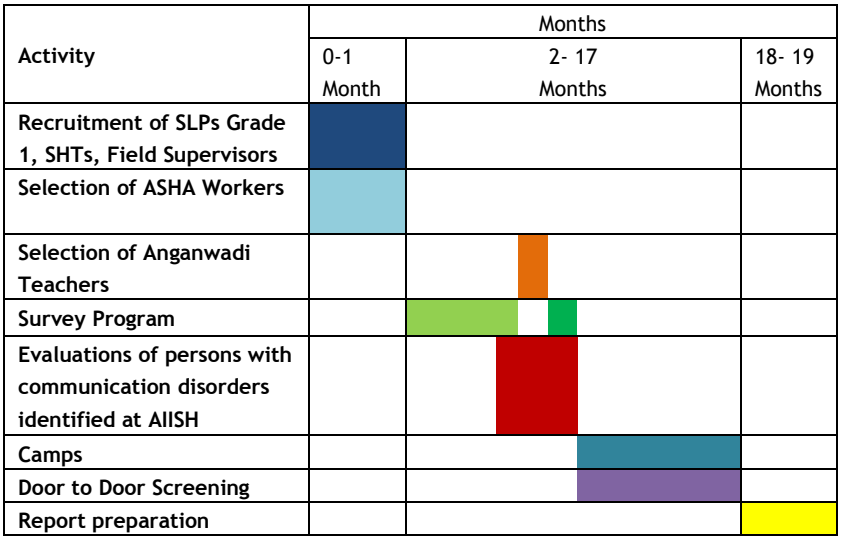

Figure 12: Timeline of the project

Follow up Procedures for Evaluation of Persons identified with Communication Disorders through the Survey

100% follow up of all the identified persons were carried out. The persons identified with communication disorders from various villages of Bilikere, Kasaba II, Chinakurali, Santhemaralli Hoblis and Hunsur, Pandavapura and Chamarajanagara Town were referred to AIISH, Mysuru. Detailed evaluation, diagnosis and further rehabilitation process was undertaken by Speech-Language Pathologists and Audiologists. The persons who could not come to AIISH for evaluation were referred to ***series camps*** arranged through the project by the institute at various PHCs in order to carry out evaluation, diagnosis and referral for further rehabilitation needs. Despite this attempt, few persons with communication disorders could not attend the camps and these persons were evaluated by Speech-Language Pathologists and Audiologists at their door step in order to meet the 100 % follow up criteria. Table 5 provides the details of series camps conducted in several PHCs.

Table 5
Details of series camps conducted in Mysuru, Mandya and Chamarajanagara District

Sl. No	*Taluk/District*	*Location*	*Camp held on*	*Actual number of persons evaluated*
1.	Hunsur Taluk,	Challahalli PHC	14.3.2016	94
2.	Mysuru District	Bilikere PHC	04.4.2016	84
3.		Karimuddanahalli PHC	18.4.2016	105
4.		Bilikere PHC	09.5.2016	87
5.		Bolanahalli PHC	23.5.2016	60
6.		Dharmapura PHC	06.6.2016	52
7.		Hunsur Town Hospital	08.7.2016	130
8.			29.7.2016	232
9.			08.8.2016	217
			Total	1,061
10.	Pandavapura Taluk,	Kyathanahalli PHC	21.03.2016	139

11.	Mandya District	Aralakuppe PHC	28.03.2016	152
12.		Bannangadi PHC	25.04.2016	123
13.		Chinakurali PHC	16.05.2016	138
14.		Kyathanahalli PHC	30.05.2016	37
15.		Bannangadi PHC	13.06.2016	75
16.		Pandavapura Town	15.07.2016	147
17.		Hospital	22.08.2016	213
			Total	1,024
18.	Chamarajanagara	Gumballi PHC	24.01.16	417
19.	Taluk,	Ummathuru PHC	25.01.16	213
20.	Chamarajanagara	Ummathuru PHC	26.01.16	357
21.	District	Honganuru PHC	11.04.16	119
22.		Kuderu PHC	02.05.16	130
23.		Chamarajanagara District Hospital	24.06.16	110
24.			01.07.16	122
25.			22.07.16	125
26.		Govt. School Chamarajanagara	05.08.16	202
27.			26.08.16	144
28.			16.09.16	100
			Total	2,039

Checking Awareness for Communication Disorders in ASHA workers, Anganwadi Teachers, ANM Worker & General Public

The questionnaire prepared to test for awareness of communication disorders and facilities available at AIISH for rehabilitation among the ASHA Workers, Anganwadi Teachers and ANM Worker recruited for the survey (***Appendix 1.8 in Level I report***), and a questionnaire prepared to test the awareness of general public (representing various strata of the society in areas where survey was conducted) with regard to the types of communication disorders (***Appendix 1.9 in Level 1 report***) were used. These were administered to the target groups before the initiation of survey and after the termination of this leg of survey (Pre hoc-10.06.2015 and Post hoc-30.10.2016, respectively). The responses were analyzed for awareness about types of communication disorders in ASHA Workers/Anganawadi Teachers/ANM Worker and general public.

Feedback about Facilities at AIISH and Supervisory Facilities for ASHA Workers, Anganwadi Teachers & ANM Worker

In order to obtain a feedback about the experience of survey and to tap their satisfaction level, ASHA Workers, Anganwadi Teachers and ANM Worker were administered the questionnaire in Kannada language with a forced choice option. Each question had to be answered by ticking their response under any one of the column (rating scale) which was as follows: 4 = Highly Satisfactory, 3 = Satisfactory, 2 = Needs Improvement and 1 = Not Satisfactory. The questionnaire consisted of 14 questions belonging to two categories. The first category (Questions 1 to 9) included questions on various facilities available at AIISH where the patients identified with communication disorders were referred for evaluation and intervention wherever necessary. The second category (Questions 10 to 14) included questions addressing issues related to the Field Supervisors (Social Workers appointed by M/s Karuna Trust, and Speech and Language Technicians appointed by AIISH, Mysuru). As per the assigned schedule of work, the supervisors monitored the work of ASHA Workers (at Bilikere, Kasaba II, Chinakurali and Santhemaralli

Hobli) and Anganwadi Teachers (at Hunsur, Pandavapura and Chamarajanagara Town) of Mysuru, Mandya and Chamarajanagara District, when they carried out house to house survey in the villages and during the follow up of persons identified with communication disorders. The ASHA Workers surveyed every house of the village that was assigned to them. The questionnaire was administered after the completion of the survey by these personnel. Since all the personnel could read and write, they were informed to go through the instructions carefully and seek clarifications in case of doubts and then proceed to answer the questions.

Feedback about Awareness of Communication Disorders and Related Issues in the Public

Initially, the questionnaires were distributed among general public belonging to nine categories in the villages and Town of Hunsur, Pandavapura and Chamarajanagara Taluk, which included: (a) Agriculturists (b) Manual Labourers (c) Businessmen (d) Gram Panchayat members (e) Professionals (f) Home Makers (g) Government Employees (h) Private Organization and (i) Students.

In Hunsur Taluk, a total of 700 questionnaires were distributed among the general public out of which 626 were returned and subjected to analysis. The nine different target groups in the public included (a) Agriculturists- 73 (b) Manual Labourers- 75 (c) Businessmen- 71 (d) Gram Panchayat members- 65 (e) Professionals- 73 (f) Home Makers- 72 (g) Government Employees- 70 (h) Private Organization - 58 and (i) Students- 69.

In Pandavapura Taluk, a total of 774 questionnaires were distributed among the general public out of which 632 were returned and subjected to analyses including (a) Agriculturists -70 (b) Manual Labourers- 70 (b) Businessmen - 82 (c) Gram Panchayat members- 71 (d) Students- 70 (e) Professionals - 71 (f) Government Employees – 69 (g) Private Employees- 70 and (h) Home Makers- 59

In the villages and Town of Chamarajanagara Taluk, a total of 1053 questionnaires were distributed among the general public out of which 840 were returned and subjected to analyses which included (a) Agriculturists -105 (b) Manual Laborers- 95 (c) Businessmen - 106 (d) Gram Panchayat members- 84 (e) Professionals -95 (f) Home Makers- 103 (g) Government Employees – 94 (h) Private Employee- 78 and (i) Students- 80.

There were 3 domains in the questionnaire to tap awareness as follows:

Domain 1: Hearing Impairment and Ear diseases
This section included a total of 18 questions on Hearing Impairment (HI) and ear diseases. For the sake of analyses, these were further subdivided into 3 sub domains denoted as follows:

Sub domain	Code	Questions related to
1.	HI 1	Risk factors leading to hearing impairment
2.	HI 2	Hearing impairment
3.	HI 3	General awareness of hearing impairment

Domain 2: Speech and Language Disorders

This section included 55 questions on various Speech and Language Disorders (SLD). For the sake of analyses, these were further subdivided into 10 sub domains denoted as follows:

Sub domain	Code	Questions related to
1.	SLD 1	Speech and language disorders
2.	SLD 2	Mental retardation
3.	SLD 3	Learning disability
4.	SLD 4	Cerebral Palsy
5.	SLD 5	Autism
6.	SLD 6	Aphasia
7.	SLD 7	Cleft lip and palate
8.	SLD 8	Articulation disorders
9.	SLD 9	Fluency disorders
10.	SLD 10	Voice disorders

Domain 3: Lifestyle and related

This section included 29 questions on Lifestyle (LS) related to Communication disorders. For the sake of analyses, these were further Subdivided into 7 sub domains denoted as follows:

Sub domain	Code	Questions related to
1.	LS 1	Social aspects
2.	LS 2	Vocational aspects
3.	LS 3	Entertainment aspects
4.	LS 4	Literacy aspects
5.	LS 5	Personality aspects
6.	LS 6	Physical aspects
7.	LS 7	Economical aspects

The respondents were asked to read each question (if they were literate) or listen to the field supervisor who read out the questions one by one to them and indicate/respond as 'yes' or 'no'. Each question was so framed that a 'yes' answer indicated positive awareness and 'no' answer indicated no awareness. The questionnaire was administered and responses obtained from these persons after the survey was completed in the villages where the respondent resided. The duration between distributing the questionnaire to the respondent (if literate) and collecting the filled questionnaire from them varied from 1 to 4 weeks. For those who were not literate, the questions were read out by the field supervisors or the ASHA Workers/Anganwadi Teachers and responses were obtained on the same day.

The total scores for 'yes' (scored as 'one' for each 'yes' response) and 'no' (scored as 'zero' for each 'no' response) responses from each individual's questionnaire across domains and sub domains were computed and the group scores derived. The data was analyzed using SPSS 21.0 software. Since the sample size was small and was derived on nominal scale, non parametric tests were used for the analyses.

REPORT

The number and gender distribution of persons with communication disorders as identified by ASHA Workers, ANM Worker and Anganwadi Teachers through survey

The total number and gender distribution of persons with communication disorders identified through survey by the ASHA Workers, Anganwadi Teachers and ANM Worker in Mysuru, Mandya and Chamarajanagara District is shown in Table 6, 7 and 8.

Table 6

Total number and gender distribution of persons with communication disorders identified by ASHA Workers and Anganwadi Teachers in Hunsur Taluk and Town of Mysuru District

Hunsur Taluk and Town	*Total Population*	*Persons with communication disorders identified by ASHA Workers and Anganawadi Teachers*		
		Male	*Female*	*Total*
Bilikere Hobli (Rural)	62,125	891	737	1,628
Hunsur Town (Urban)	44,289	573	624	1,197
Total	**1,06,414**	**1,464**	**1,361**	**2,825***

** False Positives Included*

Table 7

Total number and gender distribution of persons with communication disorders identified by ASHA Workers and Anganwadi Teachers in Pandavapura Taluk and Town of Mandya District

Pandavapura Taluk and Town	*Total Population*	*Persons with communication disorders identified by ASHA Workers/Anganwadi Teachers*		
		Male	*Female*	*Total*
Kasaba II Hobli (Rural)	44,492	515	614	1,129
Chinakurali	26,415	495	489	984
Pandavapura Town (Urban)	19,964	272	359	631
Total	**90,871**	**1,282**	**1,462**	**2,744***

** False Positives Included*

Table 8

Total number and gender distribution of persons with communication disorders identified by ASHA Workers, ANM Worker and Anganwadi Teachers in Chamarajanagara Taluk and Town of Chamarajanagara District

Chamarajanagara Taluk and Town	*Total Population*	*Persons with communication disorders identified by ASHA Workers, Anganwadi Teachers and ANM worker*		
		Male	*Female*	*Total*
Santhemaralli Hobli (Rural)	69,643	1,063	901	1,964
Chamarajanagara Town (Urban)	66,953	949	864	1,813
Total	**1,36,596**	**2,012**	**1,765**	**3,777#**

** False Positives Included*

False Positive identification by ASHA Workers, Anganwadi Teachers and Patients with communication disorders evaluated at

Comparisons were made to check for correct identifications and false positives by the ASHA workers/ANM Worker/Anganwadi Teachers against the diagnosis made after evaluation at AIISH, Camps and door to door screening by the professionals.

AIISH, Camps and Door to Door screening

Table 9, 10 & 11 provides the details of false positive identifications by ASHA Workers/ Anganwadi teachers/ANM Worker in the three districts, respectively. In Mysuru district, correct identification (as confirmed through detailed evaluation at AIISH, Camps and Door to Door Screening) and false positive referrals across Bilikere Hobli (Rural) and Hunsur Town (Urban) were 95.75% and 2.40%, respectively. On the other hand, correct identification and false positive referrals across Kasaba II Hobli, Chinakurali Hobli (Rural) and Pandavapura Town (Urban) of Mandya district were 97.27% and 2.73%. Similarly, there were 80.65% correct identifications and 2.70% false positive referrals in Santhemaralli Hobli (Rural) and Chamarajanagara Town (Urban) of Chamarajanagara district.

Table 9

Number of persons evaluated at AIISH, Camps and Door to Door, percent follow up and false positive identifications by ASHA Workers/Anganwadi Teachers in Hunsur Taluk (Bilikere Hobli and Hunsur Town)

	Total
Number of persons identified with communication disorders by ASHA Workers and Anganawadi teachers through survey	2,825
Number of persons in total found to have communication disorders after evaluation	2,705
Number of persons who did not attend/complete the evaluation N= 2,705)	349 (12.90%)
False Positive identification by the ASHA Workers and Anganawadi teachers (N=2,825)	68 (2.40%)
Number of persons with communication disorders (Correct identification by the ASHA workers and Anganawadi teachers) (N=2,705)	2,356 (87.09%)
Number and % evaluated (at AIISH + Camps) (from identified) to have communication disorders (N=2,356)	1,756 (74.53%)
Number of persons evaluated through door to door survey (N=2,356)	600 (25.46%)

Table 10

Number of persons evaluated at AIISH, Camps and Door to Door and False positive identifications by ASHA workers and Anganwadi teachers in Pandavapura Taluk (Kasaba II, Chinakurali Hobli and Pandavapura town)

	Total
Number of persons identified with communication disorders by ASHA Workers and Anganawadi teachers through survey	2,744
Number of persons in total found to have communication disorders after evaluation	2,668
Number of persons who did not attend/complete the evaluation (N= 2,668)	111 (4.16%)
False Positive identification by the ASHA Workers and Anganawadi teachers (N= 2,744)	76 (2.76%)
Number of persons with communication disorders (Correct identification by the ASHA workers and Anganawadi teachers) (N=2,668)	2,557 (95.83%)
Number and % evaluated (at AIISH + Camps) (from identified) to have communication disorders (N= 2,557)	1,675 (65.50%)

Number of persons evaluated through door to door survey (N= 2,557)	882 (34.49%)

Table 11

Number of persons evaluated at AIISH, Camps and Door to Door and False positive identifications by ASHA workers and Anganwadi teachers in Chamarajanagara Taluk (Santhemaralli Hobli and Chamarajanagara town)

	Total
Number of persons identified with communication disorders by ASHA Workers, Anganawadi teachers and ANM through survey	3,777
Number of persons in total found to have communication disorders after evaluation	3,675
Number of persons who did not attend/complete the evaluation (N= 3,675)	711 (19.34%)
False Positive identification by the ASHA Workers and Anganawadi teachers (N=3,777)	102 (2.70%)
Number of persons with communication disorders (Correct identification by ASHA workers and Anganawadi teachers) (N= 3,675)	2,964 (80.65%)
Number and % evaluated (at AIISH + Camps) (from identified) to have communication disorders (N=2,964)	2,003 (67.57%)
Number of persons evaluated through door to door survey (N=2,964)	961 (32.42%)

100% Follow up

100% of the persons identified were followed up for evaluation in Mysuru, Mandya and Chamarajanagara districts. It was observed that out of the 2,825 persons identified in Bilikere Hobli (Rural) and Hunsur Town (Urban) of Mysuru district, 2,356 persons were found to have communication disorders after evaluations. There were 68 false positive identifications and 349 persons could not be evaluated. Therefore, **2.26%** of the population surveyed during this phase (N = 1,06,414) were found to have communication disorders.

In Mandya district *(Kasaba II hobli, Chinakurali hobli and Pandavapura town)*, a total of 2,557 cases were identified to have communication disorders out of the 2,744 cases identified. There were 76 false positive identifications while 111 persons could not be evaluated. Therefore, **2.92%** of the population surveyed during this phase (N = 90,871) in Mandya district were found to have communication disorders.

Similarly, out of the 3,777 cases identified in Chamarajanagara Taluk (Santhemaralli hobli - Rural) and Chamarajanagara Town (Urban), 2,964 cases were identified to have communication disorders. The number of false positive identifications and those who could not be evaluated were 102 and 711 persons respectively. Hence, **2.16%** of the population surveyed during this phase (N = 1,36,596) in Chamarajanagara district were found to have communication disorders. The reasons for persons with communication disorders not undergoing evaluation in each of the three districts are outlined in Table 12.

Table 12

Details of persons with communication disorders who could not be evaluated in Mysuru, Mandya and Chamarajanagara District

Details of Cases not evaluated	*Mysuru*		*Mandya*		*Chamarajanagara*	
	Hunsur Taluk		*Pandavapura Taluk*		*Chamarajanagara Taluk*	
	A	*B*	*A*	*B*	*A*	*B*
Not interested to get evaluated	7	32	5	4	9	12
Health issues	14	12	-	-		
Expired	11	8	7	0	40	12
Migrated	16	54	22	1	17	13
Not at Home	-	-	11	4		
Door Lock	9	32	12	4	18	19
Consulted Elsewhere	5	46	-	-		
Resolved	14	20	8	15	69	37
Gone for Delivery	1	-	-	-	-	-
Out of Station	-	10	12	2	25	56
Previously consulted at AIISH	-	18	-	-	-	-
Consulted AIISH on their own	-	-	-	-	11	14
Working/School	-	40	-	-	-	-
Bedridden	-	-	-	-	12	00
Phone Switched off (not able to contact)	-	-	-	-	00	28
Wrong phone number	-	-	-	-	00	30
No response on phones	-	-	-	-	00	48
Unavailable at the testing site due to other commitments of the patients	-	-	-	-	00	166
Missing information (phone number and address)	-	-	-	-	00	52
Other Reasons	-	-	3	1	1	22
Total	**77**	**272**	**80**	**31**	**202**	**509**
	349		**111**		**711**	

Note: A-Rural, B- Urban

PREVALENCE OF COMMUNICATION DISORDERS IN MYSURU, MANDYA AND CHAMARAJANAGARA DISTRICTS

The prevalence of persons with communication disorders established after evaluation at AIISH, Camps and Door to door screening in Hunsur Taluk-Bilikere Hobli (Rural) and Hunsur Town (Urban), Mysuru District was found to be **2.26%.** The percentage prevalence of communication disorders was more among the Rural **(1.41%)** population compared to Urban **(0.85%)** population as can be observed in Table 13.

Table 13

Prevalence of communication disorders in the population surveyed at Hunsur Taluk-Bilikere Hobli (Rural) and Hunsur Town (Urban) of Mysuru District

Hoblis	*Total villages*	*Total Houses*	*Total Population*	*Prevalence (No.& Percentage)(N=1,06,414)*		
				Male	*Female*	*Total*
Hunsur Taluk-Bilikere Hobli (Rural)						
Bilikere Hobli	98	15,082	62,125	812 (0.76%)	678 (0.63%)	1,490 (1.40%)
			Self registered cases	8 (0.007%)	9 (0.008%)	17 (0.01%)
Sub Total	98	15,082	62,125	820 (0.77%)	687 (0.64%)	1,507 (1.41%)
Hunsur Town (Urban)						
Identified through survey	-	10,832	44,289	387 (0.87%)	479 (1.08%)	866 (1.95%)
			Self registered cases	23 (0.05%)	17 (0.03%)	40 (0.09%)
Sub Total	-	10,832	44,289	410 (0.38%)	496 (0.46%)	906 (0.85%)
Total	**98**	**25,914**	**1,06,414**	**1,230 (1.17%)**	**1,183 (1.11%)**	**2,413 (2.26%)**

In Pandavapura Taluk of Mandya District, the prevalence of persons with communication disorders in Kasaba II hobli, Chinakurali hobli and Pandavapura town was **2.92%.** The percentage prevalence of communication disorders was more among the Urban **(3.14%)** population compared to the Rural **(2.86%)** population. The details of the same are given in Table 14.

Table 14

Prevalence of communication disorders in the population surveyed at Kasaba II & Chinakurali Hoblis and Pandavapura Town in Mandya district

Hoblis/Town	Total villages	Total Houses	Total Population	*Prevalence (No.& Percentage)(N=90,871)*		
				Male	*Female*	*Total*
Kasaba II	34	11,055	44,492	465 (1.04%)	575 (1.29%)	1040 (2.33%)
Chinakurali	32	5,970	26,415	465 (1.76%)	458 (1.73%)	924 (3.49%)
			Self registered cases	28 (0.03%)	37 (0.05%)	65 (0.09%)
Subtotal	66	17,025	70,907	958 (1.05%)	1070 (1.17%)	2029 (2.23%)
Town		5,181	19, 964	255 (1.27%)	338 (1.69%)	593 (2.97%)
			Self registered cases	12 (0.06%)	22 (0.11%)	34 (0.17%)
Subtotal		5,181	19, 964	267 (0.29%)	350 (0.38%)	627% 0.68%)
Total	**66**	**22,206**	**90,871**	**1225 (1.34%)**	**1430 (1.57%)**	**2656 (2.92%)**

The prevalence of persons with communication disorders in Chamarajanagara Taluk of Chamarajanagara District (Santhemaralli Hobli and Chamarajanagara town) was **2.45%.** The percentage prevalence of communication disorders was more in Rural (1.42%) population compared to Urban (1.03%) population as indicated in Table 15.

Table 15

Prevalence of communication disorders in the population surveyed at Santhemaralli Hobli (Rural) and Chamarajanagara Town (Urban) in Chamarajanagara Taluk.

	Total villages	*Total Houses*	*Total Population*	*Prevalence (No.& Percentage)(N=1,36,596)*		
				Male	*Female*	*Total*
Santhemaralli Hobli (Rural)						
Santhemaralli Hobli	54	15,713	69,643	921 (0.67%)	778 (0.56%)	1,699 (1.24%)
		Self registered cases		155 (0.11%)	96 (0.07%)	251 (0.18%)
Sub Total	54	15,713	69,643	1,076 (0.78%)	874 (0.63%)	1,950 (1.42%)
Chamarajanagara Town (Urban)						
Identified through survey		13,606	66,953	653 (0.47%)	612 (0.44%)	1,265 (0.92%)
		Self registered cases		60 (0.04%)	85 (0.06%)	145 (0.10%)
Sub Total		13,606	66,953	713 (0.52%)	697 (0.51%)	1,410 (1.03%)
Total	**54**			**1,789 (1.30%)**	**1,571 (1.15%)**	**3,360 (2.45%)**

PREVALENCE OF TYPES OF COMMUNICATION DISORDERS

Data was analyzed to study the prevalence of four groups of communication disorders, viz., Speech and Language disorders, Hearing Impairment, ENT diseases and conditions & Dual/Multiple disorders. The details of types of communication disorders in the population surveyed in each of the three districts is given in Table 16, 17 & 18 respectively.

Table 16

Prevalence of Types of Communication Disorders in Mysore District - Hunsur Taluk

Sl. No.	Disorders/ Diseases	*Hunsur Taluk*		Total Prevalence & % (N= 1,06,414)
		Bilikere Hobli (Rural)	Hunsur Town (Urban)	
1.	Speech and Language Disorders	341 (0.32%)	143 (0.13%)	**484 (0.45%)**
2.	Hearing Impairment	605 (0.56%)	259 (0.24%)	**864 (0.81%)**
3.	ENT Conditions & Diseases	538 (0.50%)	479 (0.45%)	**1,017 (0.95%)**
4.	Dual Disorders	23 (0.02%)	25 (0.02%)	**48 (0.04%)**
	Total	**1,507 (1.41%)**	**906 (0.85%)**	**2,413 (2.26%)**

Table 17

Prevalence of Types of Communication Disorders in Mandya District - Pandavapura Taluk

Sl. No	Disorders/Diseases	Pandavapura Taluk		Total Prevalence & % (N=90,871)
		Kasaba II & Chinakurali Hoblis (Rural)	Pandavapura Town (Urban)	
1.	Speech and Language Disorders	397 (0.55%)	116 (0.58%)	**513 (0.56%)**
2.	Hearing Impairment	673 (0.94%)	215 (1.07%)	**888(0.97%)**
3.	ENT Diseases	907 (1.27%)	290 (1.45%)	**1197(1.31%)**
4.	Dual & Multiple Disorders	52 (0.73%)	06 (0.03%)	**58(0.06%)**
	Total	**2029(2.86%)**	**627 (3.14%)**	**2656(2.92%)**

Table 18

Prevalence of Types of Communication Disorders in Chamarajanagara District - Chamarajanagara Taluk

Sl. No	Disorders/Diseases	*Chamarajanagara Taluk*		Total Prevalence & % (N= 1,36,596)
		Santhemaralli Hobli (Rural)	Chamarajanagara Town (Urban)	
1.	Speech and Language Disorders	350 (0.256%)	414 (0.303%)	764(0.55%)
2.	Hearing Impairment	970 (0.710%)	392 (0.286%)	1,362(0.99%)
3.	ENT Diseases & Conditions	600 (0.439%)	568 (0.415%)	1,168(0.85%)
4.	Dual & Multiple Disorders	42 (0.030%)	24 (0.017%)	66(0.04%)
	Total	**1,962(1.436%)**	**1,398 (1.023%)**	**3,360 (2.45%)**

TYPE & GENDER DISTRIBUTION OF VARIOUS COMMUNICATION DISORDERS IN THE POPULATION SURVEYED

Based on the reports from United Nation Department of Economic and Social Affairs (UNDESA-2012), United Nations International Children's Emergency Funds (UNICEF), World Health Organization (WHO) and United Nations Fund for Population Activities (UNFPA), a criterion to classify the population according to age was followed. The population was classified into 8 age groups (in years) as follows: (i) Children = >0≤4.0; >4.0≤10.0; and >10.0≤15.0 (ii) Adults = >15.0≤25.0; >25.0≤60.0; (iii) Geriatric = >60.0≤69.0; >69.1≤79.0; >80.0 (for the sake of convenience and longevity observed in the older age groups).

In the district of Mysuru, the percentage prevalence of different communication disorders in the population surveyed was (i) **0.740%** in children, (ii) **1.083%** in adults and (iii) **0.509%** in geriatrics. It was found that 0.290% males and 0.164% females had speech and language disorders; 0.411% males and 0.424% females had hearing impairment; 0.459% males and 0.537% females had ENT conditions and diseases and 0.031% males, females 0.014% had dual and multiple conditions.

The percentage prevalence of different communication disorders in the population surveyed in Pandavapura Taluk, Mandya district was (i) **0.784%** in children, (ii) **1.484%** in adults and (iii) **0.743%** in geriatrics. It was found that 0.348% males and 0.215% females had speech and language disorders; 0.338% males and 0.393% females had hearing impairment; 0.554% males and 0.808% females had ENT conditions and diseases and 0.0451% males and 0.018% females had dual and multiple conditions.

In Chamarajanagara district, the percentage prevalence of different communication disorders in the population surveyed was (i) **0.616%** in children, (ii) **1.103%** in adults and (iii) **0.808%** in geriatrics. It was found that 0.357% of males and 0.201% of females were diagnosed to have speech and language disorders; 0.537% of males and 0.508% of females had hearing impairment and 0.418% in males and 0.456% in females had ENT conditions and disorders. Dual and multiple

conditions were found to be prevalent in 0.003% of males and 0.014% in females.

The details of age group and gender wise distribution of communication disorders (Speech-Language, Hearing disorders, ENT Diseases & Conditions and Dual & Multiple Conditions) in Hunsur Taluk of Mysuru District are shown in Tables 19 to 21, Pandavapura Taluk of Mandya District in Table 22 to 25 and Chamarajanagara Taluk of Chamarajanagara District in Table 26 to 28, respectively.

Table 19

Age and Gender distribution of types of communication disorders in Bilikere Hobli (Rural) of Hunsur Taluk, Mysuru District

Disorder/ Disease/ Gender		AGE GROUPS IN YEARS								Total Prevalence & % (N= 1,06,414)	Total & %
		Children			Adults			Geriatric			
		1	2	3	4	5	6	7	8		
SLD	M	28 (0.026%)	53 (0.049%)	47 (0.044%)	38 (0.035%)	49 (0.046%)	4 (0.003%)	2 (0.001%)	1 (0.000%)	222 (0.208%)	341 (0.32%)
	F	12 (0.011%)	38 (0.035%)	22 (0.020%)	20 (0.018%)	25 (0.023%)	1 (0.000%)	1 (0.000%)	-	119 (0.111%)	
HI	M	4 (0.003%)	9 (0.008%)	13 (0.012%)	19 (0.017%)	116 (0.109%)	47 (0.044%)	80 (0.075%)	43 (0.040%)	331 (0.311%)	624 (0.58%)
	F	-	8 (0.007%)	8 (0.007%)	13 (0.012%)	144 (0.135%)	39 (0.036%)	57 (0.053%)	24 (0.022%)	293 (0.275%)	
ENT	M	15 (0.014%)	61 (0.057%)	36 (0.033)	33 (0.031)	90 (0.084%)	18 (0.016%)	22 (0.020%)	11 (0.010%)	286 (0.267%)	575 (0.54%)
	F	15 (0.014%)	48 (0.042%)	34 (0.031%)	35 (0.032%)	129 (0.121%)	14 (0.013%)	11 (0.010%)	3 (0.002%)	289 (0.271%)	
DMD	M	2 (0.001%)	1 (0.000%)	5 (0.004%)	4 (0.003%)	2 (0.001%)	-	-	-	14 (0.013%)	23 (0.02%)
	F	-	3 (0.002%)	3 (0.002%)	2 (0.001%)	1 (0.000%)	-	-	-	9 (0.008%)	
Sub Total		76 (0.071%)	221 (0.207%)	168 (0.157%)	164 (0.154%)	556 (0.522%)	123 (0.115%)	173 (0.162%)	82 (0.077%)	1,563 (1.468%)	
Total			**465 (0.436%)**			**720 (0.676%)**		**378 (0.355%)**			

(Note - SLD- Speech Language Disorders, HI- Hearing Impairment, ENT- ENT Diseases and Conditions, DMD- Dual and Multiple Disorders, M = Males F = Females, Age groups - 1=>0≤4.0; 2=>4.0≤10.0; 3=>10.0≤15.0; 4=>15.0≤25.0; 5=>25.0≤60.0; 6=>60.0≤69.0; 7=>69.1≤79.0; 8= >80.0)

Table 20

Age and Gender distribution of types of communication disorders in Hunsur Town (Urban) of Hunsur Taluk, Mysuru District

Disorder/ Disease/ Gender		AGE GROUPS IN YEARS								Total Prevalence & % (N= 1,06,414)	Total & %
		Children			Adults			Geriatric			
		1	2	3	4	5	6	7	8		
SLD	M	13 (0.012%)	24 (0.022%)	15 (0.014%)	10 (0.009%)	19 (0.017%)	4 (0.003%)	1 (0.000%)	1 (0.000%)	87 (0.081%)	143 (0.134%
	F	14 (0.013%)	11 (0.010%)	6 (0.005%)	12 (0.011%)	12 (0.011%)	-	-	1 (0.000%)	56 (0.052%)	)
HI	M	-	1 (0.000%)	1 (0.000%)	8 (0.007%)	42 (0.039%)	18 (0.016%)	19 (0.017%)	18 (0.016%)	107 (0.100)%	266 (0.249%
	F	1 (0.000%)	5 (0.004%)	6 (0.005%)	6 (0.005%)	75 (0.070%)	26 (0.024%)	23 (0.021%)	17 (0.015%)	159 (0.149%)	)
ENT	M	20 (0.018%)	43 (0.040%)	48 (0.045%)	23 (0.021%)	53 (0.049%)	5 (0.004%)	9 (0.008%)	2 (0.001%)	203 (0.190%)	486 (0.456%
	F	12 (0.011%)	53 (0.049%)	33 (0.031%)	40 (0.037%)	126 (0.118%)	9 (0.008%)	10 (0.009%)	-	283 (0.265%)	)
DMD	M	2 (0.001%)	5 (0.004%)	7 (0.006%)	2 (0.001%)	2 (0.001%)	1 (0.000%)	-	-	19 (0.017%)	25 (0.023%
	F	1 (0.000%)	1 (0.000%)	1 (0.000%)	2 (0.001%)	1 (0.000%)	-	-	-	6 (0.005%)	)
Sub Total		63 (0.059%)	143 (0.134%)	117 (0.109%)	103 (0.096%)	330 (0.310%)	63 (0.059%)	62 (0.058%)	39 (0.036%)	920 (0.864%)	
Total			**323 (0.303%)**			**433 (0.406%)**		**164 (0.154%)**			

(Note - SLD- Speech Language Disorders, HI- Hearing Impairment, ENT- ENT Diseases and Conditions, DMD- Dual and Multiple

Disorders, M = Males F = Females, Age groups - 1=>0≤4.0; 2=>4.0≤10.0; 3=>10.0≤15.0; 4=>15.0≤25.0; 5=>25.0≤60.0; 6=>60.0≤69.0; 7=>69.1≤79.0; 8= >80.0)

Table 21

Age and Gender distribution of types of communication disorders in Bilikere Hobli (Rural) and Hunsur Town (Hunsur Town) of Hunsur Taluk of Mysuru District

Disorder/ Disease/ Gender		AGE GROUPS IN YEARS								Total Prevalence & % (N= 1,06,414)	Total & %
		Children			Adults			Geriatric			
		1	2	3	4	5	6	7	8		
SLD	M	41	77	62	48	68	8	3	2	309	484
		(0.038%)	(0.072%)	(0.058%)	(0.045%)	(0.063%)	(0.007%)	(0.002%)	(0.001%)	(0.290%)	(0.454%)
	F	26	49	28	32	37	1	1	1	175	
		(0.024%)	(0.046%)	(0.026%)	(0.030%)	(0.034%)	(0.000%)	(0.000%)	(0.000%)	(0.164%)	
HI	M	4	10	14	27	158	65	99	61	438	890
		(0.003%)	(0.009%)	(0.013%)	(0.025%)	(0.148%)	(0.061%)	(0.093%)	(0.057%)	(0.411%)	(0.836%)
	F	1	13	14	19	219	65	80	41	452	
		(0.000%)	(0.012%)	(0.013%)	(0.017%)	(0.205%)	(0.061%)	(0.075%)	(0.038%)	(0.424%)	
ENT	M	35	104	84	56	143	23	31	13	489	1061
		(0.032%)	(0.097%)	(0.078%)	(0.052%)	(0.134%)	(0.021%)	(0.029%)	(0.012%)	(0.459%)	(0.997%)
	F	27	101	67	75	255	23	21	3	572	
		(0.025%)	(0.094%)	(0.062%)	(0.070%)	(0.239%)	(0.021%)	(0.019%)	(0.002%)	(0.537%)	
DMD	M	4	6	12	6	4	1	-	-	33	48
		(0.003%)	(0.005%)	(0.011%)	(0.005%)	(0.003%)	(0.000%)			(0.031%)	(0.045%)
	F	1	4	4	4	2	-	-	-	15	
		(0.000%)	(0.003%)	(0.003%)	(0.003%)	(0.001%)				(0.014%)	
Sub Total		139	364	285	267	886	186	235	121	2,483	
		(0.130%)	(0.342%)	(0.267%)	(0.250%)	(0.832%)	(0.174%)	(0.220%)	(0.113%)	(2.333%)	
Total			**788**			**1,153**			**542**		
			(0.740%)			**(1.083%)**			**(0.509%)**		

(Note - SLD- Speech Language Disorders, HI- Hearing Impairment, ENT- ENT Diseases and Conditions, DMD- Dual and Multiple Disorders, M = Males F = Females, Age groups - 1=>0≤4.0; 2=>4.0≤10.0; 3=>10.0≤15.0; 4=>15.0≤25.0; 5=>25.0≤60.0; 6=>60.0≤69.0; 7=>69.1≤79.0; 8= >80.0)

Table 22

Age and Gender distribution of types of communication disorders in Kasaba II Hobli (Rural) of Pandavapura Taluk, Mandya District

Disorder/ Disease/ Gender		AGE GROUPS IN YEARS								**Total Prevalence & % (N=90,871)**	Total & %
		Children			Adults			Geriatric			
		1	2	3	4	5	6	7	8		
SLD	M	8	22	19	18	43	6	2	2	120	
		(0.008%)	(0.024%)	(0.020%)	(0.019%)	(0.047%)	(0.006%)	(0.002%)	(0.002%)	(0.132%)	194
	F	11	12	14	14	19	3	1	0	74	(0.213%)
		(0.012%)	(0.013%)	(0.015%)	(0.015%)	(0.020%)	(0.003%)	(0.001%)	0	(0.081%)	
HI	M	4	1	2	10	69	47	32	14	179	
		(0.004%)	(0.001%)	(0.002%)	(0.011%)	(0.075%)	(0.051%)	(0.035%)	(0.015%)	(0.196%)	396
	F	0	2	3	7	89	59	39	18	217	(0.435%)
		0	(0.002%)	(0.003%)	(0.007)	(0.097%)	(0.064%)	(0.042%)	(0.019%)	(0.238%)	
ENT	M	11	31	31	16	62	20	12	2	185	
		(0.012%)	(0.034%)	(0.034%)	(0.017%)	(0.068%)	(0.022%)	(0.013%)	(0.002%)	(0.203%)	495
	F	15	45	32	25	158	21	13	1	310	(0.544%)
		(0.016%)	(0.049%)	(0.035%)	(0.027%)	(0.173%)	(0.023%)	(0.014%)	(0.001%)	(0.341%)	
DMD	M	0	2	6	4	1	0	0	0	13	
		0	(0.002%)	(0.006%)	(0.004%)	(0.001%)				(0.014%)	22
	F	0	3	1	1	3	1	0	0	9	(0.024%)
		0	(0.003%)	(0.001%)	(0.001%)	(0.003%)	(0.001%)			(0.009%)	
Sub Total		49	118	108	95	444	157	99	37	**1107**	
		(0.053%)	(0.129%)	(0.118%)	(0.104%)	(0.488%)	(0.172%)	(0.108%)	(0.040%)	**(1.218%)**	
Total			**275**			**539**			**293**		
			(0.302%)			**(0.593%)**			**(0.322%)**		

(Note - SLD- Speech Language Disorders, HI- Hearing Impairment, ENT- ENT Diseases and Conditions, DMD- Dual and Multiple Disorders, M = Males F = Females, Age groups - 1=>0≤4.0; 2=>4.0≤10.0; 3=>10.0≤15.0; 4=>15.0≤25.0; 5=>25.0≤60.0; 6=>60.0≤69.0; 7=>69.1≤79.0; 8= >80.0)

Table 23

Age and Gender distribution of types of communication disorders in Chinakurali Hobli (Rural) of Pandavapura Taluk, Mandya District

Disorder/ Disease/ Gender	AGE GROUPS IN YEARS								**Total Prevalence & % (N=90,871)**	Total & %
	Children			Adults			Geriatric			
	1	2	3	4	5	6	7	8		

SLD	M	23 (0.024%)	26 (0.028%)	27 (0.029%)	23 (0.024%)	23 (0.024%)	3 (0.003%)	0 00	0 00	125 (0.137%)	203
	F	**7** (0.007%)	13 (0.014%)	17 (0.018%)	21 (0.023%)	16 (0.017%)	1 (0.001%)	3 (0.003%)	0	78 (0.085%)	(0.220%)
HI	M	1 (0.001%)	2 (0.002%)	2 (0.002%)	6 (0.006%)	45 (0.049%)	31 (0.034%)	28 (0.030%)	22 (0.024%)	137 (0.150%)	307
	F	2 (0.002%)	3 (0.003%)	0 00	9 (0.009%)	59 (0.064%)	41 (0.045%)	43 (0.047%)	13 (0.014%)	170 (0.187%)	(0.337%)
ENT	M	16 (0.017%)	27 (0.029%)	30 (0.033%)	32 (0.035%)	75 (0.082%)	18 (0.019%)	9 (0.009%)	9 (0.009%)	216 (0.237%)	440
	F	11 (0.012%)	30 (0.033%)	20 (0.022%)	24 (0.026%)	116 (0.127%)	13 (0.014%)	7 (0.007%)	3 (0.003%)	224 (0.246%)	(0.484%)
DMD	M	1 (0.001%)	2 (0.002%)	7 (0.007%)	2 (0.002%)	8 (0.008%)	1 (0.001%)	0	0	21 0.023%	30
	F	0	4 (0.004%)	0	2(0.002%)	3 (0.003%)	0	0	0	9 (0.009%)	(0.033%)
Sub Total		61 (0.067%)	107 (0.117%)	103 (0.113%)	119 (0.130%)	345 (0.379%)	108 (0.118%)	90 (0.099%)	47 (0.051%)	**980 (1.078%)**	
Total			**271 (0.298%)**		**464 (0.510%)**			**245 (0.269%)**			

(Note - SLD- Speech Language Disorders, HI- Hearing Impairment, ENT- ENT Diseases and Conditions, DMD- Dual and Multiple Disorders, M = Males F = Females, Age groups - 1=>0≤4.0; 2=>4.0≤10.0; 3=>10.0≤15.0; 4=>15.0≤25.0; 5=>25.0≤60.0; 6=>60.0≤69.0; 7=>69.1≤79.0; 8= >80.0)

Table 24

Age and Gender distribution of types of communication disorders in Pandavapura Town (Urban) of Pandavapura Taluk, Mandya District

Disorder/ Disease/ Gender		AGE GROUPS IN YEARS								194 (0.213%)	Total & %
		Children			Adults			Geriatric			
		1	2	3	4	5	6	7	8		
SLD	M	16 (0.017%)	16 (0.017%)	6 (0.006%)	10 (0.011%)	13 (0.014%)	4 (0.004%)	1 (0.001%)	1 (0.001%)	67 (0.073%)	116
	F	**9** (0.009%)	13 (0.014%)	6 (0.006%)	6 (0.006%)	12 (0.013%)	1 (0.001%)	1 (0.001%)	1 (0.001%)	49 (0.053%)	(0.127%)
HI	M	0	0	0	7 (0.007%)	38 (0.041%)	27 (0.029%)	11 (0.012%)	15 (0.016%)	98 (0.107%)	225
	F	0	1 (0.001%)	1 (0.001%)	8 (0.008%)	67 (0.073%)	30 (0.033%)	12 (0.013%)	8 (0.008%)	127 (0.139%)	(0.247%)
ENT	M	13 (0.014%)	18 (0.019%)	11 (0.012%)	9 (0.009%)	38 (0.041%)	9 (0.009%)	2 (0.002%)	4 (0.004%)	104 (0.114%)	304
	F	10 (0.011%)	28 (0.030)	15 (0.016%)	24 (0.026%)	113 (0.124%)	6 (0.006%)	3 (0.003%)	1 (0.001%)	200 (0.220%)	(0.334%)
DMD	M	2 (0.002%)	1 (0.001%)	1 (0.001%)	1 (0.001%)	0	1 (0.001%)	0	0	6 (0.006%)	6
	F	0	0	0	0	0	0	0	0	0	(0.006%)
Sub Total		50 (0.055%)	77 (0.084%)	40 (0.044%)	65 (0.071%)	281 (0.309%)	78 (0.085%)	30 (0.033%)	30 (0.033%)	651 (0.716%)	
Total			**167** (0.183%)		**346** (0.380%)			**138** (0.151%)			

Table 25

Age and Gender distribution of types of communication disorders in Kasaba II & Chinakurali Hoblis (Rural) and Pandavapura Town (Urban) in Pandavapura Taluk, Mandya District

Disorder/ Disease/ Gender		AGE GROUPS IN YEARS								**Total Prevalence & % (N=90,871)**	Total & %
		Children			Adults			Geriatric			
		1	2	3	4	5	6	7	8		
SLD	M	47 (0.051%)	64 (0.070%)	52 (0.057%)	51 (0.056%)	79 (0.086%)	13 (0.014%)	3 (0.003%)	3 (0.003%)	312 (0.343%)	513
	F	27 (0.029%)	38 (0.041%)	37 (0.040%)	41 (0.045%)	47 (0.051%)	5 (0.005%)	5 (0.005%)	1 (0.001%)	201 (0.221%)	(0.564%)
HI	M	5 (0.005%)	3 (0.003%)	4 (0.004%)	23 (0.025%)	152 (0.167%)	105 (0.115%)	71 (0.078%)	51 (0.056%)	414 90.455%)	928
	F	2 (0.002%)	6 (0.006%)	4 (0.004%)	24 (0.026%)	215 (0.236%)	130 (0.143%)	94 (0.103%)	39 (0.042%)	514 (0.565%)	(1.021%)
ENT	M	30 (0.033%)	76 (0.083%)	72 (0.079%)	57 (0.062%)	175 (0.192%)	47 (0.051%)	23 (0.025%)	15 (0.016%)	495 (0.544%_	1239
	F	36 (0.039%)	103 (0.113%)	77 (0.084%)	73 (0.080%)	387 (0.425%)	40 (0.044%)	23 (0.025%)	5 (0.005%)	744 (0.818%)	(1.363%)
DMD	M	3 (0.003%)	5 (0.005%)	14 (0.015%)	7 (0.007%)	9 (0.009%)	2 (0.002%)	0	0	40 (0.044%)	58
	F	0 0	7 (0.007)	1 (0.001%)	3 (0.003%)	6 (0.006%)	1 (0.001%)	0 0	0 0	18 (0.019%)	(0.063%)
Sub Total		150 (0.165%)	302 (0.332%)	261 (0.287%)	279 (0.307%)	1070 (1.177%)	343 (0.377%)	219 (0.241%)	114 (0.125%)	2738 (3.013%)	

Total	**713**	**1349**	**676**	
	(0.784%)	**(1.484%)**	**(0.743)**	

Table 26

Age and Gender distribution of types of communication disorders in Santhemaralli Hobli (Rural) of Chamarajanagara Taluk, Chamarajanagara District

Disorder/ Disease/ Gender		AGE GROUPS IN YEARS								**Total Prevalence & % (N=1,36,596)**	Total & %
		Children			Adults			Geriatric			
		1	2	3	4	5	6	7	8		
SLD	M	26	37	35	49	62	7	5	1	222	350
		(0.019%)	(0.027%)	(0.025%)	(0.035%)	(0.045%)	(0.005%)	(0.003%)	(0.000%)	(0.162%)	(0.256%)
	F	15	19	22	30	38	3	0	1	128	
		(0.010%)	(0.013%)	(0.016%)	(0.021%)	(0.027%)	(0.002%)		(0.000%)	(0.093%)	
HI	M	2	12	13	20	149	145	154	64	559	
		(0.001%)	(0.008%)	(0.009%)	(0.014%)	(0.109%)	(0.106%)	(0.112%)	(0.046%)	(0.409%)	1026
	F	1	5	6	11	166	135	105	38	467	(0.751%)
		(0.000%)	(0.003%)	(0.004%)	(0.008%)	(0.084%)	(0.098%)	(0.768%)	(0.027%)	(0.341%)	
ENT	M	13	31	29	24	140	44	31	7	319	623
		(0.009%)	(0.022%)	(0.021%)	(0.017%)	(0.102%)	(0.032%)	(0.022%)	(0.005%)	(0.233%)	(0.456%)
	F	12	23	28	37	154	29	18	3	304	
		(0.008%)	(0.016%)	(0.020%)	(0.027%)	(0.112%)	(0.021%)	(0.013%)	(0.002%)	(0.222%)	
DM	M	5	4	5	8	5	0	0	1	28	42
D		(0.003%)	(0.002%)	(0.003%)	(0.005%)	(0.003%)			(0.000%)	(0.020%)	(0.030%)
	F	3	3	1	2	5	0	0	0	14	
		(0.002%)	(0.002%)	(0.000%)	(0.001%)	(0.003%)				(0.010%)	
Sub Total		77	134	139	181	719	363	313	115	2041	
		(0.056%)	(0.097%)	(0.101%)	(0.132%)	(0.526%)	(0.265%)	(0.228%)	(0.084%)	(1.494%)	
Total			**350**		**900**			**791**			
			(0.256%)		**(0.658%)**			**(0.579%)**			

(Note - SLD- Speech Language Disorders, HI- Hearing Impairment, ENT- ENT Diseases and Conditions, DMD- Dual and Multiple Disorders, M = Males F = Females, Age groups - 1=>0≤4.0; 2=>4.0≤10.0; 3=>10.0≤15.0; 4=>15.0≤25.0; 5=>25.0≤60.0; 6=>60.0≤69.0; 7=>69.1≤79.0; 8= >80.0)

Table 27

Age and Gender distribution of types of communication disorders in Chamarajanagara Town (Urban) of Chamarajanagara Taluk

Disorder/ Disease/ Gender		AGE GROUPS IN YEARS								**Total Prevalence & % (N=1,36,596)**	Total & %
		Children			Adults			Geriatric			
		1	2	3	4	5	6	7	8		
SLD	M	47	60	59	32	59	7	3	0	267	
		(0.034%)	(0.043%)	(0.0431%)	(0.023%)	(0.043%)	(0.005%)	(0.002%)		(0.195%)	**414**
	F	23	31	36	24	26	3	4	0	147	**(0.303%)**
		(0.016%)	(0.022%)	(0.026%)	(0.017%)	(0.190%)	(0.002%)	(0.002%)		(0.107%)	
HI	M	0	3	6	3	47	38	58	20	175	
			(0.002%)	(0.004%)	(0.002%)	(0.034%)	(0.027%)	(0.042%)	(0.014%)	(0.128%)	**403**
	F	0	2	4	9	84	53	66	10	228	**(0.295%)**
			(0.001%)	(0.002%)	(0.006%)	(0.061%)	(%0.038)	(0.048%)	(0.007%)	(0.166%)	
ENT	M	31	34	35	25	102	13	10	2	252	
		(0.022%)	(0.024%)	(0.025%)	(0.018%)	(0.074%)	(0.009%)	(0.007%)	(0.001%)	(0.184%)	**572**
	F	12	54	38	42	148	16	9	1	320	**(0.418%)**
		(0.008%)	(0.039%)	(0.027%)	(0.030%)	(0.108%)	(0.011%)	(0.006%)	(0.000%)	(0.234%)	
DMD	M	5	5	4	2	2	0	0	0	18	
		(0.003%)	(0.003%)	(0.002%)	(0.001%)	(0.001%)				(0.013%)	**24**
	F	1	1	1	1	2	0	0	0	6	**(0.017%)**
		(0.000%)	(0.000%)	(0.000%)	(0.000%)	(0.001%)				(0.004%)	
Sub Tot		119	190	183	138	470	130	150	33	1413	
		(0.087%)	(0.139%)	(0.133%)	(0.101%)	(0.344%)	(0.095%)	(0.109%)	(0.024%)	(1.034%)	
Total			**492**		**608**			**313**			
			(0.360%)		**(0.445%)**			**(0.229%)**			

(Note - SLD- Speech Language Disorders, HI- Hearing Impairment, ENT- ENT Diseases and Conditions, DMD- Dual and Multiple Disorders, M = Males F = Females, Age groups - 1=>0≤4.0; 2=>4.0≤10.0; 3=>10.0≤15.0; 4=>15.0≤25.0; 5=>25.0≤60.0; 6=>60.0≤69.0; 7=>69.1≤79.0; 8= >80.0)

Table 28

Age and Gender distribution of types of communication disorders in Chamarajanagara Town (Urban) and Santhemaralli Hobli (Rural) of Chamarajanagara Taluk.

Disorder/ Disease/ Gender		AGE GROUPS IN YEARS								Total Prevalence & % (N=1,36,596)	Total & %
		Children			Adults			Geriatric			
		1	2	3	4	5	6	7	8		
SLD	M	73 (0.053%)	97 (0.071%)	94 (0.068%)	81 (0.059%)	121 (0.088%)	14 (0.010%)	8 (0.005%)	1 (0.000%)	489 (0.357%)	**764 (0.559%)**
	F	38 (0.027%)	50 (0.036%)	58 (0.042%)	54 (0.039%)	64 (0.046%)	6 (0.004%)	4 (0.002%)	1 (0.000%)	275 (0.201%)	
HI	M	2 (0.001%)	15 (0.010%)	19 (0.013%)	23 (0.016%)	196 (0.143%)	183 (0.133%)	212 (0.155%)	84 (0.061%)	734 (0.537%)	**1,429 (1.046%)**
	F	1 (0.000%)	7 (0.005%)	10 (0.007%)	20 (0.014%)	250 (0.183%)	188 (0.137%)	171 (0.125%)	48 (0.035%)	695 (0.508%)	
ENT	M	44 (0.032%)	65 (0.047%)	64 (0.046%)	49 (0.035%)	242 (0.177%)	57 (0.041%)	41 (0.030%)	9 (0.006%)	571 (0.418%)	**1,195 (0.874%)**
	F	24 (0.017%)	77 (0.056%)	66 (0.048%)	79 (0.057%)	302 (0.221%)	45 (0.032%)	27 (0.019%)	4 (0.002%)	624 (0.456%)	
DMD	M	10 (0.007%)	9 (0.006%)	9 (0.006%)	10 (0.007%)	7 (0.005%)	0	0	1 (0.000%)	46 (0.003%)	**66 (0.048%)**
	F	4 (0.002%)	4 (0.002%)	2 (0.001%)	3 (0.002%)	7 (0.005%)	0	0	0	20 (0.014%)	
Sub Tot		196 (0.143%)	324 (0.237%)	322 (0.235%)	319 (0.233%)	1189 (0.870%)	493 (0.360%)	463 (0.338%)	148 (0.108%)	**3454 (2.528%)**	
Total			**842 (0.616%)**			**1508 (1.103%)**		**1104 (0.808%)**			

(Note - SLD- Speech Language Disorders, HI- Hearing Impairment, ENT- ENT Diseases and Conditions, DMD- Dual and Multiple Disorders, M = Males F = Females, Age groups - 1=>0≤4.0; 2=>4.0≤10.0; 3=>10.0≤15.0; 4=>15.0≤25.0; 5=>25.0≤60.0; 6=>60.0≤69.0; 7=>69.1≤79.0; 8= >80.0)

SPEECH –LANGUAGE DISORDERS

Prevalence of Speech-Language disorders in the population of Hunsur Taluk, Mysuru District were **0.320% and 0.134% in** Bilikere Hobli (Rural) and Hunsur Town (Urban), respectively**.** The speech-language disorders were found to be more prevalent in males compared to females in both Bilikere Hobli (**0.208% in** males and **0.111%** in females) and Hunsur Town (**0.082%** and **0.051%**). Within the various speech and language disorders, across Bilikere Hobli, percentage of (i) Mental retardation and Fluency disorders were found to be higher (ii) Traumatic Brain Injury, Slow learner, Language disorders with Seizures, Pervasive Developmental Disorder and Global Developmental Delay were found to be very less, and (iii) other speech and language disorders had fewer variations in the prevalence count. Similarly, in Hunsur Town, percentage of (i) Mental retardation, Fluency disorders and Articulation/Phonological disorders were found to be higher (ii) Learning disability, Cerebral Palsy, Language disorders with Seizures, Pervasive Developmental Disorder and Global Developmental Delay were found to be very less, and (iii) other speech and language disorders had similar prevalence count. The distribution of various types of Speech-language disorders in the population of Bilikere Hobli and Hunsur Town are shown in Tables 29 and 30 and Figures 13 and 14, respectively.

Table 29

Types and Gender distribution of Speech-Language disorders in the population of Bilikere Hobli (Rural) of Hunsur Taluk, Mysuru District

Speech-Language disorders	Male	Female	Total	Total Prevalence & % (N= 1,06,414)	% Prevalence within speech-language disorders (N=341)
Specific Language Impairment	1	-	1	0.000%	0.29%
Mental Retardation	35	36	71	0.066%	20.82%
Fluency disorders	66	19	85	0.079%	24.92%
Articulation disorders	23	25	48	0.045%	14.07%
Aphasia	4	-	4	0.003%	1.17%
Cleft Lip and palate	2	4	6	0.005%	1.75%

Learning Disability	11	4	15	0.014%	4.39%
Cerebral Palsy	3	1	4	0.003%	1.17%
Voice disorders	9	4	13	0.012%	3.81%
Dysarthria	8	2	10	0.009%	2.93%
Traumatic Brain Injury	1	-	1	0.000%	0.29%
Delayed Speech & Language / Inadequate Speech & Language	26	10	36	0.033%	10.55%
Delayed Speech & Language with Hearing Loss/ Inadequate Speech & Language with Hearing Loss	18	8	26	0.024%	7.62%
Language disorder with Seizures	2	-	2	0.001%	0.58%
Expressive Language Delay	10	3	13	0.012%	3.81%
Slow Learner	-	3	3	0.002%	0.87%
Autism	1	-	1	0.000%	0.29%
Global Developmental Delay	2	-	2	0.001%	0.58%
Total	**222 (0.208%)**	**119 (0.111%)**	**341**	**0.320%**	**-**

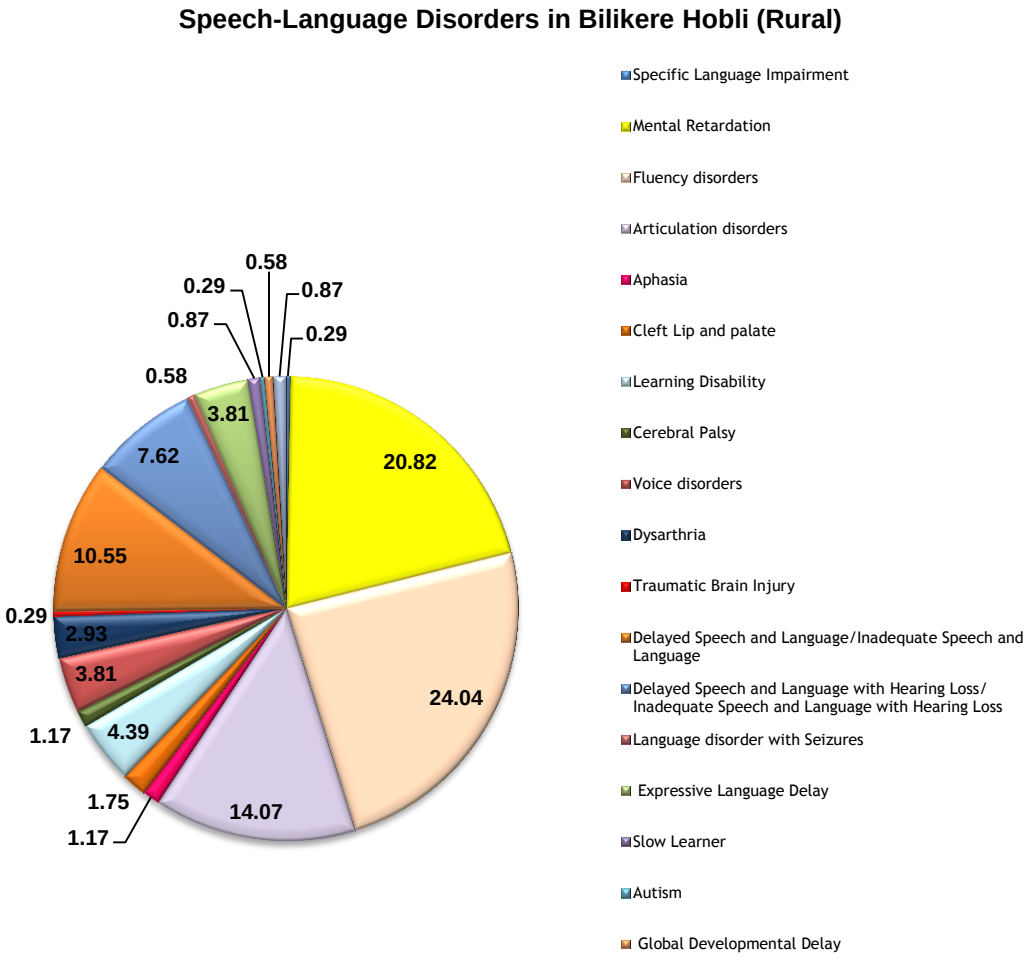

Figure 13. Percentage of Speech-Language disorders in Bilikere Hobli (Rural) (N=341)

Table 30

Types and Gender distribution of Speech-Language disorders in the population of Hunsur Town (Urban) of Hunsur Taluk, Mysuru District

Speech-Language disorders	Male	Female	Total	Total Prevalence & % (N= 1,06,414)	% Prevalence within speech-language disorders (N=143)
Mental Retardation	17	26	43	0.040%	30.06%
Fluency Disorders	24	4	28	0.026%	19.58%
Articulation/ Phonological disorders	11	4	15	0.014%	10.48%
Aphasia	6	-	6	0.005%	4.19%
Cleft Lip & palate	-	3	3	0.002%	2.09%
Learning Disability	1	2	3	0.002%	2.09%
Cerebral Palsy	1	2	3	0.002%	2.09%
Voice Disorders	4	-	4	0.003%	2.79%
Dysarthria	4	-	4	0.003%	2.79%
Delayed Speech & Language/ Inadequate Speech & Language	6	4	10	0.009%	6.99%
Delayed Speech and Language with Hearing Loss/ Inadequate Speech and Language with Hearing Loss	6	5	11	0.010%	7.69%
Language disorder with Seizures	1	-	1	0.000%	0.69%
Expressive Language Delay	5	4	9	0.008%	6.29%
Autism	1	-	1	0.000%	0.69%
Global Developmental Delay	1	1	2	0.001%	1.39%
Total	**88 (0.082%)**	**55 (0.051%)**	**143**	**0.134%**	**-**

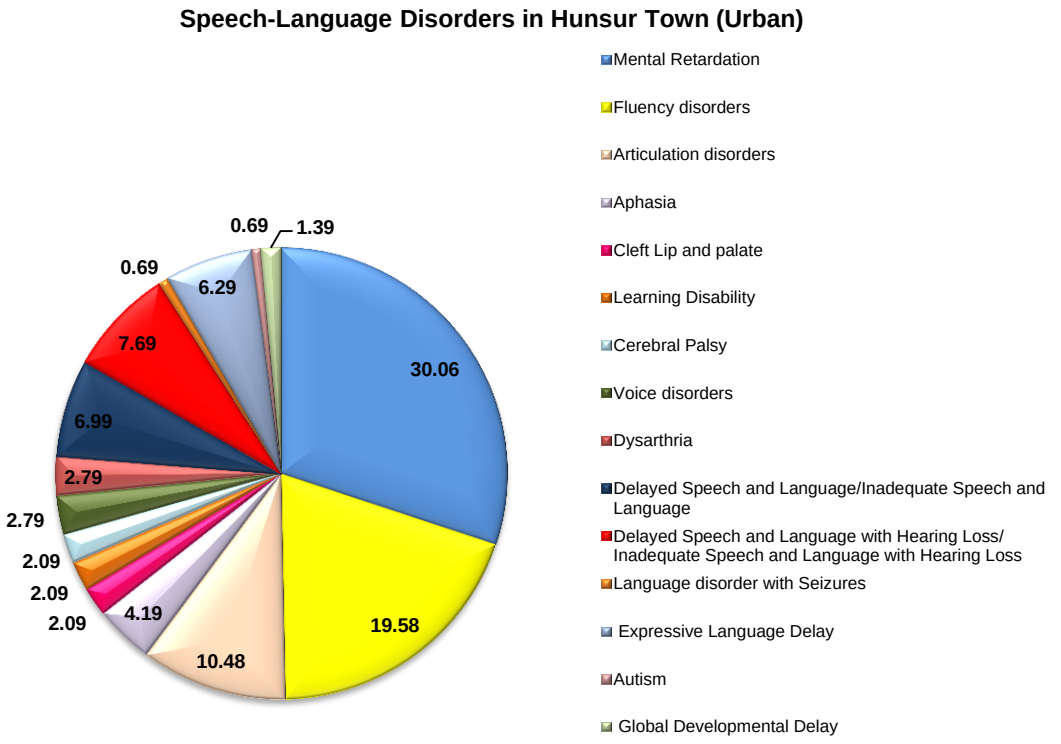

Figure 14. Percentage of Speech-Language disorders in Hunsur Town (Urban)(N=143)

In Mandya district, combined prevalence of Speech-Language disorders in Kasaba II and Chinakurali hoblis (Rural) was 0.436% (Kasaba II - 0.213%, Chinakurali - 0.223%) whereas it was 0.127% in Pandavapura town (Urban). It was found that speech-language disorders were more prevalent in males compared to females (0.56% in males and 0.38% in females in Pandavapura rural and 0.62% in males and 0.37% females in Pandavapura urban). Within the speech-language disorders, it was found that fluency disorders were more prevalent followed by mental retardation and articulation/phonological disorders in Pandavapura rural, where as mental retardation was more prevalent in Pandavapura town compared to expressive language disorder and learning disability. The distribution of various types of speech-language disorders in the population across Kasaba II and Chinakurali Hoblis and Pandavapura Town is shown in Tables 31 & 32 and Figures 15 and 16 respectively.

Table 31
Types and Gender distribution of Speech-Language disorders in Kasaba II and Chinakurali Hoblis (Rural) of Pandavapura Taluk, Mandya District

Speech-Language disorders	*Hobli*	*Male*	*Female*	*Total*	% Prevalence in Population (N= 90,871)	% Prevalence within speech-language disorders (N= 194 in KBII, N= 203 in Chink)
Delayed Speech and Language	KB II	5	2	7	0.007%	3.60%
	Chink	14	0	14	0.015%	6.896%
	Total	19	2	21	0.023%	5.289%
Inadequate Speech and	KB II	2	1	3	0.003%	1.546%
Language	Chink	1	2	3	0.003%	1.477%
	Total	3	3	6	0.006%	1.511%
Delayed Speech and Language	KB II	0	3	3	0.003%	1.546%
with Mental Retardation	Chink	4	4	8	0.008%	3.940%
	Total	4	7	11	0.012%	2.770%
Inadequate Speech and	KB II	16	18	34	0.037%	17.521%
Language with Mental	Chink	19	19	38	0.041%	18.719%
Retardation	Total	35	37	72	0.079%	18.136%
Delayed Speech and Language	KB II	0	2	2	0.002%	1.030%
with Hearing loss	Chink	2	2	4	0.004%	1.970%
	Total	2	4	6	0.006%	1.511%
Inadequate Speech and	KB II	4	6	10	0.011%	5.15%
Language with Hearing loss	Chink	8	6	14	0.015%	6.896%
	Total	12	12	24	0.026%	6.045%
Expressive Language Delay	KB II	7	1	8	0.008%	4.123%
	Chink	5	0	5	0.005%	2.463%
	Total	12	1	13	0.014%	3.274%
Specific language impairment	KB II	0	0	0	0	0
	Chink	1	1	2	0.002%	0.985%
	Total	1	1	2	0.002%	0.503%
Fluency disorders	KB II	31	16	47	0.051%	24.226%
	Chink	26	10	36	0.039%	17.733%
	Total	57	26	83	0.091%	20.906%
Articulation /Phonological	KB II	10	5	15	0.016%	7.731%

disorders	Chink	14	16	30	0.033%	14.778%
	Total	24	21	45	0.049%	11.335%
Voice disorders	KB II	9	8	17	0.018%	8.762%
	Chink	8	6	14	0.015%	6.896%
	Total	17	14	31	0.034%	7.808%
Learning disability	KB II	3	3	6	0.006%	3.092%
	Chink	8	2	10	0.011%	4.926%
	Total	11	5	16	0.017%	4.030%
Cerebral Palsy	KB II	3	1	4	0.004%	2.061%
	Chink	2	0	2	0.002%	0.985%
	Total	5	1	6	0.006%	1.511%
Cleft Lip and palate-	KB II	2	2	4	0.004%	2.061%
Unrepaired	Chink	1	0	1	0.001%	0.492%
	Total	3	2	5	0.005%	1.259%
Cleft Lip and Palate-Repaired	KB II	3	2	5	0.005%	2.577%
	Chink	3	2	5	0.005%	2.463%
	Total	6	4	10	0.011%	2.518%
Autism/ PDD-NOS	KB II	1	0	1	0.001%	0.515%
	Chink	0	0	0	0	0
	Total	1	0	1	0.001%	0.251%
Global Developmental Delay	KB II	0	1	1	0.001%	0.515%
	Chink	2	0	2	0.002%	0.985%
	Total	2	1	3	0.003%	0.755%
Aphasia	KB II	5	0	5	0.005%	2.577%
	Chink	5	0	5	0.005%	2.463%
	Total	10	0	10	0.011%	2.518%
Dysarthria	KB II	12	3	15	0.016%	7.731%
	Chink	2	7	9	0.009%	4.433%
	Total	14	10	24	0.026%	6.045%
Traumatic Brain Injury	KB II	2	0	2	0.002%	1.030%
	Chink	0	0	0	0	0
	Total	2	0	2	0.002%	0.503%
Right Hemisphere Damage	KB II	2	0	2	0.002%	1.030%
	Chink	0	0	0	0	0
	Total	2	0	2	0.002%	0.503%
Laryngectomy	KB II	1	0	1	0.001%	0.515%
	Chink	0	0	0	0	0
	Total	1	0	1	0.001%	0.251%
Dysphagia	KB II	2	0	2	0.002%	0.515%
	Chink	0	1	1	0.001%	0.492%
	Total	2	1	3	0.033%	0.755%
Total	KB II	120	74	194	0.213%	
	Chink	125	78	203	0.223%	
	Total	245	152	397	0.436%	

[Note: KB II = Kasaba II hobli; Chink = Chinakurali hobli]

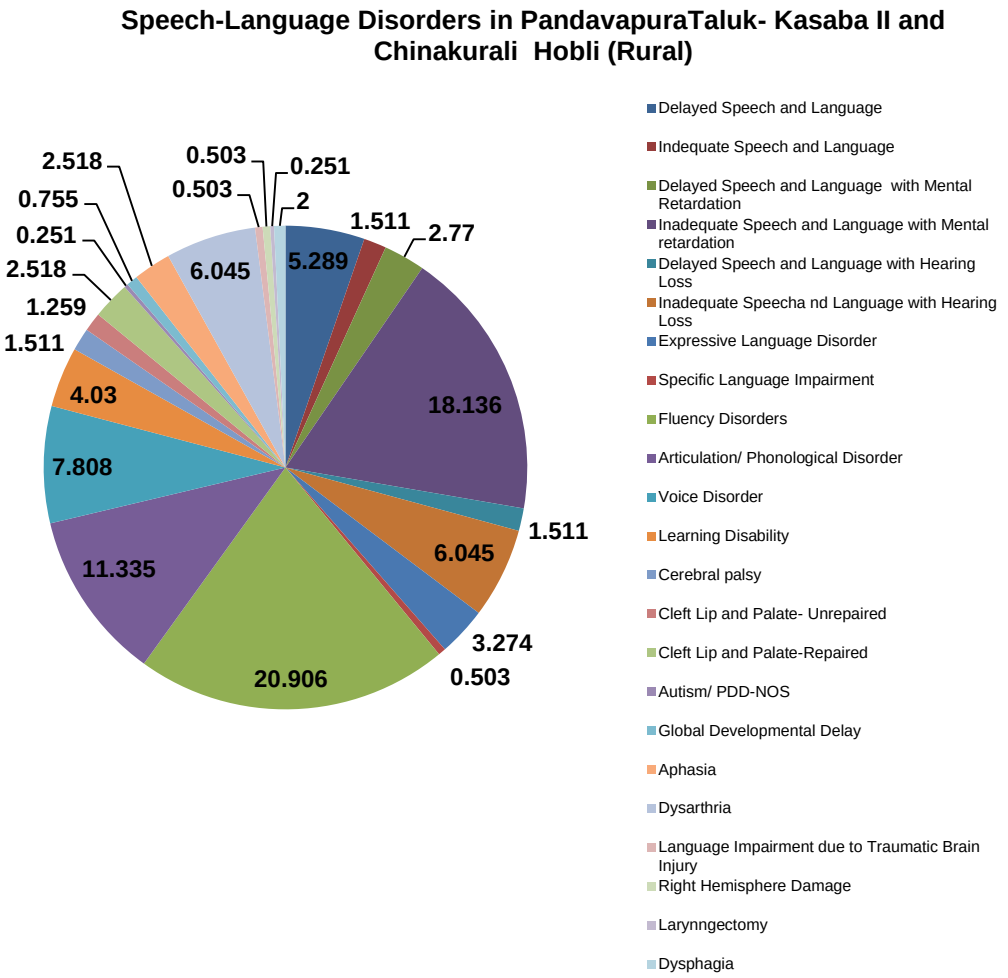

Figure 15. Percentage of Speech-Language disorders *in Kasaba II and Chinakurali Hoblis* (Rural)(N= 397)

Table 32
Types and Gender distribution of Speech-Language disorders in the population of Pandavapura Town(Urban) of Pandavapura Taluk, Mandya District

Speech-Language disorders	*Male*	*Female*	*Total*	% Prevalence in Population (N=90,871)	% Prevalence within speech-language disorders (N=116 in Town)
Delayed Speech and Language	5	1	6	0.006%	5.172%
Inadequate Speech and Language	1	0	1	0.001%	0.862%
Delayed Speech and Language with Mental Retardation	0	3	3	0.003%	2.586%
Inadequate Speech and Language with Mental Retardation	11	10	21	0.023%	18.103%
Delayed Speech and Language with Hearing loss	2	3	5	0.005%	4.310%
Inadequate Speech and Language	3	5	8	0.008%	6.896%

with Hearing loss

Expressive Language Delay	8	8	16	0.017%	13.793%
Specific language impairment	0	0	0	0	0
Fluency disorders	15	0	15	0.016%	12.931%
Articulation /Phonological disorders	10	2	12	0.013%	10.344%
Voice disorders	4	0	4	0.004%	3.448%
Learning disability	2	1	3	0.003%	2.586%
Cerebral Palsy	3	4	7	0.007%	6.034%
Cleft Lip and palate-Unrepaired	0	2	2	0.002%	1.724%
Cleft Lip and Palate-Repaired	1	0	1	0.001%	0.862%
Autism/ PDD-NOS	0	0	0	0	0
Global Developmental Delay	0	1	1	0.001%	0.862%
Aphasia	3	1	4	0.004%	3.448%
Dysarthr*ia*	2	2	4	0.004%	3.448%
Traumatic Brain Injury	0	0	0	0	0
Right Hemisphere Damage	0	0	0	0	0
Laryngectomy	2	0	2	0.002%	1.724%
Dysphagia	0	1	1	0.001%	0.862%
Total	**72**	**44**	**116**	**0.127%**	**22.612%**

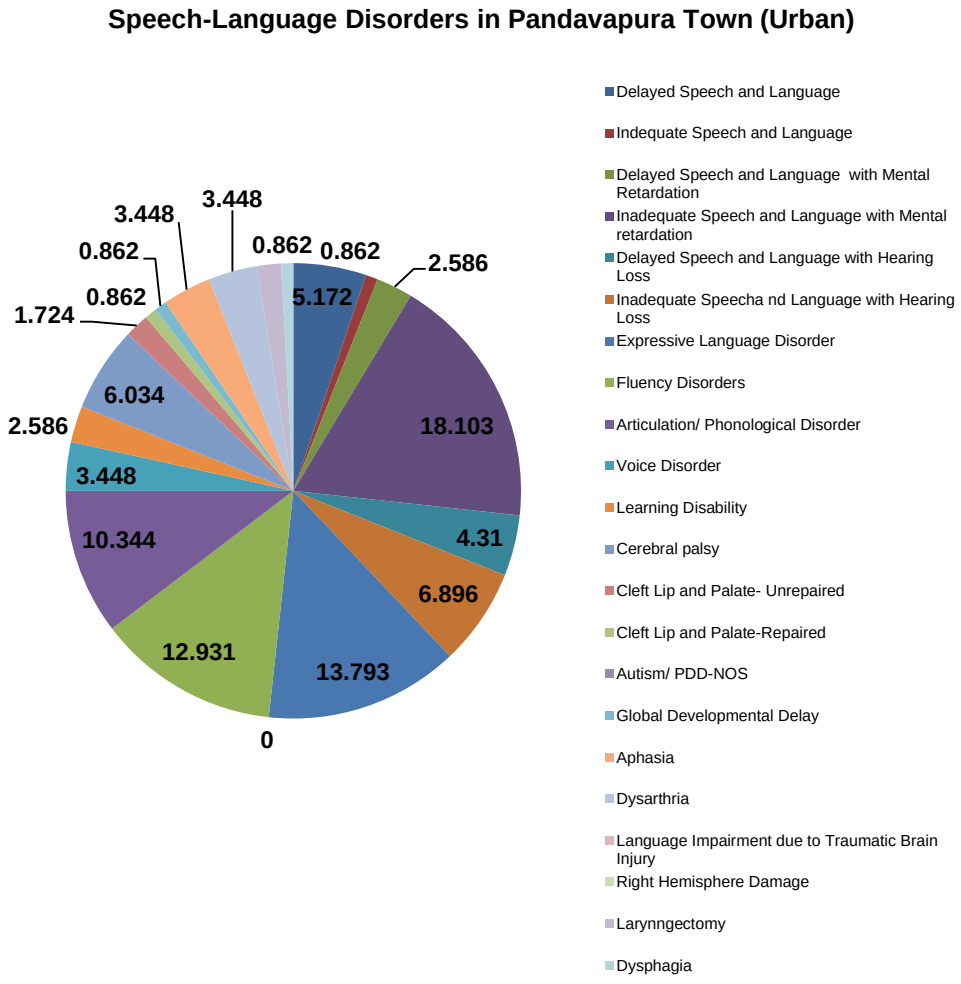

Figure16. Percentage of Speech-Language disorders in Pandavapura Town (Urban) (N=116)

Prevalence of Speech-Language disorders in Santhemaralli Hobli (Rural), Chamarajanagara Taluk, Chamarajanagara District was **0.256%** while it was **0.303%** in Chamarajanagara Town (Urban). The Speech-Language disorders were found to be more prevalent in males compared to females both in Santhemaralli Hobli (0.162% in males and 0.093% in females) and in Chamarajanagara Town (0.194% in males and 0.108% in females). Within Speech-Language disorders, it was found that in Santhemaralli Hobli (Rural), Mental Retardation, Fluency disorders and Inadequate Speech-Language with Hearing loss were more prevalent compared to Dysarthria/slurred speech, Hypernasality and Aphasia. In Chamarajanagara Town (Urban), Fluency disorders, Mental Retardation and Articulation/Phonological Disorders were more prevalent compared to Voice disorders, Learning disability, Aphasia and Dysarthria. The distribution of various types of Speech-Language disorders in Santhemaralli Hobli and Chamarajanagara Town is shown in Tables 33 & 34 and Figures 17 & 18, respectively.

Table 33

Types and Gender distribution of Speech-Language disorders in Santhemarahalli Hobli (Rural) of Chamarajanagara Taluk, Chamarajanagara District

Speech-Language disorders	*Male*	*Female*	*Total*	*% Prevalence in population (N=1,36,596)*	*% Prevalence within speech-language disorders (N=350)*
Delayed Speech and Language	14	3	17	0.012%	4.857%
Inadequate Speech and Language	5	3	8	0.005%	2.285%
Delayed Speech and Language with Mental Retardation	6	3	9	0.006%	2.571%
Inadequate Speech and Language with Mental Retardation	59	47	106	0.077%	30.285%
Delayed Speech and Language with Hearing loss	0	4	4	0.002%	1.142%
Inadequate Speech and Language with Hearing loss	15	18	33	0.024%	9.428%
Expressive Language Delay	1	2	3	0.002%	0.857%
Fluency disorders	48	12	60	0.043%	17.142%
Articulation/Phonological Disorders	26	7	33	0.024%	9.428%
Voice disorders	2	4	6	0.004%	1.714%
Learning Disability	3	1	4	0.002%	1.142%
Cerebral Palsy	9	4	13	0.009%	3.714%
Cleft Lip and palate-Unrepaired/ Oro-facial Anomalies	7	5	12	0.008%	3.428%
Cleft Lip and Palate-Repaired	4	4	8	0.005%	2.285%
Autism/PDD-NOS	1	0	1	0.000%	0.285%
Global Developmental Delay	5	1	6	0.004%	1.714%
Childhood Dysarthria	1	1	2	0.001%	0.571%
Language disorders with seizure	1	1	2	0.001%	0.571%
Aphasia	2	1	3	0.002%	0.857%
Dysarthria	11	2	13	0.009%	3.714%
Slurred Speech	1	0	1	0.000%	0.285%
Hyper nasality	0	3	3	0.002%	0.857%
Others	1	2	3	0.002%	0.857%
Total	**222 (0.16%)**	**128 (0.09%)**	**350**	**0.256%**	

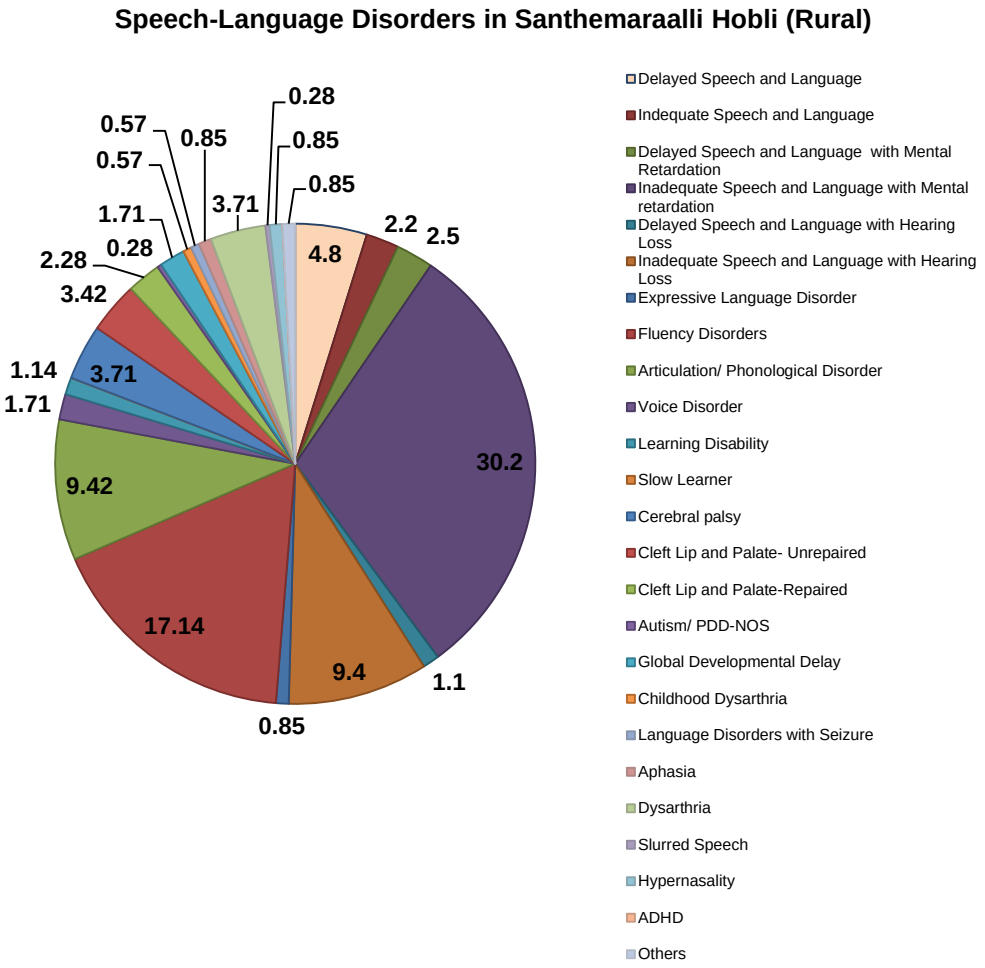

Figure 17. Percentage of Speech-Language disorders in Santhemaralli Hobli (Rural) (N=350)

Table 34

Types and Gender distribution of Speech-Language disorders in Chamarajanagara Town (Urban) of Chamarajanagara Taluk, Chamarajanagara District

Speech-Language disorders	Male	Female	Total	% Prevalence in population (N=1,36,596)	% Prevalence within speech language disorders (N= 414)
Delayed Speech and Language	25	11	36	0.026%	8.695%
Inadequate Speech and Language	2	1	3	0.002%	0.724%
Delayed Speech and Language with Mental Retardation	12	10	22	0.016%	5.314%
Inadequate Speech and Language with Mental Retardation	41	37	78	0.057%	18.840%
Delayed Speech and Language with Hearing loss	5	3	8	0.005%	1.932%
Inadequate Speech and Language with Hearing loss	3	2	5	0.003%	1.207%
Expressive Language Delay	8	2	10	0.007%	2.415%
Fluency disorders	83	30	113	0.082%	27.294%
Articulation/Phonological Disorders	27	16	43	0.031%	10.386%
Voice disorders	6	4	10	0.007%	2.415%
Learning Disability	16	4	20	0.014%	4.830%
Slow Learner	4	1	5	0.003%	1.207%
Cerebral Palsy	8	7	15	0.010%	3.623%
Cleft Lip and palate-Unrepaired/ Oro-facial Anomalies	1	4	5	0.003%	1.207%
Cleft Lip and palate-Unrepaired/ Oro-facial Anomalies	4	3	7	0.005%	1.690%
Autism/PDD-NOS	2	0	2	0.001%	0.483%
Global Developmental Delay	3	0	3	0.002%	0.724%
Aphasia	7	5	12	0.008%	1.570%
Dysarthria	5	0	5	0.003%	1.207%
Slurred Speech	1	1	2	0.001%	0.483%
Hyper nasality	0	2	2	0.001%	0.483%
ADHD	1	0	1	0.000%	0.241%
Others	2	5	7	0.005%	1.690%
Total	**266 (0.19%)**	**148 (0.10%)**	**414**	**0.303%**	

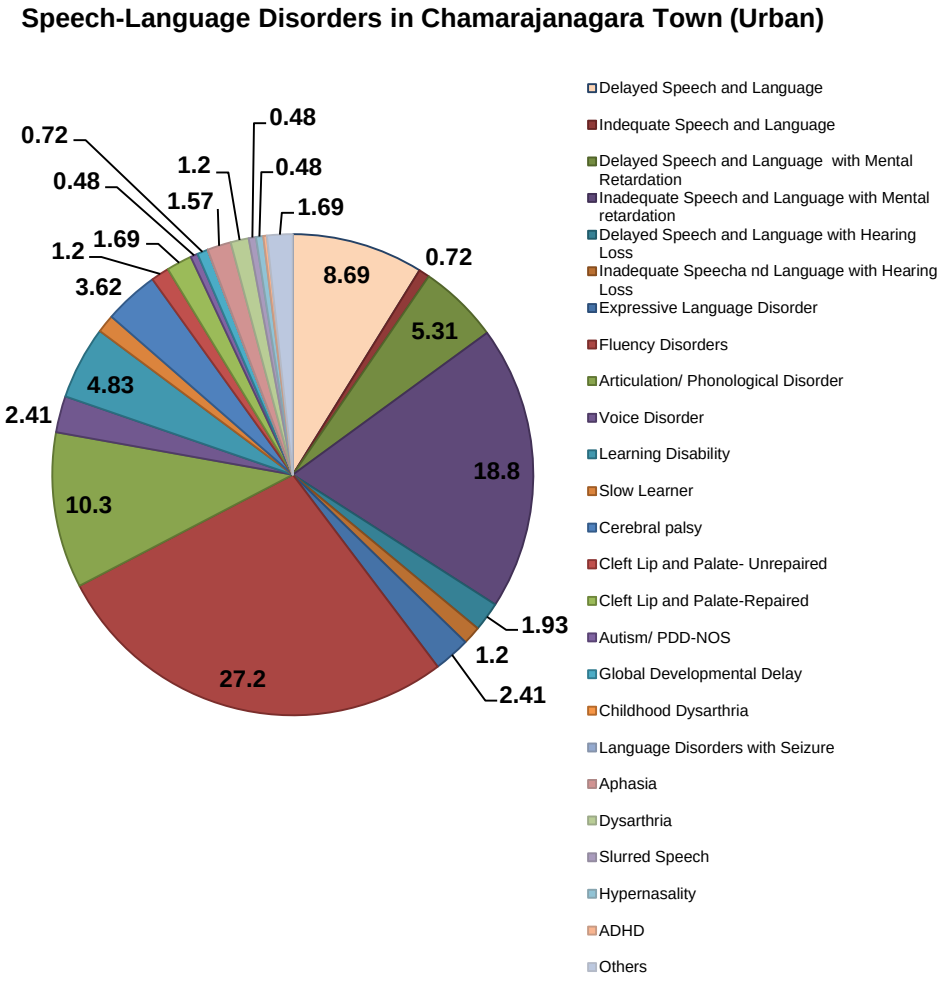

Figure 18. Percentage of Speech-Language disorders in Chamarajanagara Town (Urban) in Chamarajanagara Taluk, Chamarajanagara District (N=414)

In summary, it was found that the prevalence of Speech-Language Disorders among the rural regions was highest in the villages of Pandavapura Taluk (0.43%) followed by Hunsur Taluk (0.32%) and Chamarajanagara Taluk (0.25%). On the other hand, among the urban areas, it was found that Chamarajanagara Town had the highest prevalence (0.30%) followed by Hunsur Town (0.13%) and Pandavapura Town (0.12%).

HEARING DISORDERS

Irrespective of the type and degree of hearing loss, the percentage prevalence of hearing disorders was **0.586%** in the population of Bilikere Hobli (Rural) and Hunsur Town (Urban), Hunsur Taluk, Mysuru District was **0.249%**. Amongst the types of hearing loss, the percentage prevalence of Sensorineural hearing loss was the highest (**0.349%**), followed by Conductive **(0.102%)** and Mixed loss **(0.134%)** in Bilikere Hobli**.** In Hunsur Town, Sensorineural hearing loss had the highest prevalence (**0.159%**), followed by mixed **(0.062%),** and conductive type of hearing loss **(0.028%).** With respect to degree of hearing loss, the percentage prevalence of Moderate degree of hearing loss was highest, followed by Mild, Severe and Profound degrees of hearing loss in Bilikere Hobli. In Hunsur Town, Mild degree of hearing loss was

maximally prevalent, followed by Moderate, Severe and Profound degrees of hearing loss. With respect to gender, the percentage prevalence of hearing loss in males was higher compared to females with respect to the type and degree of hearing loss in Bilikere Hobli, but in Hunsur Town, females had higher prevalence than males. The details are shown in Tables 35 and 36. The percentage prevalence of types of hearing disorders are shown in Figures 19 and 20.

Table 35

Gender distribution, types of hearing disorders and degree of hearing loss in Bilikere Hobli (Rural), Hunsur Taluk, Mysore District

BILIKERE HOBLI											
Degree of Hearing loss	Types of Hearing disorders									Total & % Prevalence in population (N=1,06,414)	
	Conductive			Mixed			Sensorineural				
	M	F	T	M	F	T	M	F	T	M	F
Mild	48	40	88	12	15	27	60	75	135	120 (0.112%)	130 (0.122%)
Moderate	8	13	21	44	25	69	99	82	181	151 (0.141%)	120 (0.112%)
Severe	-	-	-	18	15	33	24	14	38	42 (0.039%)	29 (0.027%)
Profound	-	-	-	7	7	14	11	7	18	18 (0.016%)	14 (0.013%)
Total	56	53	109	81	62	143	194	178	372	**331**	**293**
										624 (0.586%)	
% Prevalence in population (N=1,06,414)	0.052%	0.049%	0.102 %	0.07 6%	0.05 8%	0.13 4%	0.18 2%	0.167%	0.349 %	**(0.311%)**	**(0.275%)**
% Prevalence within hearing disorders (N=624)	8.97%	8.49%	**17.46 %**	12.9 8%	9.93 %	**22.9 1%**	31.0 8%	28.52%	**59.6 1%**	-	-

[Note: M=Male, F=Female]

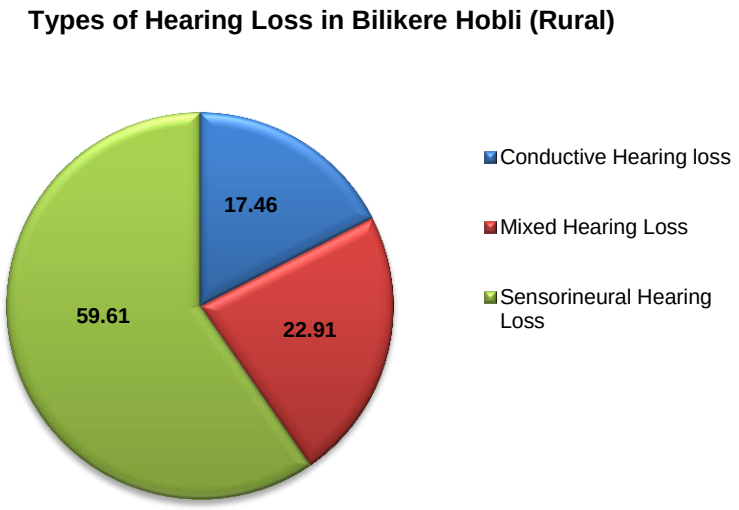

Figure 19. Percentage of types of Hearing disorders in Bilikere Hobli (Rural) (N=624)

Table 36

Gender distribution, types of hearing disorders and degree of hearing loss in Hunsur Town (Urban), Hunsur Taluk, Mysore District

Degree of Hearing loss	HUNSUR TOWN										
	Types of Hearing disorders									Total & % Prevalence in population (N=1,06,414)	
	Conductive			Mixed			Sensorineural				
	M	F	T	M	F	T	M	F	T	M	F
Mild	6	23	29	9	9	18	36	50	86	51 (0.047%)	82 (0.077%)
Moderate	1	-	1	12	19	31	25	33	58	38 (0.035%)	52 (0.048%)
Severe	-	-	-	3	9	12	6	9	15	9 (0.008%)	18 (0.016%)
Profound	-	-	-	3	2	5	6	5	11	9 (0.008%)	7 (0.006%)
Total	7	23	30	27	39	66	73	97	170	**107**	**159**
										266 (0.249%)	
% Prevalence in population (N=1,06,414)	0.006%	0.021%	0.028%	0.025 %	0.036 %	0.062%	0.068 %	0.091 %	0.159%	**(0.100%)**	**(0.149%)**
% Prevalence within hearing disorder (N=266)	2.63%	8.64%	**11.27%**	10.15 %	14.66 %	**24.81%**	27.44 %	36.46 %	**63.90 %**	-	-

[Note: M=Male, F=Female]

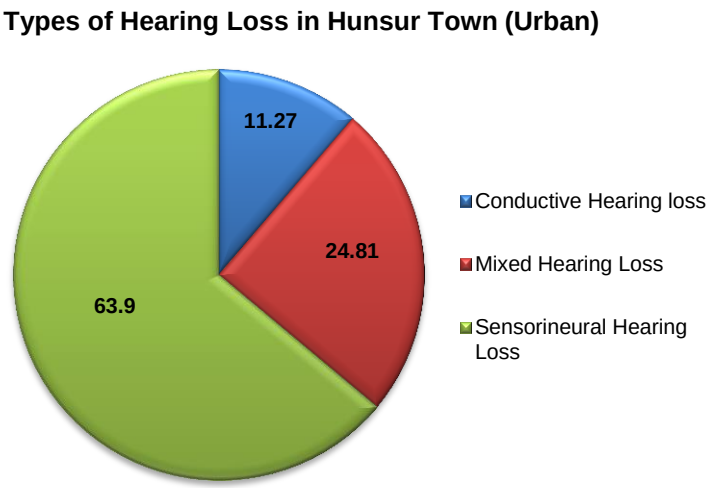

Figure 20. Percentage of types of Hearing disorders in Hunsur Town (Urban) (N=266)

In Mandya District, Pandavapura Taluk, Hearing impairment was more prevalent among the rural population **(0.77%)** compared to the urban population **(0.24%).** The percentage prevalence of Sensorineural hearing loss (0.159%) was highest followed by Mixed hearing loss (0.062%)and Conductive hearing loss (0.028%) in both Pandavapura rural (Kasaba II & Chinakurali Hoblis) and urban (Pandavapura Town) population surveyed. With respect to the degree of hearing loss, the percentage prevalence of Mild degree was the highest followed by Moderate, Severe and Profound degrees of hearing loss both in Kasaba II and Chinakurali Hobils (Rural) whereas in Pandavapura Town (Urban), the percentage prevalence of Moderate degree was the highest followed by Mild, Severe and Profound degrees of hearing loss. With respect to gender, the percentage prevalence of hearing loss with respect to both the type and degree of loss was higher in females compared to males in both Hoblis (Kasaba II & Chinakurali) and Pandavapura Town. The distribution of types of hearing disorders in the population across Kasaba II Hobli, Chinakurali Hobli and Pandavapura Town are shown in Tables 37 & 38 and Figures 21 & 22.

Table 37

Type and Gender distribution of Hearing Disorders in Kasaba II Hobli and Chinakurali Hobli (Rural) Pandavapura Taluk, Mandya District

HOBLI	Degree of Hearing loss	MANDYA DISTRICT										
		Types of Hearing disorders										
		Conductive			Mixed			Sensorineural			Total & % Prevalence in population (N=90,871)	
		M	F	T	M	F	T	M	F	T	M	F
Kasaba II	Mild	7	23	30	2	5	7	55	68	123	63 (0.141%)	96 (0.215)
	Moderate	5	4	9	12	18	30	59	71	130	76 (0.170%)	93 (0.209%)
	Severe	0	0	0	13	8	21	15	14	29	28 (0.062%)	22 (0.049%)
	Profound	0	0	0	5	3	8	4	5	9	9 (0.020%)	8 (0.017%)
	Sub Total	12	27	39	32	34	66	133	158	291	**177**	**219**
											396(0.435%)	
	% Prevalence in population (N=90,871)	0.013%	0.029 %	0.042%	0.035%	0.037%	0.072%	0.146%	0.173%	0.320%	(0.194%)	(0.241%)
	% Prevalence within hearing disorder (N=396)	3.030	6.818	**9.848**	8.080	8.585	**16.666**	33.585	39.898	**73.484**		-
Chinakurali	Mild	6	16	22	2	4	6	32	48	80	40 (0.200%)	68 (0.257%)
	Moderate	3	6	9	11	19	30	55	47	102	69 (0.251%)	72 (0.272%)
	Severe	0	0	0	7	8	15	7	10	17	14 (0.053%)	18 (0.068%)
	Profound	0	0	0	10	9	19	5	2	7	15 (0.056%)	11 (0.041%)
	Sub Total	9	22	31	30	40	70	99	107	206	**138**	**169**
											307(0.337%)	
	% Prevalence in population (N=90,871)	0.009%	0.024 %	0.034%	0.033%	0.044%	0.077%	0.108%	0.117%	0.226%	**(0.151%)**	**(0.185%)**
	% Prevalence within hearing disorder (N=307)	02.931%	07.166 %	10.097 %	09.771 %	13.029 %	22.801 %	32.247 %	34.853 %	67.100 %		
	Total of 2 Hoblis	21	49	70	62	74	136	232	265	497	**315 (0.346%)**	**388 (0.426%)**
											703(0.773%)	
	% Prevalence in population (N=90,0871)	0.023%	0.053 %	0.077 %	0.068 %	0.081 %	0.149 %	0.255 %	0.291 %	0.546 %		
	% Prevalence within hearing disorder (N=703)	2.987%	6.970 %	9.957 %	8.819 %	10.52 6%	19.34 5%	33.00 1%	37.69 5%	70.69 7%	-	-

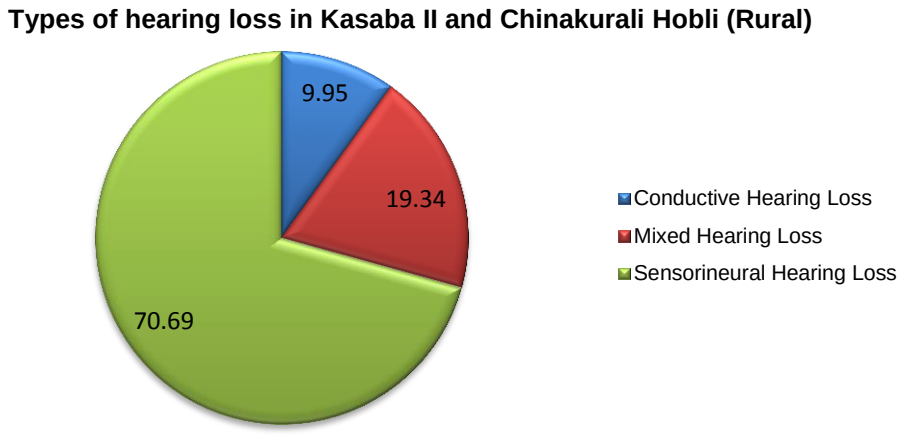

Figure 21 : Percentage of types of Hearing disorders in Kasaba II and Chinakurali Hoblis (Rural) (N=703)

Table 38

Type and Gender distribution of Hearing Disorders in Pandavapura Town (Urban) Pandavapura Taluk, Mandya District.

Degree of Hearing loss	PANDAVAPURA TOWN										
	Types of Hearing disorders										
	Conductive			Mixed			Sensori neural			Total & % Prevalence in population (N=90,871)	
	M	F	T	M	F	T	M	F	T	M	F
Mild	2	10	12	1	5	6	37	52	89	40 (0.200%)	67 (0.335%)
Moderate	0	3	3	12	15	27	31	32	63	43 (0.215)	50 (0.250%)
Severe	0	0	0	2	1	3	5	9	14	7 (0.035%)	10 (0.051%)
Profound	0	0	0	5	0	5	3	0	3	8 (0.040%)	0
Sub Total	2	13	15	20	21	41	76	93	169	**98 (0.107%)**	**127 (0.139%)**
										225(0.247%)	
% Prevalence in population (N=90,871)	0.002 %	0.01 4%	0.016 %	0.022 %	0.02 3%	0.045 %	0.083 %	0.102 %	0.185 %		
% Prevalence within hearing disorder (N=225)	0.888 %	5.77 7%	6.666 %	8.888 %	9.33 3%	18.22 2%	33.77 7%	41.33 3%	75.11 1%		

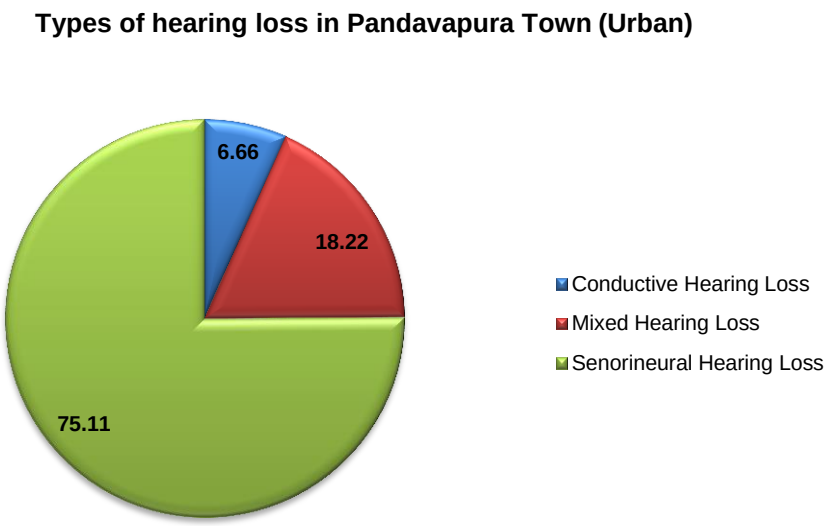

Figure 22 : Percentage of types of Hearing disorders in Pandavapura Town (Urban) (N=225)

The overall percentage prevalence of hearing disorders was 0.751% in the population of Santhemaralli Hobli (Rural) and 0.295% in Chamarajanagara Town (Urban) Chamarajanagara Taluk, Chamarajanagara District. Amongst the type of hearing loss, the percentage prevalence of sensorineural hearing loss was the highest (0.546%) followed by mixed hearing loss (0.140%) and conductive hearing loss (0.063%) in Santhemaralli Hobli. A similar trend was observed in Chamarajanagara Town with the prevalence of sensorineural hearing loss being the highest (0.234%) followed by mixed (0.052%) and conductive hearing loss (0.008%). With respect to the degree of hearing loss, the percentage prevalence of Moderate degree was the highest followed by Mild, Severe and Profound degrees of hearing loss both in Santhemaralli Hobli (Rural) and Chamarajanagara Town (Urban). With respect to gender, the percentage prevalence of hearing loss with respect to both the type and degree of loss was higher in males compared to females in

Santhemaralli Hobli, whereas females showed higher percentage prevalence than males in Chamarajanagara Town. The details are shown in Tables 39 and 40 and the percentage prevalence of types of hearing disorders is shown in figures 23 and 24.

Table 39

Type and Gender distribution of Hearing Disorders in Santhemaralli Hobli (Rural) Chamarajanagara Taluk, Chamarajanagara District.

Degree of Hearing loss	SANTHEMARALLI HOBLI										
	Hearing disorders										
	Types of Hearing disorders										
	Conductive			Mixed			Sensorineural			Total & % Prevalence in population (N=1,36,596)	
	M	F	T	M	F	T	M	F	T	M	F
Mild	36	27	63	2	1	3	129	117	246	167 (0.122%)	145 (0.106%)
Moderate	14	10	24	55	45	100	192	171	363	261 (0.191%)	226 (0.165%)
Severe	0	0	0	20	10	30	69	51	120	89 (0.065%)	61 (0.044%)
Profound	0	0	0	29	30	59	11	7	18	40 (0.029%)	37 (0.027%)
Sub Total	50	37	87	106	86	192	401	346	747	**557** (0.407%)	**469** (0.343%)
										1026 (0.751%)	
% Prevalence in population (N=1,36,596)	0.036 %	0.027 %	0.063 %	0.077 %	0.062 %	0.140 %	0.293 %	0.253 %	0.546%	(0.407 %)	(0.343 %)
% Prevalence within hearing disorder (N=**1,026**)	4.873 %	3.606 %	8.479 %	10.331%	8.382 %	18.713%	39.083%	33.723%	72.807%	(54.288%)	(45.711%)

[Note: M=Male, F= Female, T=Total]

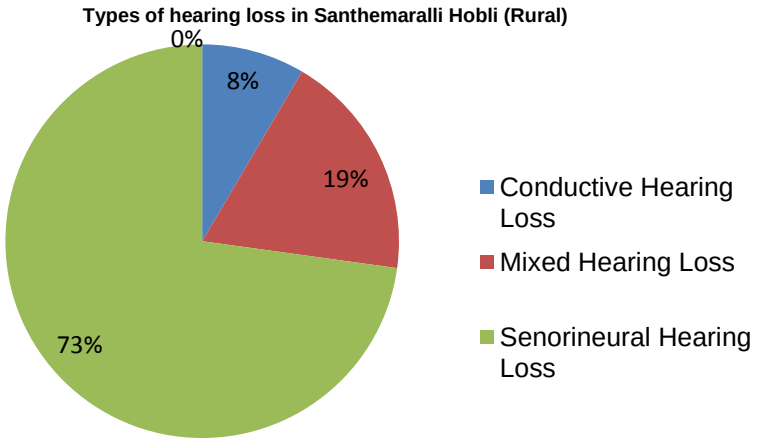

Figure 23. Percentage of types of Hearing disorders in Santhemaralli Hobli (Rural), (N=1,026)

Table 40

Type and Gender distribution of Hearing Disorders in Chamarajanagara Town (Urban) Chamarajanagara Taluk, Chamarajanagara District

Degree of Hearing loss	CHAMARAJANAGARA TOWN										
	Hearing disorders										
	Types of Hearing disorders										
	Conductive			Mixed			Sensorineural			Total & % Prevalence in population (N=1,36,596)	
	M	F	T	M	F	T	M	F	T	M	F
Mild	3	7	10	3	6	9	41	61	102	47 (%0.034)	74 (0.054%)
Moderate	1	0	1	19	19	38	67	80	147	87 (0.063%)	99 (0.072%)
Severe	0	0	0	3	13	16	21	25	46	24 (%)0.017	38 (0.027%)
Profound	0	0	0	4	5	9	13	12	25	17 (0.012%)	17 (0.012%)
Sub Total	4	7	11	29	43	72	142	178	320	**175** (0.128%)	**228** (0.166%)
										403(0.295%)	
% Prevalence in population (N= 1,36,596)	0.002 %	0.005 %	0.008 %	0.02 1%	0.03 1%	0.05 2%	0.10 3%	0.13 0%	0.23 4%	(0.128%)	(0.166%)
% Prevalence within hearing disorder (N=403)	0.992 %	1.736 %	2.729 %	7.19 6 %	10.6 69 %	17.8 66 %	35.2 35 %	44.1 68 %	79.4 04 %	(43.424%)	(56.575%)

[Note: M=Male, F= Female, T=Total]

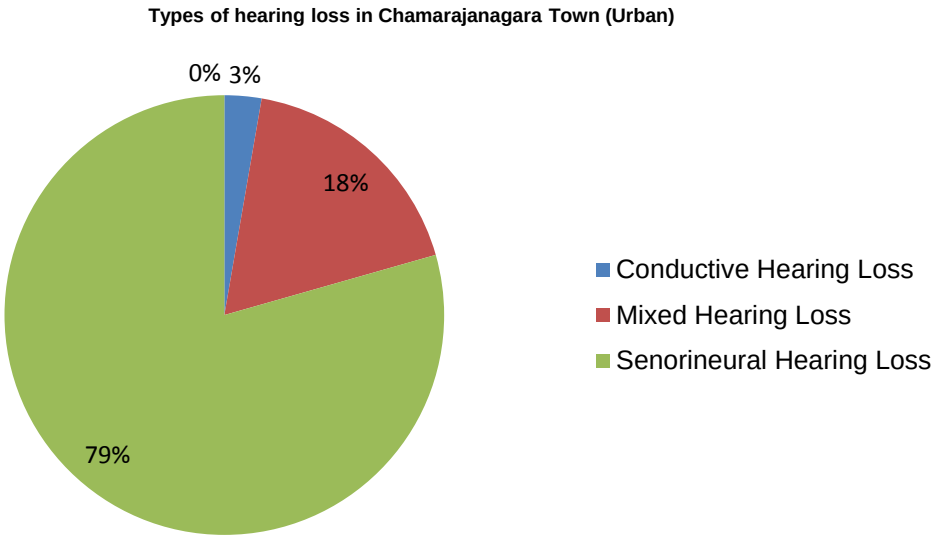

Figure 24. Percentage of types of Hearing disorders in Chamarajanagara Town (Urban) (N=1,026)

In summary, the prevalence of hearing disorders was the highest in the villages of Pandavapura Taluk (0.77%), followed by Chamarajanagara (0.75%) and Hunsur Taluks (0.58%) among the rural regions. However, among the urban areas, the highest prevalence of hearing disorders was found in Chamarajanagara Town (0.29%) followed by Pandavapura Town (0.24%) and Hunsur Town (0.24%).

ENT DISEASES & CONDITIONS

The prevalence percentage of ENT diseases and conditions in Hunsur Taluk, Mysuru District was **0.540%** and **0.456%** in Bilikere Hobli and Hunsur Town, respectively. Among the ENT diseases and conditions, the prevalence percentage was higher for Middle Ear diseases and Overall Ear related conditions, followed by other conditions (which included complaints such as ear pain, tinnitus, vertigo etc) in both Bilikere Hobli and Hunsur Town. With respect to gender, the prevalence percentage was higher in females compared to males in both Bilikere Hobli (0.268% in males and 0.271% in females) Hunsur Town (0.190% males and 0.265% in females). The details are shown in Tables 41 and 42. Figures 25 and 26 depict the distribution of ENT diseases and conditions in percentage.

Table 41

Types and Gender distribution of ENT diseases and conditions *in Bilikere Hobli (Rural) Hunsur Taluk , Mysuru District*

ENT Diseases and Conditions	Male	Female	Total	% Prevalence in population (N=1,06,414)	% Prevalence within ENT diseases and conditions (N=575)
External Ear Diseases	55	34	89	0.083%	15.47%
Middle Ear Diseases	116	108	224	0.210%	38.95%
Inner Ear Diseases	12	15	27	0.025%	4.69%
Overall Ear Related Conditions	44	53	97	0.091%	16.86%
Throat Related Conditions	16	34	50	0.046%	8.69%
Nose Related Conditions	3	4	7	0.006%	1.21%
Others	32	34	66	0.062%	11.47%
Combined/Dual Conditions	8	7	15	0.014%	2.60%
Total	286 (0.268%)	289 (0.271%)	575	0.540%	-

Note: External Ear Diseases (**Ext Ear Dis)-** Wax, Otomycosis, Foreign Body, Otitis externa; Middle Ear Diseases **(Mid Ear Dis)-** Chronic Suppurative Otitis Media, Serous Otitis Media, Acute Suppurative Otitis Media, Chronic Suppurative Otitis Media- Tubo Tympanic Disease, Eustachian Tube Catarrah, Tympanic Membrane Abnormality, Ear Discharge, Otosclerosis; Inner Ear Diseases **(In Ear Dis)-** Hearing Impairment, Vertigo, Meniere's Disease; Overall Ear related Conditions; Overall ear related conditions **(Ovrl Ear RelCond)**; Combined Ear only, Structural Abnormality of the Ear, Ear Pain, Tinnitus; Others **(Oth)** – Tympano Mandibular Joint Arthritis, Tongue Tie, Upper Respiratory Tract Infection, Sinusitis; Dual Conditions **(Dual Cond)-** Ear & nose and Ear & throat.

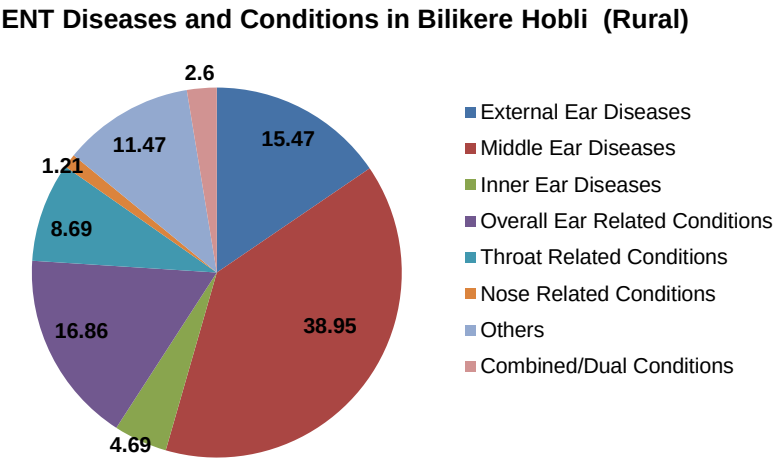

Figure 25. Percentage of types of ENT diseases and conditions in Bilikere Hobli (Rural) (N=575)

Table 42

Types and Gender distribution of ENT diseases and conditions in Hunsur Town (Urban) Hunsur Taluk, Mysuru District

ENT Conditions & Diseases	Male	Female	Total	% Prevalence in population (N=1,06,414)	% Prevalence within ENT conditions & diseases (N=486)
External Ear Diseases	43	46	89	0.083%	18.31%
Middle Ear Diseases	57	76	133	0.124%	27.36%
Inner Ear Diseases	5	2	7	0.006%	1.44%
Overall Ear Related Conditions	40	50	90	0.084%	18.51%
Throat Related Conditions	28	63	91	0.085%	18.72%
Nose Related Conditions	16	18	34	0.031%	6.99%
Others	10	15	25	0.023%	5.14%
Combined/Dual Conditions	4	13	17	0.015%	3.49%
Total	203 (0.190%)	283 (0.265 %)	486	0.456%	-

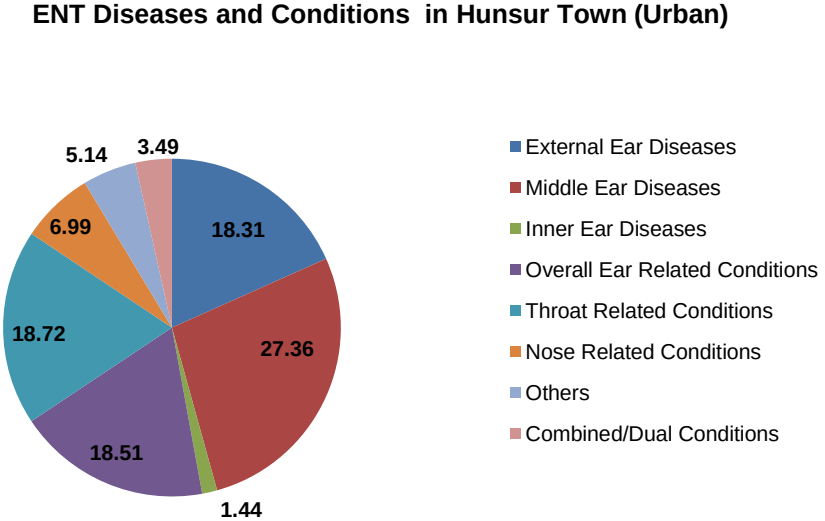

Figure 26. Percentage of types of ENT diseases & Conditions in Hunsur Town (Urban) (N=486)

The prevalence percentage of ENT diseases and conditions was **1.36**% in Pandavapura Taluk, Mandya District (**1.02**% in Kasaba II and Chinakurali hoblis and **0.33**% in Pandavapura town). The prevalence was higher in females compared to males. It was 0.590% in females and 0.437% in males in Pandavapura Rural (Kasaba II and Chinakurali Hobli) and 0.217% in females and 0.116% in males in Pandavapura Urban/Town. Amongst the ENT diseases and conditions, the prevalence percentage in Pandavapura Rural as well as Urban was higher for Middle ear diseases (Such as Otitis media, Otosclerosis, Ossicular chain dysfunction, etc) followed by External Ear diseases (Keloid, Otomycosis, Otitis externa, etc), and other conditions (which included complaints such as ear pain, tinnitus, vertigo etc). The details are shown in Tables 43 and 44. The distribution (in percentage) of ENT diseases and conditions in the hoblis of Pandavapura (Rural) and Pandavapura town (Urban) are depicted in Figures 27 and 28, respectively.

Table 43

Types and Gender distribution of ENT diseases and conditions in Kasaba II and Chinakurali Hobli (Rural) Pandavapura Taluk, Mandya District

ENT diseases and conditions	Hoblis	Male	Female	Total	% Prevalence in population (N=90,871)	% Prevalence in ENT diseases & conditions (N=495 in Kasaba II; N=440 in Chinakurali)
External Ear Diseases	Kasaba II	45	56	101	0.111%	20.404%
	Chinakurali	44	52	96	0.105%	21.818%
	Total	89	108	197	0.216%	21.069%
Middle Ear Diseases	Kasaba II	69	112	181	0.199%	36.565%
	Chinakurali	92	76	168	0.184%	38.181%
	Total	161	188	349	0.384%	37.326%
Inner Ear Diseases	Kasaba II	12	24	36	0.039%	7.272%
	Chinakurali	18	13	31	0.034%	7.045%
	Total	30	37	67	0.073%	7.165%
Overall Ear Related Conditions	Kasaba II	19	59	78	0.085%	15.757%
	Chinakurali	31	35	66	0.072%	15.000%
	Total	50	94	144	0.158%	15.400%
Throat Related Condition	Kasaba II	10	30	40	0.044%	8.080%
	Chinakurali	12	25	37	0.040%	8.409%
	Total	22	55	77	0.085%	8.235%
Nose Related Condition	Kasaba II	10	14	24	0.0539	4.848%
	Chinakurali	9	7	16	0.0605	3.636%
	Total	19	21	40	0.044%	4.278%
Others	Kasaba II	15	14	29	0.031%	5.858%
	Chinakurali	8	11	19	0.020%	4.318%
	Total	23	25	48	0.052%	5.133%
Dual Condition	Kasaba II	1	5	6	0.0134	1.212%
	Chinakurali	3	4	7	0.0265	1.590%
	Total	4	9	13	0.014%	1.390%
Total	Kasaba II	**181** **0.199%**	**314** **0.345%**	**495**	**0.544%**	
	Chinakurali	**217** **0.238%**	**223** **0.245%**	**440**	**0.484%**	
Total		**398** **0.437%**	**537** **0.590%**	**935**	**1.028%**	

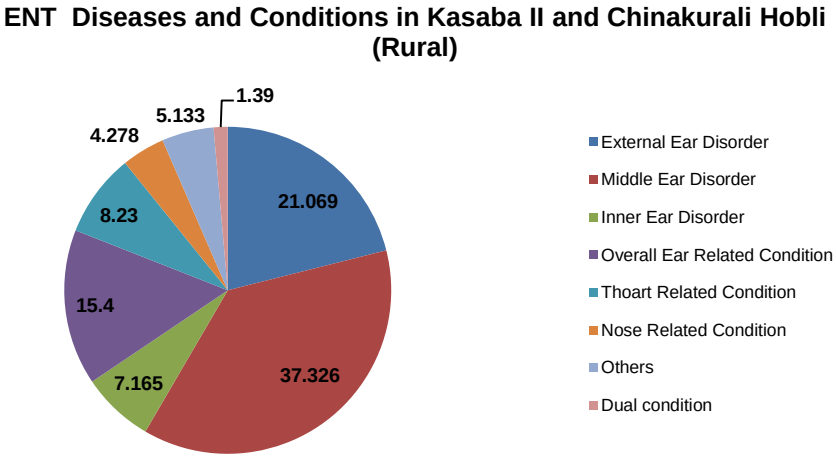

Figure 27. Percentage of types of ENT diseases & conditions in Kasaba II Hobli and Chinakurali Hobli (Rural) (N=935)

Table 44

Types and Gender distribution of ENT diseases and conditions in Pandavapura Town (Urban), Pandavapura Taluk, Mandya District

ENT diseases and conditions	Male	Female	Total	% Prevalence in population (N=90,871)	% Prevalence within ENT diseases & conditions (N= 304)
External Ear Diseases	24	47	71	0.078%	23.3552
Middle Ear Diseases	42	59	101	0.111%	33.2236
Inner Ear Diseases	5	17	22	0.024%	7.2368
Overall Ear Related Conditions	18	48	66	0.072%	21.7105
Throat Related Condition	4	9	13	0.014%	4.2763
Nose Related Condition	5	4	09	0.009%	2.9605
Others	5	11	16	0.017%	5.2631
Dual Condition	3	3	6	0.006%	1.9736
Total	**106 (0.116%)**	**198 (0.217%)**	**304**	**0.334%**	

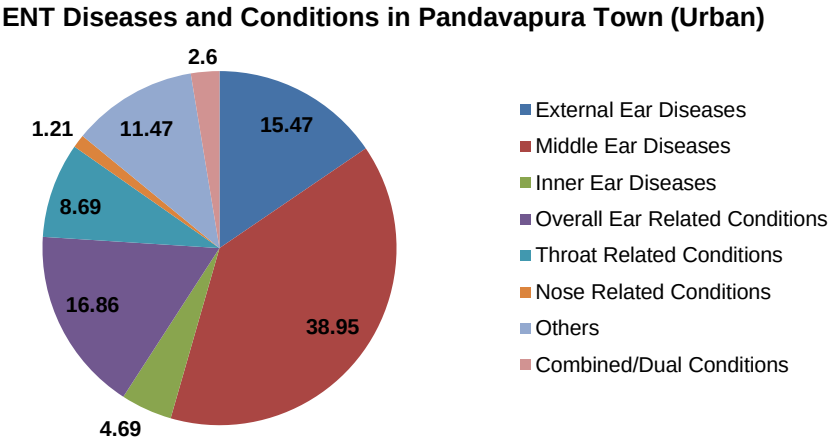

Figure 28: ENT diseases and conditions in Pandavapura Town (Urban) (N=304)

In the district of Chamarajanagara, the prevalence percentage of ENT diseases and conditions was **0.456%** in Santhemaralli Hobli and **0.418%** in Chamarajanagara Town. Among the ENT diseases and conditions, the prevalence percentage in both Santhemaralli Hobli and Chamarajanagara Town was higher for Middle Ear diseases and Overall Ear related conditions, followed by other conditions (which included complaints such as ear pain, tinnitus, vertigo etc). Comparing between the genders, the prevalence of ENT diseases and conditions was higher in males (0.237%) than in females (0.218%) in Santhemaralli Hobli (Rural) whereas the prevalence percentage was higher in females (0.233%) compared to males (0.185%) in Chamarajanagara Town (Urban). The details are shown in Tables 45 and 46. Figures 29 and 30 depict the distribution (in percentage) of ENT diseases and conditions in Santhemaralli Hobli and Chamarajanagara Town, respectively.

Table 45

Types and Gender distribution of ENT diseases and conditions *in Santhemaralli Hobli (Rural)of Chamarajanagara Taluk, Chamarajanagara District*

ENT diseases and conditions	Male	Female	Total	% Prevalence in population (N=1,36,596)	% Prevalence within ENT diseases & conditions (N=623)
External Ear Diseases	56	37	93	0.068%	14.927%
Middle Ear Diseases	142	123	265	0.194%	42.536%
Inner Ear Diseases	15	20	35	0.025%	5.617%
Overall Ear Related Conditions	81	86	167	0.122%	26.805%
Throat Related Conditions	7	7	14	0.008%	2.247%
Nose Related Conditions	5	7	12	0.008%	1.926%
Others	14	15	29	0.021%	4.654%
Combined/Dual Conditions	5	3	8	0.005%	1.284%
Total	**325 (0.237%)**	**298 (0.218 %)**	**623**	**0.456%**	

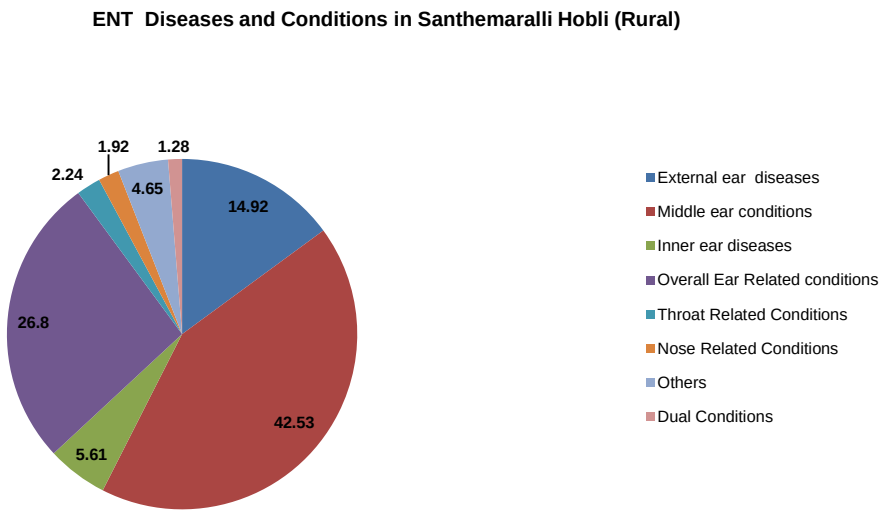

Figure 29. Percentage of types of ENT diseases and conditions in Santhemaralli Hobli (Rural) (N=623)

Table 46

Types and Gender distribution of ENT Diseases & Conditions in Chamarajanagara Town (Urban) of Chamarajanagara Taluk, Chamarajanagara District

ENT diseases and conditions	Male	Female	Total	% Prevalence in population (N=1,36,596)	% Prevalence within ENT diseases & conditions (N=572)
External Ear Diseases	21	34	55	0.040%	9.615%
Middle Ear Diseases	009	136	245	0.179%	42.832%
Inner Ear Diseases	11	22	33	0.024%	5.769%
Overall Ear Related Conditions	93	98	191	0.139%	33.391%
Throat Related Conditions	0	9	9	0.006%	1.573%
Nose Related Conditions	7	10	17	0.012%	2.972%
Others	10	7	17	0.012%	2.972%
Combined/Dual Conditions	2	3	5	0.003%	0.874%
Total	**253 (0.185%)**	**319 (0.233%)**	**572**	**0.418%**	

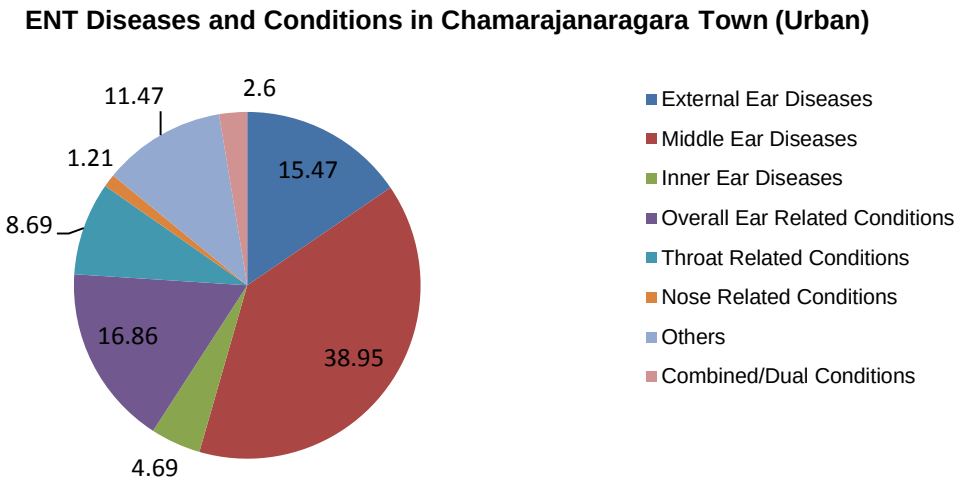

Figure 30. Percentage of types of ENT diseases and conditions in Chamarajanagara Town (Urban) (N=572)

To summarize, the prevalence percentage of ENT diseases and conditions was found to be highest in the villages of Pandavapura Taluk (1.02%) followed by Hunsur Taluk (0.54%) and Chamarajanagara Taluk (0.45%) among the rural areas. On the other hand, highest prevalence was observed in Hunsur Town (0.45%) followed by Chamarajanagara Town (0.41%) and Pandavapura (0.33%) among the urban areas.

DUAL & MULTIPLE DISORDERS OF COMMUNICATION

In Hunsur Taluk of Mysuru District, the overall percent prevalence of dual and multiple disorders in Bilikere Hobli (Rural) and Hunsur Town (Urban) was 0.021% and 0.023% respectively indicating slightly greater prevalence in Hunsur Town compared to Bilikere hobli. The prevalence in males was higher compared to females in both the regions, as shown in Table 47.

Table 47

Total and Gender distribution of Dual and Multiple disorders in Bilikere Hobli (Rural) and Hunsur Town (Urban) of Hunsur Taluk, Mysuru District

Dual and Multiple disorders	Gender Distribution		Total	% Prevalence (N=1,06,414)
	Male	Female		
Bilikere Hobli	14	9	23	0.021
Hunsur Town	19	6	25	0.023
Total	**33 (0.031%)**	**15 (0.014%)**	**48**	**0.045**

In Mandya District, the percent prevalence of Dual and Multiple disorders in the population of Kasaba II Hobli, Chinakurali Hobli and Pandavapura Town were 0.024%, 0.033% and 0.006%, respectively. The prevalence in males was higher compared to females in both the Hoblis of Pandavapura Taluk as well as in Pandavapura Town. Details of the same are given in Table 48.

Table 48

Total and Gender distribution of Dual and Multiple disorders in Pandavapura Rural (Kasaba II Hobli, Chinakurali Hobli) and Pandavapura Town, Mandya District

Dual and Multiple Disorders	Gender Distribution		Total	% Prevalence (N=90,871)
	Male	*Female*		
Kasaba Hobli	14	8	22	0.024
Chinakurali Hobli	21	9	30	0.033
Pandavapura Town	06	0	06	0.006
Total	**41 (0.45%)**	**17 (0.018%)**	**58**	**0.063**

In Chamarajanagara District, the overall percent prevalence of Dual and Multiple disorders in Santhemaralli Hobli (Rural) was 0.030%, which was higher than that in Chamarajanagara Town (Urban) (0.0175%). The prevalence percentage was higher in males when compared to females in both Santhemaralli Hobli (Rural) and Chamarajanagara Town (Urban). The details are shown in Table 49.

Table 49

Total and Gender distribution of Dual and Multiple disorders in Santhemaralli Hobli (Rural) and Chamarajanagara Town (Urban) of Chamarajanagara Taluk, Chamarajanagara District

Dual and Multiple disorders	Gender		Total	% Prevalence (N=1,36,596)
	Male	Female		
Santhemaralli Hobli	28	**14**	42	0.030%
Chamarajanagara Town	18	6	24	0.017%
Total	**46 (0.033%)**	**20 (0.014%)**	**66**	**0.048**%

In summary, the percent prevalence of Dual/Multiple Disorders was highest in Pandavapura Taluk (0.063%) followed by Chamarajanagara Taluk (0.048%)and Hunsur Taluk (0.045%).

DETAILS REGARDING PERSONS RECOMMENDED FOR SPEECH-LANGUAGE THERAPY AS TERTIARY REHABILITATION MEASURE

Persons identified with various communication disorders after evaluation in each of the three districts were recommended speech language therapy. Out of the total 1,06,414 persons surveyed in the district of Mysuru, 532 (0.49%) were identified with speech and language disorders and 255 individuals (47.93%) were recommended speech-language therap. However, only 14 individuals (5.49%) attended speech-language therapy at AIISH whereas the remaining 241 (94.51%) did not attend speech and language therapy.

In Pandavapura Taluk of Mandya District (N=90,871), a total of 513 persons were diagnosed to have speech and language disorders, out of which 296 (57.69%) were recommended for speech and language therapy. However, only 15 persons (5.06%) of the 296 attended therapy at AIISH while the remaining 281 (94.93%) persons did not attend therapy.

Similarly, in Chamarajanagara district, a total of 763 (0.55%) persons were diagnosed to have speech and language disorders out of the total population surveyed (N=1,36,596). Among these, 375 (49.15%) individuals were recomended for speech and language therapy out of which, only 26 (6.93%) attended therapy at AIISH whereas 349 (93.06%) did not attend speech and language therapy.

DETAILS OF FREE HEARING AIDS DISTRIBUTED BY THE INSTITUTE

Hearing aids were distributed free of cost by AIISH to persons with hearing impairment who were evaluated at AIISH, Camps and Door to door screening. This was carried out through the Scheme for Assistance to Disabled Persons for Purchase/Fitting of Aids and Appliances (ADIP) and from Patient Welfare Funds of AIISH. In Mysuru District, Hunsur Taluk, a total of 296 hearing aids were distributed free of cost to persons recommended to wear hearing aids in the Institute and Camps. Out of these 296, 135 were body level hearing aids and 161 were Behind The Ear (BTE) Hearing aids. A total of 308 custom made hard ear moulds were distributed along hearing aids out of which 96 were hard moulds and 212 were soft moulds.

In Mandya District, Pandavapura Taluk, a total of 305 hearing aids were distributed free of cost to persons recommended to wear hearing aids in the Institute and Camps. Out of these 305, 145 were body level hearing aids and 165 were BTE hearing aids. A total of 290 custom made ear moulds were distributed along with hearing aids out of which 67 were hard moulds and 223 were soft moulds.

In Chamarajanagara Taluk, Chamarajanagara District, a total of 664 Hearing aids were distributed to persons recommended to use hearing aids in Santhemaralli Hobli (Rural) and Chamarajanagara Town (Urban). Out of the 664, 443 were body level hearing aids distributed along with 508 custom made hard ear moulds and 221 were BTE hearing aids distributed along with 327 custom made soft ear moulds.

ANALYSES & RESULTS OF FEEDBACK OF ASHA WORKERS EXPERIENCE OF SURVEY

The responses to the questionnaire administered on the ASHA Workers and Anganwadi Teachers were analyzed. The sum of raw scores per column (with 4 point rating scale) per person was computed. Group mean and median scores along with SD was computed for each question and compared across the type of personnel recruited for the survey. By using the questionnaire procedure, the data collection followed a distribution-free method for studying the aspects of interest with assigned rank orders, but no clear numerical interpretation, facilitating assessment of preferences.

In the district of Mysuru, the mean, median and standard deviation of the scores obtained by ASHA Workers (N=59) in Bilikere Hobli and Anganawadi teachers (N=28) in Hunsur Town are presented in Tables 50 to 53, respectively.

Table 50

Mean, Median and Standard Deviation for types of questions in the questionnaire for Bilikere Hobli (Rural), Hunsur Taluk, Mysuru District

Question No.	Hobli	Mean	SD	Median	Question No.	Hobli	Mean	SD	Median
AIISH Q1	Pre	3.32	0.797	3.00	SUP	Pre	3.47	0.653	4.00
	Post	3.68	0.600	4.00	Q10	Post	3.68	0.507	4.00
Q2	Pre	3.00	1.050	3.00	Q11	Pre	3.08	0.877	3.00
	Post	3.59	0.561	4.00		Post	3.63	0.613	4.00
Q3	Pre	3.03	1.050	3.00	Q12	Pre	2.98	0.991	3.00
	Post	3.64	0.713	4.00		Post	3.73	0.448	4.00
Q4	Pre	2.78	1.100	3.00	Q13	Pre	2.92	1.055	3.00
	Post	3.61	0.616	4.00		Post	3.66	0.512	4.00
Q5	Pre	2.92	1.039	3.00	Q14	Pre	3.29	0.872	4.00
	Post	3.59	0.698	4.00		Post	3.66	0.512	4.00
Q6	Pre	2.80	1.095	3.00	**Total SUP**	Pre	15.47	4.040	15.00
	Post	3.68	0.539	4.00		Post	18.36	2.288	20.00
Q7	Pre	2.86	1.074	3.00					
	Post	3.59	0.722	4.00					
Q8	Pre	2.78	1.018	3.00					
	Post	3.64	0.580	4.00					
Q9	Pre	2.73	1.187	3.00					
	Post	3.47	0.728	4.00					
Total AIISH	Pre	26.37	8.015	26.00					
	Post	32.51	4.561	35.00					

Note: AIISH= questions related to factors in All India Institute of Speech and Hearing; SUP = questions related to Supervisor related factors

It was observed that the scores obtained in the post test were higher compared to pre test for the questions related to AIISH and Field supervisors in Bilikere Hobli (Rural) of Hunsur Taluk (table 50). The results of Wilcoxon Signed rank test (Table 51), revealed that a significant difference for all the questions (except for Q1 of AIISH and Q10 of Field supervisor) indicating that they were satisfied with the facilities provided in the AIISH and the aspects related to field supervisors.

Table 51

Results of Wilcoxon Signed rank test for questions related to AIISH and Supervisors by ASHA Workers of Bilikere Hobli (Rural), Hunsur Taluk, Mysuru District

Question No.	/Z/
AIISH Q1	2.677
Q2	3.566*
Q3	3.876*
Q4	4.324*
Q5	3.775*
Q6	4.435*
Q7	4.174*
Q8	4.687*
Q9	3.742*

Total AIISH	4.466*
SUP Q10	1.889
Q11	3.662*
Q12	4.364*
Q13	4.353*
Q14	2.757*
Total SUP	4.073*

The data was further analyzed to verify the difference between the pre and post test separately for the total score obtained for AIISH and Field supervisor. The results revealed a significant difference in the pre test of AIISH and Supervisor (/Z/ = 2.164, $p < 0.05$) and in the post test there was no significant difference (/Z/ = 1.118, $p > 0.05$). Wilcoxon's Signed Rank test was also administered to compare between pre test and post test total score of AIISH and Field supervisors and results revealed a significant difference (/Z/ =4.552, $p < 0.05$) and (/Z/ =4.073, $p < 0.05$) AIISH and Field supervisors, respectively. This indicated that the ASHA Workers were satisfied with the facilities and activities related to evaluation of persons with communication disorders provided at AIISH and the aspects related to field supervisors

Table 52

Mean, Median and Standard Deviation for types of questions in the questionnaire for Hunsur Town (Urban), Hunsur Taluk, Mysuru District

Question No.	Hobli	Mean	SD	Median	Question No.	Hobli	Mean	SD	Median
AIISH Q1	Pre	3.57	0.504	4.00	SUP Q10	Pre	3.64	0.488	4.00
	Post	3.50	0.577	4.00		Post	3.64	0.488	4.00
Q2	Pre	3.43	0.504	3.00	Q11	Pre	3.61	0.497	4.00
	Post	3.43	0.573	3.00		Post	3.54	0.508	4.00
Q3	Pre	3.36	0.621	3.00	Q12	Pre	3.68	0.476	4.00
	Post	3.50	0.509	3.50		Post	3.61	0.685	4.00
Q4	Pre	3.36	0.870	3.50	Q13	Pre	3.54	0.508	4.00
	Post	3.39	0.685	3.00		Post	3.39	0.685	3.50
Q5	Pre	3.54	0.508	4.00	Q14	Pre	3.71	0.460	4.00
	Post	3.39	0.685	3.00		Post	3.54	0.508	4.00
Q6	Pre	3.46	0.508	3.00	**Total SUP**	Pre	18.18	2.212	20.00
	Post	3.54	0.508	4.00		Post	17.71	2.339	18.50
Q7	Pre	3.46	0.508	3.00					
	Post	3.43	0.690	3.50					
Q8	Pre	3.46	0.508	3.00					
	Post	3.54	0.576	4.00					
Q9	Pre	3.43	0.573	3.00					
	Post	3.43	0.690	3.50					
Total AIISH	Pre	31.07	4.396	29.00					
	Post	31.14	4.161	31.50					

(Note: AIISH= questions related to factors in All India Institute of Speech and Hearing; SUP = questions related to Supervisor related factors)

It was observed that the scores obtained in the pre test and post test were almost similar for the questions related to AIISH and Field supervisors in Hunsur Town (Urban) of Hunsur Taluk (table 52). The results of Wilcoxon Signed rank test (table 53), revealed no significant difference indicating that the Anganwadi Teachers could not visit AIISH along with the patients and their training was conducted in the PHCs. They could not bring the persons identified with communication disorders to AIISH or the camps due to time constraint and distance. All these follow up activities related to town population was carried out by the field supervisors.

Table 53

Results of Wilcoxon Signed rank test for questions related to AIISH and Supervisors by Anganawadi Teachers of Hunsur Town (Urban), Mysuru District

Question No.	/Z/
AIISH Q1	0.632
Q2	1.053
Q3	1.069
Q4	0.042
Q5	1.069
Q6	0.707
Q7	0.000
Q8	0.577
Q9	0.054
Total AIISH	0.202
SUP Q10	0.588
Q11	0.577
Q12	0.277
Q13	0.894
Q14	1.508
Total SUP	0.658

In the district of Mandya, the mean, median and standard deviation of the scores obtained by ASHA Workers (N=68) in Kasaba I & Chinakurali Hobli and Anganawadi teachers (N=18) in Pandavapura Town are presented in Tables 54 to 57, respectively.

Table 54

Mean, Median and Standard Deviation for types of questions in the questionnaire for Kasaba I & Chinakurali Hobli (Rural), Pandavapura Taluk, Mandya District

Question No.	Hobli	Mean	SD	Median	Question No.	Hobli	Mean	SD	Median
AIISH Q1	Pre	3.60	0.553	4.00	SUP Q10	Pre	3.60	0.607	4.00
	Post	3.39	0.809	4.00		Post	3.59	0.684	4.00
Q2	Pre	3.43	0.558	3.00	Q11	Pre	3.48	0.664	4.00
	Post	3.38	0.787	4.00		Post	3.44	0.664	3.00
Q3	Pre	3.42	0.610	3.00	Q12	Pre	3.54	0.588	4.00
	Post	3.31	0.774	3.00		Post	3.48	0.776	4.00
Q4	Pre	3.51	0.664	4.00	Q13	Pre	3.46	0.614	4.00
	Post	3.28	0.678	3.00		Post	3.39	0.726	3.00
Q5	Pre	3.45	0.638	4.00	Q14	Pre	3.48	0.687	4.00
	Post	3.27	0.821	3.00		Post	3.38	0.826	4.00
Q6	Pre	3.49	0.710	4.00	**Total SUP**	Pre	17.55	2.675	18.00
	Post	3.31	0.941	4.00		Post	17.31	2.788	18.00
Q7	Pre	3.46	0.663	4.00					
	Post	3.22	0.924	3.00					
Q8	Pre	3.48	0.709	4.00					
	Post	3.36	0.880	4.00					
Q9	Pre	3.12	1.111	3.00					
	Post	3.08	1.225	3.50					
Total AIISH	Pre	30.82	5.111	32.00					
	Post	29.52	5.955	31.00					

It was observed that the scores obtained in the pre and post test were almost similar for the questions related to AIISH and Field supervisors in Kasaba I & Chinakurali Hobli (Rural) of Pandavapura Taluk (table 54). The results of Wilcoxon Signed rank test (Table 55) revealed no significant difference for all the questions. Thus, it shows that ASHA Workers of two Hoblis had similar opinion regarding facilities related to AIISH and the aspects related to field supervisors.

Table 55
Results of Wilcoxon Signed rank test for questions related to AIISH and Supervisors by Kasaba I & Chinakurali Hobli (Rural), Mandya District

Question No.	/Z/
AIISH Q1	1.695
Q2	0.472
Q3	0.850
Q4	1.754
Q5	1.316
Q6	1.020
Q7	1.756
Q8	0.772
Q9	0.125
Total AIISH	1.232
SUP Q10	1.155
Q11	1.508
Q12	1.134
Q13	1.941
Q14	3.125
Total SUP	0.605

Table 56
Mean Median and SD for types of questions in the questionnaire across Pandavapura Town (Urban), Pandavapura Taluk, Mandya District

Question No.	Hobli	Mean	SD	Median	Question No.	Hobli	Mean	SD	Median
AIISH Q1	Pre	3.44	0.784	4.00	SUP Q10	Pre	3.33	0.767	3.00
	Post	3.67	0.485	4.00		Post	3.56	0.511	4.00
Q2	Pre	3.39	0.608	3.00	Q11	Pre	3.44	0.784	4.00
	Post	3.67	0.485	4.00		Post	3.72	0.461	4.00
Q3	Pre	2.94	0.639	3.00	Q12	Pre	3.56	0.616	4.00
	Post	3.67	0.485	4.00		Post	3.72	0.461	4.00
Q4	Pre	3.22	0.732	3.00	Q13	Pre	3.33	0.767	3.00
	Post	3.78	0.428	4.00		Post	3.78	0.428	4.00
Q5	Pre	3.11	0.676	3.00	Q14	Pre	3.17	0.707	3.00
	Post	3.89	0.323	4.00		Post	3.94	0.236	4.00
Q6	Pre	3.06	0.873	3.00	**Total SUP**	Pre	16.83	3.240	17.00
	Post	3.94	0.236	4.00		Post	18.72	1.447	19.00
Q7	Pre	2.89	0.832	3.00					
	Post	3.89	0.323	4.00					
Q8	Pre	2.89	0.832	3.00					
	Post	3.78	0.428	4.00					
Q9	Pre	2.89	0.832	3.00					
	Pos	3.78	0.428	4.00					

	t			
Total AIISH	Pre	27.83	5.711	27.00
	Pos t	34.06	1.731	34.00

It was observed that the scores obtained in the post test were higher compared to pre test for the questions related to AIISH and Field supervisors in Pandavapura Town (Urban) of Pandavapura Taluk (table 56). The results of Wilcoxon Signed rank test (Table 57) revealed a significant difference for all the questions (except for Q1, Q2 of AIISH and Q10, Q11,Q12, Q13 of Field supervisor) indicating that they were satisfied with the facilities provided in the AIISH and the aspects related to field supervisors.

Table 57
Results of Wilcoxon Signed rank test for questions related to AIISH and Supervisors by Anganawadi Teachers of Pandavapura *Town (Urban),* Mandya district

Question No.	/Z/
AIISH Q1	1.069
Q2	1.387
Q3	3.127*
Q4	2.500*
Q5	2.952*
Q6	3.276*
Q7	3.442*
Q8	3.025*
Q9	2.944*
Total AIISH	3.341*
SUP Q10	1.155
Q11	1.508
Q12	1.134
Q13	1.941
Q14	3.153*
Total SUP	2.314

The data was further analyzed to verify the difference between the pre and post test separately for the total score obtained for AIISH and Field supervisor. The results revealed that there was a significant difference in the pre test of AIISH and Supervisor (/Z/ = 3.734, $p < 0.05$) and in the post test (/Z/ = 3.745, $p > 0.05$). Wilcoxon's Signed Rank test was also administered to compare between pre test and post test total score of AIISH and Field supervisors and results revealed a significant difference (/Z/ =3.341, $p < 0.05$) and AIISH and Field supervisors (/Z/ =2.314, $p < 0.05$) . This indicated that the ASHA Workers were satisfied with the facilities and activities related to evaluation of persons with communication disorders provided at AIISH and the aspects related to field supervisors

In the district of Chamarajanagara, the mean, median and standard deviation of the scores obtained by ASHA Workers (N=71) in Santhemaralli Hobli and Anganawadi teachers (N=43) in Chamarajanagara Town are presented in Tables 58 to 61, respectively

Table 58
Mean, Median and Standard Deviation for types of questions in the questionnaire for Santhemaralli Hobli (Rural), Chamarajanagara Taluk, Chamarajanagara District

Question No.	Hobli	Mean	Median	SD	Question No.	Hobli	Mean	Median	SD
AIISH Q1	Pre	3.37	3.00	0.573	SUP	Pre	3.34	3.00	0.565
	Post	3.57	4.00	0.583	Q10	Post	3.57	4.00	0.609
Q2	Pre	3.27	3.00	0.617	Q11	Pre	3.30	3.00	0.675
	Post	3.52	4.00	0.725		Post	3.58	4.00	0.631

Q3	Pre	3.22	3.00	0.573	Q12	Pre	3.33	3.00	0.587
	Post	3.43	4.00	0.722		Post	3.64	4.00	0.569
Q4	Pre	3.28	3.00	0.598	Q13	Pre	3.18	3.00	0.716
	Post	3.51	4.00	0.660		Post	3.63	4.00	0.599
Q5	Pre	3.31	3.00	0.583	Q14	Pre	3.34	3.00	0.664
	Post	3.58	4.00	0.581		Post	3.58	4.00	0.581
Q6	Pre	3.34	3.00	0.592	**Total SUP**	Pre	16.46	15.00	2.531
	Post	3.60	4.00	0.552		Post	18.04	19.00	2.471
Q7	Pre	3.24	3.00	0.630					
	Post	3.57	4.00	0.583					
Q8	Pre	3.24	3.00	0.698					
	Post	3.63	4.00	0.517					
Q9	Pre	3.27	3.00	0.592					
	Post	3.46	4.00	0.703					
Total AIISH	Pre	29.49	28.00	4.244					
	Post	32.25	34.00	4.915					

The results revealed that the scores obtained in the post test were higher compared to pre test for the questions related to AIISH and Field supervisors in Santhemaralli Hobli (Rural) of Chamarajanagara Taluk (table 58). The results of Wilcoxon Signed rank test (Table 59) revealed a significant difference for all the questions (except for Q1, Q3 and Q9 of AIISH) indicating that they were satisfied with the facilities provided in the AIISH and the aspects related to field supervisors.

Table 59

Results of Wilcoxon Signed rank test for questions related to AIISH and Supervisors by Santhemaralli Hobli (Rural), Chamarajanagara District

Question No. (pre v/s post)	/Z/
AIISH Q1	1.81
Q2	2.43*
Q3	1.84
Q4	2.07*
Q5	2.87*
Q6	2.58*
Q7	3.42*
Q8	3.35*
Q9	1.62
Total AIISH	4.22*
SUP Q10	2.45*
Q11	2.81*
Q12	3.44*
Q13	3.83*
Q14	2.22*
Total SUP	4.30*

The data was further analyzed to verify the difference between the pre and post test separately for the total score obtained for AIISH and Field supervisor. The results revealed that there was no significant difference in the pre test of AIISH and Supervisor ($/Z/ = 1.398$, $p > 0.05$) and in the post test ($/Z/ = 1.809$, $p > 0.05$). Wilcoxon's Signed Rank test was also administered to compare between pre test and post test total score of AIISH & Field supervisors and results revealed a significant difference ($/Z/ = 4.245$, $p < 0.05$) and AIISH & Field supervisors ($/Z/ = 4.300$, $p < 0.05$). The results indicated that the ASHA Workers were satisfied with the facilities and activities related to evaluation of persons with communication disorders provided at AIISH and the aspects related to field supervisors.

Table 60

Mean, Median and Standard Deviation for types of questions in the questionnaire for Chamarajanagara Town (Urban), Chamarajanagara Taluk, Chamarajanagara District

Question No.	Hobli	Mean	Median	SD	Question No.	Hobli	Mean	Median	SD
AIISH Q1	Pre	3.51	4.00	0.592	SUP Q10	Pre	3.70	4.00	0.465
	Post	3.56	4.00	0.666		Post	3.65	4.00	0.529
Q2	Pre	3.51	4.00	0.551	Q11	Pre	3.58	4.00	0.499
	Post	3.40	3.00	0.660		Post	3.51	4.00	0.631
Q3	Pre	3.51	4.00	0.551	Q12	Pre	3.58	4.00	0.545
	Post	3.40	4.00	0.728		Post	3.58	4.00	0.587
Q4	Pre	3.58	4.00	0.499	Q13	Pre	3.53	4.00	0.550
	Post	3.33	3.00	0.680		Post	3.47	4.00	0.735
Q5	Pre	3.60	4.00	0.623	Q14	Pre	3.67	4.00	0.474
	Post	3.40	4.00	0.760		Post	3.60	4.00	0.541
Q6	Pre	3.44	4.00	0.666	**Total SUP**	Pre	18.02	19.00	1.958
	Post	3.33	4.00	0.944		Post	17.84	19.00	2.126
Q7	Pre	3.51	4.00	0.668					
	Post	3.28	3.00	0.908					
Q8	Pre	3.47	3.00	0.550					
	Post	3.56	4.00	0.765					
Q9	Pre	3.51	4.00	0.631					
	Post	3.47	4.00	0.767					
Total AIISH	Pre	31.63	32.00	4.158					
	Post	30.77	33.00	5.669					

The results indicated lower scores in the post test scores than the pre test for the questions related to AIISH and Field supervisors in Chamarajanagara Town (Urban) of Chamarajanagara Taluk (table 60). The results of Wilcoxon Signed rank test (table 61) revealed no significant difference. However, the Anganwadi Teachers could not visit AIISH along with the patients and their training was conducted in the PHCs. They could not bring the persons identified with communication disorders to AIISH or the camps due to time constraint and distance. All these follow up activities related to town population was carried out by the field supervisors.

Table 61

Results of Wilcoxon Signed rank test for questions related to AIISH and Supervisors by Anganawadi Teachers of Chamarajanagara Town (Urban), Chamarajanagara district

Question No. (pre v/s post)	/Z/
AIISH Q1	0.68
Q2	1.07
Q3	1.05
Q4	2.05*
Q5	1.65
Q6	0.66
Q7	1.64
Q8	0.63
Q9	0.37
Total AIISH	0.69
SUP Q10	0.47

Q11	0.65
Q12	.019
Q13	0.44
Q14	0.72
Total SUP	0.45

RESULTS ON FEEDBACK ABOUT AWARENESS OF COMMUNICATION DISORDERS AND RELATED ISSUES IN THE PUBLIC

Out of 700 questionnaires that were distributed in 98 villages belonging to Bilikere Hobli (Rural) & Hunsur Town (Urban), Hunsur Taluk, Mysuru District, there were 626 filled questionnaires (including pre and post questionnaires) whereas 74 questionnaires were not returned. Table 62 shows the number of persons and percentage from the 9 target groups who filled the questionnaire and The mean, median and standard deviation of Speech & Language disorders, Hearing Impairment, and Lifestyle domains across target groups illustrated in Table 63. The mean, median and standard deviation of the pre and post test scores for the domains of Hearing Impairment, Speech & Language disorders and Lifestyle across target groups (9 professionals) are depicted in Table 62.

Table 62
Total Number of persons representing various target groups who responded to the questionnaire in Bilikere Hobli (Rural) and Hunsur Town (Urban) Hunsur Taluk, Mysuru District

Target Groups	Rural (Percentage)	Urban (Percentage)	Total (percentage)
Agriculturist	45 (11.62%)	28 (11.71%)	73 (11.66%)
Manual Labourer	47 (12.14%)	28 (11.71%)	75 (11.98%)
Businessmen	42 (10.85%)	29 (12.13%)	71 (11.34%)
Grampanchayat member/Counselor	41 (10.59%)	24 (10.04%)	65 (10.38%)
Professionals	48 (12.40%)	25 (10.46%)	73 (11.66%)
Home Makers	45 (11.62%)	27 (11.29%)	72 (11.50%)
Government Employee	45 (11.62%)	25 (10.46%)	70 (11.18%)
Private Organization	33 (8.52%)	25 (10.46%)	58 (9.26%)
Students	41 (10.59%)	28 (11.71%)	69 (11.02%)
Total	387	239	626

Table 63

Pre and post test Mean, Median and Standard Deviation *of the three domains among target groups of Hunsur Taluk, Mysuru District*

Target Groups		Domains											
		Speech and language disorders			Hearing Impairment			Lifestyle			Overall		
		Mean	SD	Median	Mean	SD	Median	Mean	SD	Median	Mean	SD	Median
A	Pre	39.38	12.68	43.00	13.49	3.07	14.00	19.38	7.61	20.00	72.26	19.94	74.00
	Post	45.88	8.30	48.00	14.42	3.41	15.00	22.37	6.71	24.00	82.67	15.18	87.00
ML	Pre	38.95	15.38	43.00	13.11	3.94	14.00	18.91	8.45	21.00	70.84	25.10	76.00
	Post	45.72	10.01	49.00	14.47	3.48	15.00	21.75	7.50	24.00	81.93	18.85	89.00
B	Pre	39.77	12.30	40.00	13.15	3.56	14.00	18.28	7.76	19.00	71.62	18.57	75.00
	Post	45.58	10.79	49.00	13.94	3.86	15.00	22.93	6.66	25.00	81.68	21.03	90.00
GM	Pre	39.85	14.41	44.00	13.86	3.08	14.00	19.40	8.30	22.00	73.20	22.00	77.00
	Post	45.43	11.26	50.00	14.48	3.58	15.00	23.51	5.65	25.00	83.42	17.00	90.00
P	Pre	43.43	10.81	46.00	14.29	2.70	15.00	21.15	6.85	23.00	78.86	17.37	83.00
	Post	47.26	9.22	50.00	14.97	3.37	16.00	23.81	6.03	26.00	86.04	15.16	90.00
HM	Pre	40.94	11.08	43.00	13.71	3.28	14.00	19.49	6.98	21.00	74.13	16.62	76.00
	Post	46.03	9.60	48.00	14.86	3.28	16.00	23.46	5.29	24.00	84.35	15.30	88.00
GE	Pre	42.71	11.93	46.00	14.54	3.46	15.00	20.61	7.29	22.00	77.61	19.07	81.50
	Post	48.50	7.51	50.00	15.40	2.98	16.00	24.23	5.75	26.00	88.13	13.46	92.00
PO	Pre	37.66	15.23	41.50	13.09	3.85	14.00	18.31	7.79	20.00	68.47	22.63	70.00
	Post	45.64	9.96	47.50	14.52	3.29	15.00	22.91	7.06	25.50	82.10	19.82	88.00
St	Pre	40.16	12.63	44.00	13.35	3.48	13.00	19.14	7.72	20.00	72.51	18.28	76.00
	Post	46.29	9.06	49.00	14.22	3.46	15.00	22.70	6.73	24.00	82.35	18.77	87.00
Total	Pre	**40.37**	**13.01**	**44.00**	**13.63**	**3.41**	**14.00**	**19.43**	**7.65**	**21.00**	**73.36**	**20.18**	**76.00**
	Post	**46.27**	**9.55**	**49.00**	**14.59**	**3.42**	**15.00**	**23.06**	**6.41**	**25.00**	**83.65**	**17.30**	**89.00**

(Note: A= Agriculturists, ML=Manual Laborer, B=Businessmen, GM= Grampanchayat member, P= Professional, HM= Home Maker, GE=Government Employee, PE=Private Organization (Employee), St=Students)

The results revealed that the scores obtained in the post test were higher compared to pre test in all 3 domains among each of the 9 target groups. The results of Wilcoxon Signed Rank test (Table 64) revealed a significant difference ($p < 0.05$) in each of the target groups in all 3 domains except for Grampanchayat members, Businessmen and students in the domain of hearing impairment and students with respect to lifestyle. These findings indicate an overall improvement in the awareness levels of most target groups with respect to the domains of Speech- Language disorders, hearing impairment, and lifestyle post survey.

Table 64

Results of Wilcoxon Sign Rank Test comparing pre and post test scores for various domains in the target groups of Hunsuru Taluk, Mysuru District

Target group	/z/ (Pre Vs Post)		
	Hearing Impairment	Speech Language Disorders	Lifestyle
Agriculturist	2.064*	3.296*	2.791*
Manual Laborer	2.345*	2.661*	2.645*
Businessmen	1.308	2.790*	4.232*
Grampanchayat member	0.978	2.021*	3.490*

Professional	2.004*	2.663*	2.454*
Home Maker	2.552*	2.975*	3.447*
Government Employee	2.250*	3.201*	3.091*
Private Employee	2.056*	3.394*	3.163*
Students	1.660	3.075*	2.647

Note: * p< 0.05

The data was further analyzed to compare the overall scores obtained for the three domains (Speech-language disorders, Hearing Impairment and Lifestyle) across the 9 target groups separately for pre test and post test scores using Kruskal Wallis test. The results of Kruskal Wallis test (table 65) showed a significant difference ($p<0.05$) between some of the target groups such as Agriculturists and professionals; Manual Labourers and Professionals; Businessmen and professionals; Businessmen and government employees; professionals and private organizations; professionals and students; Government employees and private organization; and Government employees and students. However, there was no significant difference ($p>0.05$) between the other target groups in both pre as well as post test scores.

Table 65

Results of Kruskal Wallis test comparing across the target groups for the overall scores for combined domains for Hunsur Taluk, Mysuru District

	Overall (3 Domains)								
Target group	A	ML	B	GM	P	HM	GE	PO	St
A	-	NS	NS	NS	S	NS	NS	NS	NS
ML	-	-	NS	NS	S	NS	NS	NS	NS
B	-	-	-	NS	S	NS	S	NS	NS
GM	-	-	-	-	NS	NS	NS	NS	NS
P	-	-	-	-	-	NS	NS	S	S
HM	-	-	-	-	-	-	NS	NS	NS
GE	-	-	-	-	-	-	-	S	S
PO	-	-	-	-	-	-	-	-	NS
St	-	-	-	-	-	-	-	-	-

(Note: A=Agriculturist, ML=Manual Laborer, B=Businessmen, GM=Grampanchayat member= Professional, HM= Home Maker, GE=Government Employee, PE=Private Employee, St=Students, S= Significant, NS= Not Significant

Mann-whitney U test was then carried out to analyze significant differences in the scores obtained in each of the three domains (Speech-language disorders, Hearing Impairment, and Lifestyle) across target groups separately for pre test and post test. As in the earlier section for overall scores, the results of Mann-Whitney U test were same for comparison of both pre test as well as post test scores and hence, are mentioned commonly in Table 66. Rersults indicated no significant differences across the various target groups for all three domains namely Speech-language disorders, Hearing Impairment, and Lifestyle (Table 66).

Table 66

Comparison across the target groups of Hunsur Taluk, Mysuru District for the three domains using Mann-Whitney U test

Dom-ain	HI	SLD	LS	HI	SLD	LS	HI	SLD	LS	HI	SLD	LS	HI	SLD	LS	HI	SLD	LS	HI	SLD	LS	HI	SLD	LS	HI
Tar-get gp	A			ML			B			GM			P			HM			GE			PO			
A	-	-	-	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	S	NS	NS	NS	NS	S	NS	NS	NS	NS	NS	NS
ML	-	-	-	-	-	-	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	S	NS	NS	NS	NS	NS	NS
B	-	-	-	-	-	-	-	-	-	NS	NS	NS	NS	S	S	NS	NS	NS	S	NS	NS	NS	NS	NS	NS
GM	-	-	-	-	-	-	-	-	-	-	-	-	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
P	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NS	NS	NS	NS	NS	NS	NS	S	S	NS
HM	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	S	NS	NS	NS	NS	NS	NS
GE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	S	S	NS	S

PE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NS	NS	NS
St	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

(Note: A=Agriculturist, ML=Manual Laborer, B=Businessmen, GM=Grampanchayat member P=Professional, HM=Home Maker, GE=Government Employee, PE=Private Employee, St=Students, S= Significant, NS= Not Significant)

The data was also analyzed to compare the scores obtained across the sub domains within each of the three main domains of Hearing Impairment, Speech-Language disorders and Lifestyle in pre test and post test. The mean, median and standard deviation of the scores obtained each sub domain in the pre test and post test for the three main domains in the questionnaire and the corresponding percentages are depicted in Tables 67 and 68, respectively.

Table 67

Mean, Median and Standard Deviation for sub domains of the three domains in the questionnaire for Hunsur Taluk, Mysuru District

Domains	*Sub Domain Code*	*Pre Test*			*Post Test*		
		Mean	*SD*	*Median*	*Mean*	*SD*	*Median*
Speech Language Disorders	SLD 1	5.54	1.72	6.00	6.13	1.39	7.00
	SLD 2	6.65	1.94	7.00	6.93	1.45	8.00
	SLD 3	3.95	1.36	4.00	4.29	1.18	5.00
	SLD 4	2.09	1.05	2.00	2.47	0.85	3.00
	SLD 5	3.08	1.75	4.00	3.90	1.41	4.00
	SLD 6	2.76	1.43	3.00	3.32	1.07	4.00
	SLD 7	3.67	1.63	4.00	4.18	1.14	5.00
	SLD 8	3.00	1.36	4.00	3.43	1.02	4.00
	SLD 9	2.67	1.44	3.00	3.30	1.12	4.00
	SLD 10	7.03	3.15	8.00	8.36	2.21	9.00
Hearing Impairment	HI 1	5.82	1.88	6.00	6.37	1.78	7.00
	HI 2	3.62	1.19	4.00	3.86	1.25	4.00
	HI 3	4.19	1.13	5.00	4.36	1.05	5.00
Life style	LS 1	7.31	3.52	8.00	8.14	2.26	9.00
	LS 2	0.65	0.61	1.00	0.80	0.40	1.00
	LS 3	0.80	0.55	1.00	0.87	0.33	1.00
	LS 4	4.21	1.92	5.00	4.91	1.56	6.00
	LS 5	3.31	1.99	4.00	4.43	1.75	5.00
	LS 6	1.75	1.15	2.00	2.32	0.95	3.00
	LS 7	1.46	0.80	2.00	1.71	0.58	2.00

Table 68

Percentage Mean, Median and Standard Deviation for sub domains of the three domains in the questionnaire for Hunsur Taluk, Mysuru District

Domains	*Sub Domain Code*	*Pre Test*			*Post Test*		
		Mean (%)	*SD (%)*	*Median (%)*	*Mean (%)*	*SD (%)*	*Median (%)*
Speech Language Disorders	SLD 1	79.17	24.51	85.71	87.56	19.91	100
	SLD 2	83.29	24.13	87.50	86.61	18.41	100
	SLD 3	78.74	27.47	80	85.35	23.77	100
	SLD 4	69.58	35.15	66.66	82.28	28.33	100
	SLD 5	61.69	34.99	80	77.98	28.38	80
	SLD 6	68.85	35.70	75	83.18	26.71	100
	SLD 7	73.42	32.73	80	83.61	22.91	100
	SLD 8	74.49	34.19	100	85.66	25.84	100
	SLD 9	67.40	52.21	75	82.35	28.10	100
	SLD 10	69.60	31.98	80	83.64	22.15	90
Hearing Impairment	HI 1	72.59	23.82	75.00	79.33	22.89	87.50
	HI 2	72.44	24.11	80.00	77.10	25.27	80.00
	HI 3	83.80	22.74	100	87.25	21.23	100
Life style	LS 1	72.33	28.82	80	81.26	22.78	90
	LS 2	63.05	49.27	100	80.03	40.40	100
	LS 3	78.09	41.76	100	86.90	33.76	100
	LS 4	70.28	32.00	83.33	81.55	26.55	100

	LS 5	**55.29**	**33.14**	**66.66**	**73.77**	**29.44**	**83.33**
	LS 6	**57.74**	**38.92**	**66.66**	**76.68**	**32.58**	**100**
	LS 7	**72.48**	**40.36**	**100**	**84.50**	**30.04**	**100**

The results also revealed that the post test scores were higher than the pretest scores in each of the subdomains of the three main domains (table 68). Highest scores were obtained for SLD 2 and LS 3 in the domains of Speech-Language disorders, and Lifestyle respectively for pre and post tests. Further, subdomain HI 3 had the highest scores both in the pre and post test in the domain of Hearing Impairment.
Results of Friedman's test revealed significant effect of the subdomains of Speech-Language disorders on the scores obtained both in pre (λ^2 (2) = 337.97, $p < 0.001$) and post test (λ^2 (2) =94.80, $p < 0.001$). Pairwise comparisons using Wilcoxon's Signed Rank test revealed significant difference ($p < 0.05$) between all subdomains both for pre test and post test. These findings suggest that the persons in the target groups were better aware of the subdomain SLD 2 compared to other subdomains Wilcoxon's Signed Rank test was also administered to compare between pre test and post test scores within each subdomain of Speech-Language disorders and the results revealed significant difference ($p < 0.05$) for each of the subdomains.

Friedman's test was used to compare the effect of the respective subdomains of Hearing impairment, Speech-Language disorders and Lifestyle separately for pre test and post test. Whenever a significant difference was obtained for any of the domains, further comparison between scores across the subdomains was carried out using Wilcoxon's Signed Rank test.

Analysis using Friedman's test revealed significant effect of the subdomains of Hearing impairment on the scores obtained both in pre test (λ^2 (2) = 166.43, $p < 0.001$) and post test (λ^2 (2) = 118.61, $p < 0.001$). Pairwise comparisons using Wilcoxon's Signed Rank test revealed significant difference ($p < 0.05$) between all subdomains both for pre test and post test. These findings suggest that the persons in the target groups were better aware of the subdomain HI 3 compared to subdomains HI 1 and HI 2. Wilcoxon's Signed Rank test was also administered to compare between pre test and post test scores within each subdomain of hearing impairment and the results revealed significant difference ($p < 0.05$) for each of the subdomains. Thus, the awareness levels increased post survey with respect to each subdomain.

Analysis using Friedman's test revealed significant effect of the subdomains of Lifestyle on the scores obtained both in pre (λ^2 (2) = 456.65, $p < 0.001$) and post test (λ^2 (2) =331.98, $p < 0.001$). Pairwise comparisons using Wilcoxon's Signed Rank test revealed significant difference ($p < 0.05$) between all subdomains both for pre test and post test. These findings suggest that the persons in the target groups were better aware of the subdomain LS 2 compared to other subdomains. Wilcoxon's Signed Rank test was also administered to compare between pre test and post test scores within each subdomain of lifestyle and the results revealed significant difference ($p < 0.05$) for each of the subdomains.

In summary, the results revealed that there was a significant difference between the various subdomains of Speech-Language disorders, Hearing impairment, and Lifestyle in both pretest and post test and the awareness levels increased post survey in each of the subdomains.
In Pandavapura Taluk, Mandya District, out of 774 questionnaires in 66 villages belonging to Kasaba 1 & Chinakurali Hobli (Rural) and Pandavapura Town (Urban), there were 632 filled questionnaires (including pre and post questionnaires) whereas 142 questionnaires were not returned. Table 69 shows the number of persons and percentage from the 9 target groups who filled the questionnaire. The mean, median and standard deviation of the pre and post test scores for the domains of Speech & Language disorders, Hearing Impairment, and Lifestyle across target groups (9 professionals) are depicted in Table 70.

Table 69

Total Number of persons representing various target groups who responded to the questionnaire in Kasaba 1 & Chinakurali Hobli (Rural) and Pandavapura Town (Urban) Pandavapura Taluk, Mandya District

Target Groups	Rural (Percentage)	Urban (Percentage)	Total (percentage)
Agriculturist	54 (11.06%)	16 (11.11%)	70 (11.07%)
Manual Labourer	54 (11.06%)	16 (11.11%)	70 (11.07%)
Businessmen	66 (13.52%)	16 (11.11%)	82(12.97%)
Grampanchayat member/Counselor	55 (11.27%)	16 (11.11%)	71 (11.23%)
Professionals	55 (11.27%)	16 (11.11%)	71 (11.23%)
Home Makers	43 (8.81%)	16 (11.11%)	59 (09.33%)
Government Employee	54 (11.06%)	16 (11.11%)	70 (11.07%)
Private Organization	54 (11.06%)	16 (11.11%)	70 (11.07%)
Students	53 (10.86%)	16 (11.11%)	69 (10.91)
Total	**488**	**144**	**632**

Table 70

Pre and post test Mean, Median and Standard Deviation *of the three domains among target groups of Pandavapura Taluk, Mandya District*

Target Group	Pre / Post	Domains								
		Speech and language disorders			Hearing Impairment			Lifestyle		
		Mean	SD	Median	Mean	SD	Median	Mean	SD	Median
A	Pre	42.30	11.38	44.00	13.70	3.223	14.50	20.01	6.374	21.00
	Post	50.35	7.92	51.00	16.21	1.74	17.00	27.71	11.15	27.00
ML	Pre	41.29	12.29	43.00	13.09	4.13	14.00	19.49	6.42	21.00
	Post	50.92	3.44	51.00	16.55	1.46	17.00	26.50	2.92	27.00
B	Pre	43.51	11.51	40.00	13.84	3.469	14.50	20.12	6.97	21.00
	Post	51.01	6.17	51.00	16.52	1.64	17.00	26.58	2.28	27.00
G M	Pre	44.61	10.67	47.00	14.24	3.14	15.00	21.14	6.42	22.00
	Post	50.14	6.85	50.00	16.16	2.51	17.00	25.28	5.04	27.00
P	Pre	44.79	10.16	47.00	14.58	3.00	15.00	21.14	6.55	23.00
	Post	50.30	4.03	51.00	16.42	1.69	17.00	26.03	2.78	27.00
HM	Pre	42.78	11.09	44.00	13.73	3.70	14.00	21.75	5.99	21.00
	Post	51.18	3.91	51.00	16.57	1.66	17.00	26.93	2.09	27.00
GE	Pre	44.49	11.60	48.00	14.64	2.87	15.00	21.32	6.77	23.00
	Post	50.60	5.09	51.00	16.40	2.10	17.00	26.37	2.74	27.00
PO	Pre	45.46	9.54	48.00	14.46	3.49	15.00	22.39	6.17	24.00
	Post	50.15	7.28	51.00	16.35	2.74	17.00	26.11	4.73	27.00
St	Pre	45.05	9.66	46.00	14.96	2.87	15.00	21.81	6.23	23.00
	Post	50.36	7.08	51.00	16.76	1.36	17.00	26.85	2.28	27.00
Mean	**Pre**	**43.82**	**10.93**	**46.00**	**14.14**	**3.36**	15.00	**20.99**	**6.50**	21.00
	Post	**50.55**	**5.97**	**51.00**	**16.44**	**1.93**	17.00	**26.51**	**4.85**	27.00

(Note: A= Agriculturist, ML=Manual Laborer, B=Businessmen, GM= Grampanchayat member, P= Professional, HM= Home Maker, GE=Government Employee, PE=Private Organization (Employee), St=Students)

It was observed that the scores obtained in the post test were higher compared to pre test in all 3 domains among each of the 9 target groups. The results of Wilcoxon Signed Rank test (Table 71) revealed a significant difference ($p < 0.05$) between pre and post test scores in each of the target groups in all 3 domains. These findings indicates an overall improvement in the awareness levels of all target groups with respect to the domains of Speech-Language disorders, hearing impairment, and lifestyle post survey.

Table 71

Results of Wilcoxon Sign Rank Test comparing pre and post test scores for various domains in the target groups of Pandavapura Taluk, Mandya District

Target group	/z/ (Pre Vs Post)		
	Speech Language Disorders	Hearing Impairment	Lifestyle
Agriculturist	5.500*	5.553*	6.313*
Manual Laborer	6.023*	5.729*	6.735*
Businessmen	5.223*	5.085*	6.735*
Grampanchayat member	4.286*	4.580*	4.318*
Professional	3.935*	4.120*	5.254*
Home Maker	5.425*	4.817*	5.260*
Government Employee	4.221*	4.160*	5.224*
Private Employee	4.715*	4.552*	4.773*
Students	4.516*	4.839*	5.247*

Note: * $p < 0.05$

The data was further analyzed to compare the overall scores obtained for the three domains (Hearing Impairment, Speech-language disorders and Lifestyle) across the 9 target groups separately for pre test and post test scores using Kruskal Wallis test. The results obtained from Kruskal Wallis test were same for comparison of both pre test as well as post test scores and hence, are mentioned commonly in Table 72. There was a significant difference ($p<0.05$) between some of the target groups such as Agriculturists and Government employees; Agriculturists and Private organization; Manual Labourers and Grampanchayat members; Manual Labourers and Government employees; Manual Labourers and Students; and Businessmen and Private organization. However, there was no significant differences ($p>0.05$) between the other target groups in both pre as well as post test scores.

Table 72

Results of Kruskal Wallis test comparing across the target groups for the overall scores for combined domains for Pandavapura Taluk, Mandya District

	Overall (3 Domains)								
Target group	A	ML	B	GM	P	HM	GE	PO	St
A	-	NS	NS	NS	NS	NS	S	S	NS
ML	-	-	NS	S	NS	S	S	NS	S
B	-	-	-	NS	NS	NS	NS	S	NS
GM	-	-	-	-	NS	NS	NS	NS	NS
P	-	-	-	-	-	NS	NS	NS	NS
HM	-	-	-	-	-	-	NS	NS	NS
GE	-	-	-	-	-	-	-	NS	NS
PO	-	-	-	-	-	-	-	-	NS
St	-	-	-	-	-	-	-	-	-

(Note: A=Agriculturist, ML=Manual Laborer, B=Businessmen, GM=Grampanchayat member= Professional, HM= Home Maker, GE=Government Employee, PE=Private Employee, St=Students, S= Significant, NS= Not Significant)

Mann-Whitney U test was then carried out to analyze if there were any differences in the scores obtained in each of the three domains (Speech-language disorders, Hearing Impairment, and Lifestyle) across target groups separately for pre test and post test. As in the earlier section for overall scores, the results of Mann-Whitney U test were same for comparison of both pre test as well as post test scores and hence, are mentioned commonly in Table 73. As can be observed in Table 72, overall, there were no significant differences across the various target groups for all three domains namely Speech-language disorders, Hearing Impairment, and Lifestyle.

Table 73

Comparison across the target groups of Pandavapura Taluk, Mandya District for the three domains using Mann-Whitney U test

Dom-ain	HI	SLD	LS	HI	SLD	LS	HI	SLD	LS	HI	SLD	LS	HI	SLD	LS	HI	SLD	LS	HI	SLD	LS	HI	SLD	LS	HI	SLD	LS
Tar-get gp	A			ML			B			GM			P			HM			GE			PO			St		
A	-	-	-	NS	NS	NS	NS	NS	NS	NS	NS	NS	S	NS	NS	NS	NS	NS	S	NS	NS	NS	NS	NS	NS	NS	NS
ML	-	-	-	-	-	-	NS	NS	NS	NS	NS	NS	S	NS	NS	NS	NS	S	S	NS	S	S	NS	S	S	NS	NS
B	-	-	-	-	-	-	-	-	-	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	S	S	NS	S
GM	-	-	-	-	-	-	-	-	-	-	-	-	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	S	S	NS	NS
P	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
HM	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NS	NS	NS	NS	NS	NS	NS	NS	NS
GE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NS	NS	NS	S	NS	NS
PE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NS	NS	NS
St	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

(Note: A=Agriculturist, ML=Manual Laborer, B=Businessmen, GM=Grampanchayat member P=Professional, HM=Home Maker, GE=Government Employee, PE=Private Employee, St=Students, S= Significant, NS= Not Significant)

The data was also analyzed to compare the scores obtained across the sub domains within each of the three main domains of Speech-Language disorders, Hearing Impairment, and Lifestyle in pre test and post test. The mean, median and standard deviation of the scores obtained each sub domain in the pre test and post test for the three main domains in the questionnaire and the corresponding percentages are depicted in Tables 74 and 75, respectively

Table 74

Mean, Median and Standard Deviation for sub domains of the three domains in the questionnaire for Pandavapura Taluk, Mandya District

Domains	*Sub Domain Code*	*Pre Test*			*Post Test*		
		Mean	*SD*	*Median*	*Mean*	*SD*	*Median*
Speech Language Disorders	**SLD 1**	5.71	1.59	6.00	6.55	0.79	7.00
	SLD 2	6.57	1.78	7.00	7.23	0.94	7.00
	SLD 3	4.06	1.23	4.00	4.61	0.64	5.00
	SLD 4	2.35	0.89	3.00	2.79	0.53	3.00
	SLD 5	3.70	1.34	4.00	4.47	0.80	5.00
	SLD 6	3.13	1.11	3.00	3.59	0.66	4.00
	SLD 7	3.96	1.31	4.00	4.48	0.70	5.00

	SLD 8	3.30	1.11	4.00	3.82	1.54	4.00
	SLD 9	3.10	1.13	3.00	3.67	0.60	4.00
	SLD 10	7.97	2.34	8.00	9.32	1.16	9.00
Hearing	**HI 1**	6.17	1.75	6.00	7.30	1.09	8.00
Impairment	**HI 2**	3.78	1.16	4.00	4.89	5.78	5.00
	HI 3	4.19	1.10	4.00	4.62	0.61	5.00
Life style	**LS 1**	7.57	4.11	8.00	9.07	1.23	9.00
	LS 2	0.68	0.46	1.00	0.92	0.45	1.00
	LS 3	0.76	0.46	1.00	0.91	0.27	1.00
	LS 4	4.52	1.59	5.00	5.52	0.82	6.00
	LS 5	3.95	1.86	4.00	5.36	0.99	5.00
	LS 6	1.99	1.05	2.00	2.64	0.59	3.00
	LS 7	1.64	0.65	2.00	1.91	0.32	2.00

Table 75

Percentage Mean, Median and Standard Deviation for sub domains of the three domains in the questionnaire for Pandavapura Taluk, Mandya District

Domains	***Sub Domain Code***	***Pre Test***			***Post Test***		
		Mean (%)	***SD (%)***	***Median (%)***	***Mean (%)***	***SD (%)***	***Median (%)***
	SLD 1	**81.26**	**22.65**	**85.71**	**90.39**	**11.19**	**100**
	SLD 2	**82.37**	**21.99**	**87.5**	**90.76**	**11.33**	**87.5**
Speech Language	**SLD 3**	**81.24**	**24.57**	**80**	**92.21**	**12.94**	**100**
Disorders	**SLD 4**	**78.06**	**29.46**	**100**	**90.29**	**17.79**	**100**
	SLD 5	**74.03**	**26.81**	**80**	**89.41**	**16.010**	**100**
	SLD 6	**77.87**	**27.82**	**75**	**89.92**	**16.52**	**100**
	SLD 7	**79.10**	**26.26**	**80**	**89.74**	**14.08**	**100**
	SLD 8	**82.39**	**27.95**	**100**	**94.03**	**13.88**	**100**
	SLD 9	**77.54**	**28.22**	**75**	**91.70**	**15.19**	**100**
	SLD 10	**79.81**	**23.69**	**90**	**90.31**	**11.66**	**100**
Hearing	**HI 1**	**77.34**	**21.88**	**85.71**	**91.43**	**13.46**	**100**
Impairment	**HI 2**	**75.02**	**24.08**	**80**	**90.22**	**14.63**	**100**
	HI 3	**83.55**	**21.86**	**80**	**92.37**	**12.31**	**100**
Life style	**LS 1**	**74.92**	**23.58**	**80**	**90.87**	**12.35**	**90**
	LS 2	**67.83**	**46.74**	**100**	**91.60**	**27.75**	**100**
	LS 3	**74.93**	**43.34**	**100**	**92.07**	**27.03**	**100**
	LS 4	**75.32**	**26.48**	**83.33**	**92.18**	**13.68**	**100**
	LS 5	**65.81**	**30.99**	**66.66**	**90.13**	**26.26**	**100**
	LS 6	**66.29**	**35.28**	**66.66**	**87.81**	**19.79**	**100**
	LS 7	**83.20**	**49.23**	**100**	**97.21**	**16.59**	**100**

From Table 75, it can be observed that the post test scores were higher than the pretest scores in each of the subdomains of the three main domains. Further, subdomain HI 3 had the highest scores both in the pre and post test in the domain of Hearing Impairment. Similarly, highest scores were obtained for SLD 2 & SLD 8 and LS 7 in the domains of Speech-Language disorders and Lifestyle respectively for pre and post tests.

Analysis using Friedman's test revealed significant effect of the subdomains of Speech-Language disorders on the scores obtained both in pre (λ^2 (2) =105.44, $p < 0.001$) and post test (λ^2 (2) =190.73, $p < 0.001$). Pairwise comparisons using Wilcoxon's Signed Rank test revealed significant difference ($p < 0.05$) between all subdomains both for pre test and post test. These findings suggest that the persons in the target groups were better aware of the subdomain SLD 2 & SLD 8 compared to other subdomains Wilcoxon's Signed Rank test was also administered to compare between pre test and post test scores within each subdomain of Speech-Language disorders and the results revealed significant difference ($p < 0.05$) for each of the subdomains.

Friedman's test was used to compare the effect of the respective subdomains of Hearing impairment, Speech-Language disorders and Lifestyle separately for pre test and post test. Whenever a significant difference was obtained for any of the domains, further comparison

between scores across the subdomains was carried out using Wilcoxon's Signed Rank test.

Analysis using Friedman's test revealed significant effect of the subdomains of Hearing impairment on the scores obtained both in pre test (λ^2 (2) =87.69, $p < 0.001$) and post test (λ^2 (2) = 95.21, $p < 0.001$). Pairwise comparisons using Wilcoxon's Signed Rank test revealed significant difference ($p < 0.05$) between all subdomains both for pre test and post test. These findings suggest that the persons in the target groups were better aware of the subdomain HI 3 compared to subdomains HI 1 and HI 2. Wilcoxon's Signed Rank test was also administered to compare between pre test and post test scores within each subdomain of hearing impairment and the results revealed significant difference ($p < 0.05$) for each of the subdomains. Thus, the awareness levels increased post survey with respect to each subdomain.

Analysis using Friedman's test revealed significant effect of the subdomains of Lifestyle on the scores obtained both in pre (λ^2 (2) =254.63, $p < 0.001$) and post test (λ^2 (2) =482.89, $p < 0.001$). Pairwise comparisons using Wilcoxon's Signed Rank test revealed significant difference ($p < 0.05$) between all subdomains both for pre test and post test except for LS3-LS2 pair in the post test. These findings suggest that the persons in the target groups were better aware of the subdomain LS 7 compared to other subdomains. Wilcoxon's Signed Rank test was also administered to compare between pre test and post test scores within each subdomain of lifestyle and the results revealed significant difference ($p < 0.05$) for each of the subdomains.

In summary, the results revealed a significant difference between the various subdomains of Speech-Language disorders, Hearing impairment, and Lifestyle in both pretest and post test and the awareness levels increased post survey in each of the subdomains.

Out of 1,053 questionnaires that were distributed in 54 Villages of Santhemaralli Hobli (Rural) and Chamarajanagara Town (Urban), Chamarajanagar Taluk, Chamarajanagara District, there were 840 filled questionnaires (including pre and post questionnaires) whereas 213 were not returned. Table 76 shows the number of persons and percentage from the 9 target groups who filled the questionnaire and the mean, median and standard deviation of Speech & Language disorders, Hearing Impairment, and Lifestyle domains. The mean, median and standard deviation of the pre and post test scores for the domains of Speech & Language disorders, Hearing Impairment, and Lifestyle across target groups (9 professionals) are depicted in Table 77.

Table 76

Total number of persons representing various target groups who responded to the questionnaire Santhemaralli Hobli (Rural) and Chamarajanagara Town (Urban) Chamarajanagar Taluk, Chamarajanagara District

Target Groups	Number Urban (Percentage)	Number Rural (Percentage)	Total
Agriculturists	59 (11.28%)	46 (14.41%)	106 (12.61%)
Manual Laborer	62 (11.85%_	33(10.41%)	95 (11.30%)
Businessmen	61 (11.66%)	45 (14.19%)	106 (12.61%)
Grampanchayat members	58 (11.08%)	26 (8.20%)	84 (10%)
Professionals	71 (13.57%)	24(7.57%)	95 (11.30%)
Home Makers	60 (11.47%)	43(13.56%)	103 (12.26%)
Students	54 (10.32%)	40(12.61%)	94 (11.19%)
Private Employee	54 (10.32%)	24(7.57%)	78 (9.28%)
Government Employee	44 (8.41%)	36(11.35%)	80 (9.52%)
Total	**523**	**317**	**840**

Table 77

Pre and post test Mean, Median and Standard Deviation *of the three domains among target groups of Chamarajanagara Taluk, Chamarajanagara District*

Target Groups	Pre/ Post	Domains								
		Speech and language disorders			Hearing Impairment			Lifestyle		
		Mean	Median	SD	Mean	Median	SD	Mean	Median	SD
A	Pre	48.05	48.00	16.89	20.38	15.00	21.84	28.09	24.00	21.42
	Post	49.60	50.00	13.13	20.19	16.00	18.34	28.71	27.00	14.28
ML	Pre	48.13	48.00	17.27	21.44	15.00	22.50	29.29	25.00	24.01
	Post	51.45	52.00	11.56	21.54	17.00	18.88	28.82	26.00	15.30
B	Pre	48.61	49.00	15.73	22.56	15.00	24.52	29.45	25.00	22.60
	Post	51.44	52.00	12.32	21.68	17.00	20.25	30.10	27.00	17.72
G M	Pre	49.31	48.00	15.00	21.02	15.00	22.35	28.37	23.00	22.55
	Post	49.46	50.50	12.21	20.04	16.00	17.22	27.28	26.00	13.40
P	Pre	49.63	49.00	19.89	27.45	15.00	30.77	33.80	24.00	28.61
	Post	52.50	51.00	14.42	26.20	16.00	25.89	32.84	27.00	21.16
HM	Pre	47.22	50.00	15.80	19.42	15.00	19.41	25.93	24.00	19.80
	Post	49.80	50.00	10.37	19.24	16.00	19.24	28.09	27.00	14.04
GE	Pre	49.56	50.00	13.83	19.41	15.00	18.85	26.30	25.00	15.83
	Post	51.40	53.00	12.60	19.33	17.00	15.42	28.20	27.00	12.75
PE	Pre	47.35	47.00	13.83	18.23	15.00	16.83	26.64	24.00	18.28
	Post	49.09	50.00	9.36	17.51	15.00	13.36	26.62	26.00	13.25
St	Pre	44.79	47.00	13.68	17.45	15.00	16.36	24.64	23.50	16.82
	Post	49.42	51.00	9.34	17.74	16.50	10.86	26.23	27.00	10.47
Mean	**Pre**	**48.13**	**49.00**	**15.97**	**20.93**	**15.00**	**22.15**	**28.14**	**24.00**	**21.58**
	Post	**50.52**	**51.00**	**11.90**	**20.50**	**16.00**	**18.11**	**28.66**	**27.00**	**15.18**

Note: A=Agriculturists, ML=Manual Laborers', B=Business, GM=Grampanchayat Members, P= Professionals, HM= Home Makers, GE=Government Employees, PE=Private Employees, St=Students, SD= Standard Deviation

The scores obtained were similar for the pre and post scores in the Hearing Impairment domain among the 9 target groups. For the Domains of Speech and Language Disorders and Lifestyle, the post test was higher than the pre test. To statistically verify these findings, the data was subjected to Wilcoxon Signed Rank test comparing between the pre and post test scores for each of the domains in the 9 target groups.

The results of Wilcoxon Signed Rank test (Table 78) revealed a significant difference ($p < 0.05$) between target groups except for Grampanchayat members and professional in the domain of Speech-Language disorders; only in the two of the target group in the domain of hearing impairment - Government employees and students. For the domain on Lifestyle, agriculturists, Homemakers, Government employees and students had a significant difference compared to the other target groups. These findings indicated the performance in a similar way in the awareness levels of most target groups with respect to the domains of Speech- Language Disorders, Hearing Impairment, and Lifestyle post survey.

Table78

Results of Wilcoxon Sign Rank Test comparing pre and post test scores for various domains in the target groups of Chamarajanagara Taluk, Chamarajanagara District

Domains	/Z/ (Pre Vs. Post)		
	Speech-Language Disorders	Hearing Impairment	Lifestyle
Agriculturist	2.169*	1.292	2.157*
Manual Laborer	2.203*	0.947	1.474
Businessmen	2.409*	1.180	1.779
Grampanchayat member	0.727	0.632	1.255
Professional	1.766	0.153	0.851
Home Maker	2.245*	0.580	2.869*
Government Employee	2.014*	2.357*	2.935*
Private Employee	2.012*	0.425	1.145
Students	3.265*	2.357*	2.146*

Note: * $p < 0.05$

The data was further analyzed to compare the overall scores obtained for the three domains (Speech-language disorders, Hearing Impairment and Lifestyle) across the 9 target groups separately for pre test and post test scores using Kruskal Wallis test. The results revealed no significant difference for pre overall (x^2=7.534, p>0.05) and post overall scores (x^2=9.216, p>0.05). No significant difference between domains i.e., Speech Language Disorders, Hearing Impairment, and Lifestyle was observed.

The data was also analyzed to compare the scores obtained across the sub domains within each of the three main domains of Speech-Language disorders, Hearing Impairment, and Lifestyle in pre test and post test. The mean, median and standard deviation of the scores obtained each sub domain in the pre test and post test for the three main domains in the questionnaire and the corresponding percentages are depicted in Tables 79 and 80, respectively.

Table 79

Mean, Median and Standard Deviation for sub domains of the three domains in the questionnaire for Chamarajanagara Taluk, Chamarajanagara District

Domains	*Sub Domain Code*	*Pre Scores*			*Post Scores*		
		Mean	*Median*	*SD*	*Mean*	*Median*	*SD*
Speech Language Disorders	SLD 1	13.04	7.00	22.96	12.94	7.00	22.16
	SLD 2	14.16	8.00	23.22	13.47	8.00	21.23
	SLD 3	12.05	5.00	25.11	11.26	5.00	23.34
	SLD 4	9.95	3.00	25.02	8.90	3.00	22.07
	SLD 5	10.72	4.00	23.83	9.76	5.00	20.04
	SLD 6	10.48	4.00	24.38	10.26	4.00	23.23
	SLD 7	11.49	5.00	24.33	11.05	5.00	22.24
	SLD 8	11.10	4.00	25.21	10.26	4.00	23.11
	SLD 9	11.10	4.00	25.79	9.76	4.00	21.97
	SLD 10	15.15	9.00	24.20	14.41	10.00	19.45
Hearing Impairment	HI 1	5.95	6.00	1.86	12.50	7.00	19.99
	HI 2	11.05	4.00	23.60	10.46	5.00	21.18
	HI 3	11.38	5.00	23.53	11.18	5.00	22.95
Life style	LS 1	14.97	9.00	23.08	14.31	9.00	19.13
	LS 2	8.22	1.00	24.50	6.97	1.00	23.94
	LS 3	8.59	1.00	26.71	8.22	1.00	25.95
	LS 4	12.52	5.00	26.23	12.05	6.00	29.28
	LS 5	11.85	5.00	25.19	9.46	6.00	17.64
	LS 6	8.96	3.00	23.42	8.24	3.00	21.34
	LS 7	9.41	2.00	25.84	8.38	2.00	23.53

[Note: HI=Hearing Impairment, SLD=Speech-Language Disorders, LS=Lifestyle]

Table 80

Percentage Mean, Median and Standard Deviation for sub domains of the three domains in the questionnaire for Chamarajanagara Taluk, Chamarajanagara District

Domains	*Sub Domain Code*	*Pre Test*			*Post Test*		
		Mean (%)	*SD (%)*	*Median (%)*	*Mean (%)*	*SD (%)*	*Median (%)*
Speech Language Disorders	SLD 1	47.49	47.05	42.80	49.48	47.70	57.13
	SLD 2	58.52	55.89	50	49.49	41.36	62.50
	SLD 3	46.23	42.74	40	46.79	42.42	40
	SLD 4	40.03	41.88	40	45.06	43.85	33.33
	SLD 5	37.96	39.21	40	45.55	42.62	40
	SLD 6	41.01	41.71	40	45.55	43.47	40
	SLD 7	44.23	41.53	40	47.96	43.43	40
	SLD 8	44.81	43.45	45	47.97	44.45	50
	SLD 9	41.24	42.05	40	45.93	43.17	50
	SLD 10	43.52	45.29	40	49.79	40.45	50
Hearing Impairment	HI 1	41.25	36.65	37.50	44.51	38.21	50
	HI 2	40.95	38.43	40	45.47	41.21	40
	HI 3	46.84	42.77	40	46.52	42.41	40
Life style	LS 1	43.58	37.77	30	48.63	45.28	50

LS 2	34.87	27.29	30	42.20	48.96	40
LS 3	41.94	48.97	40	48.87	49.37	50
LS 4	41.69	39.51	40	46.67	49.44	45
LS 5	35.68	36.58	40	44.35	48.85	45
LS 6	34.85	40.02	37	40.82	42.31	40
LS 7	42.65	46.14	40	48.75	29.14	50

It was observed that the post test scores were higher than the pretest scores in each of the subdomains of the three main domains. Highest scores were obtained for SLD 2 and LS 1 in the domains of Speech-Language disorders and Lifestyle respectively for pre and post tests. Further, subdomain HI 3 had the highest scores both in the pre and post test in the domain of Hearing Impairment.

Friedman's test was used to compare the effect of the respective subdomains of Speech-Language disorders, Hearing impairment, and Lifestyle separately for pre test and post test. Whenever a significant difference was obtained for any of the domains, further comparison between scores across the subdomains was carried out using Wilcoxon's Signed Rank test.

Analysis using Friedman's test revealed significant effect of the subdomains of Speech-Language disorders on the scores obtained both in pre (λ^2 (2) =1671.11, $p < 0.001$) and post test (λ^2 (2) =1729.47, $p < 0.001$). Pairwise comparisons using Wilcoxon's Signed Rank test revealed significant difference ($p < 0.05$) between all subdomains both for pre test and post test. These findings suggest that the persons in the target groups were better aware of the subdomain SLD 2 & SLD 8 compared to other subdomains except SLD 8-SLD 9 pair in the pre test. Wilcoxon's Signed Rank test was also administered to compare between pre test and post test scores within each subdomain of Speech-Language disorders and the results revealed significant difference ($p < 0.05$) for each of the subdomains except the SLD 4 and SLD 6 subdomain.

Results of Friedman's test revealed significant effect of the subdomains of Hearing impairment on the scores obtained both in pre test (λ^2 (2) =177.86, $p < 0.001$) and post test (λ^2 (2) = 199.12, $p < 0.001$). Pairwise comparisons using Wilcoxon's Signed Rank test revealed significant difference ($p < 0.05$) between all subdomains both for pre test and post test. These findings suggest that the persons in the target groups were better aware of the subdomain HI 3 compared to subdomains HI 1 and HI 2, except for HI 1-HI 3 pair in the post test. Wilcoxon's Signed Rank test was also administered to compare between pre test and post test scores within each subdomain of hearing impairment and the results revealed significant difference ($p < 0.05$) for each of the subdomains, except the HI 3 subdomain. Thus, the awareness levels increased post survey with respect to HI 1 and HI 2 subdomain.

Analysis using Friedman's test revealed significant effect of the subdomains of Lifestyle on the scores obtained both in pre (λ^2 (2) =832.57, $p < 0.001$) and post test (λ^2 (2) =867.35, $p < 0.001$). Pairwise comparisons using Wilcoxon's Signed Rank test revealed significant difference ($p < 0.05$) between all subdomains both for pre test and post test. These findings suggest that the persons in the target groups were better aware of the subdomain LS 7 compared to other subdomains except for LS 6-LS 7 pair in the post test. Wilcoxon's Signed Rank test was also administered to compare between pre test and post test scores within each subdomain of lifestyle and the results revealed significant difference ($p < 0.05$) for each of the subdomains except the LS 2, LS 3 and LS 7.

In summary, the results revealed that there was a significant difference between the various subdomains of Speech-Language disorders, Hearing impairment, and Lifestyle in both pretest and post test and the awareness levels increased post survey in most of the subdomains.

SUMMARY ON PREVALENCE OF COMMUNICATION DISORDERS

In Level IV, Phase 1 of the survey, the population in Hunsur Taluk of Mysuru District (N=1,06,414) were identified, screened and evaluated for communication disorders. The survey was carried out in Bilikere hobli of Hunsur Taluk which included only villages (rural) and this was carried out by trained ASHA Workers. The population in the Hunsur town (urban) was surveyed by Anganwadi Teachers. The percentage prevalence in the population surveyed was as follows: (i) speech and language disorders **(0.454%)** (ii) Hearing impairment **(0.836%)** (iii) ENT conditions and diseases **(0.997%)** and (iv) Dual &

Multiple disorders (**0.045%)**. The percentage prevalence of different communication disorders in the population surveyed was (i) **0.740%** in children, (ii) **1.083 %** in Adults and (iii) **0.509 %** in geriatric population. It was found that 0.290% males and 0.164% females had speech and language disorders; 0.411% males and 0.424% females had hearing impairment; 0.459% males and 0.537% females had ENT conditions and diseases and 0.031% males, females 0.014% had dual and multiple conditions.
In Level IV phase I of the survey, the population in Pandavapura Taluk – Rural (Kasaba II and Chinakurali Hobli) and Pandavapura Taluk – Town/ Urban of Mandya District (N=90,871) were identified, screened and evaluated for communication disorders. The survey was carried out in 2 Hoblis only from the Pandavapura Taluk. The population in the Pandavapura Rural were carried out by 68 ASHA workers whereas as the town/urban was surveyed by 18 Anganwadi Teachers. The percentage prevalence in the population surveyed was as follows: (i) speech and language disorders **(0.564%)** (ii) Hearing impairment **(1.021%)** (iii) ENT conditions and diseases **(1.363%)** and (iv) Dual & Multiple disorders (**0.063%)**. The percentage prevalence of different communication disorders in the population surveyed was (i) **0.784%** in children, (ii) **1.484 %** in Adults and (iii) **0.743 %** in geriatric population. It was found that 0.073% males and 0.053% females had speech and language disorders; 0.107% males and 0.139% females had hearing impairment; 0.114% males and 0.220% females had ENT conditions and diseases and 0.006% males had dual and multiple conditions.

In Level IV phase I of the survey, the population in Santhemaralli Hobli (rural) and Chamarajanagara town (urban) in Chamarajanagara Taluk (N=1,36,596) of Chamarajanagara District were identified, screened and evaluated for communication disorders. The survey was carried out in Santhemaralli Hobli by trained ASHA Workers. The population in Chamarajanagara Town (Urban) was surveyed by trained Anganwadi Teachers and one ANM Worker. The prevalence of persons with communication disorders in population surveyed was **2.45%.** The percentage prevalence of communication disorders was more in Rural **(1.42%)** population compared to Urban **(1.03%)** population. The percentage prevalence for different types of communication disorders was as follows: (i) speech and language disorders **(0.55%)** (ii) Hearing impairment **(0.99%)** (iii) ENT conditions and diseases **(0.85%)** and (iv) Dual & Multiple disorders (**0.04%)**. The percentage prevalence with reference to age was (i) **0.616 0%** in children, (ii) **1.103 %** in Adults and (iii) **0.808 %** in geriatric population. It was found that 0.2357% males and 0.201% females had speech and language disorders; 0.537% males and 0.508% females had hearing impairment; 0.418% males and 0.456% females had ENT conditions and diseases and 0.003% males, females 0.014% had dual and multiple conditions.

Further details of percentage prevalence of types of communication disorders in each Taluk is as follows:

Speech and Language Disorders

Prevalence of Speech-Language disorders in the Bilikere hobli of Hunsur (Rural) was **0.320%** and in Hunsur Town (urban) was **0.134%.** The speech-language disorders were found to be more prevalent in males compared to females in Bilikere Hobli (**0.208%** in males and **0.111%** in females) and in Hunsur Town (**0.082%** and **0.051%**). Within the speech and language disorders, in the rural population, percentage prevalence of (i) Mental retardation and Fluency disorders were found to be higher (ii) Traumatic Brain Injury, Slow learner, Language disorders with Seizures, Pervasive Developmental Disorder and Global Developmental Delay were found to be very less than the first two conditions, and other speech and language disorders have few variations in the prevalence count. In Hunsur Town, percentage of (i) Mental retardation, Fluency disorders and Articulation/Phonological disorders were found to be higher (ii) Learning disability, Cerebral Palsy, Language disorders with Seizures, Pervasive Developmental Disorder and Global Developmental Delay were found to be very less than the first two conditions, and other speech and language disorders have similar prevalence percentage.

Speech and language disorders in Pandavapura Taluk (rural- Kasaba II Hobli and Chinakurali Hobli) was 0.436% (Kasaba II Hobli 0.213%, Chinakurali Hobli 0.223%) and the prevalence was 0.127% in Pandavapura town (Urban). It was found that speech and hearing

disorders were more prevalent in males compared to females (056% in males and 0.38% in females in Pandavapura rural and 0.62% males and 0.37% females in Pandavapura urban respectively). Within the speech and language disorders, it was found that fluency disorders were more prevalent followed by mental retardation and articulation/phonological disorders in Pandavapura rural, whereas mental retardation was more prevalent in Pandavapura town compared to expressive language disorder and learning disability.

Prevalence of Speech and language disorders in Santhemaralli Hobli (Rural) was 0.256 % and 0.303 % in Chamarajanagara Town (Urban*)*. It was found that speech and hearing disorders were more prevalent in males (0.162%) compared to females (0.093%) in Santhemaralli Hobli (Rural) and the prevalence was 0.194% in males and 0.108% in females in Chamarajanagara town. Within the speech and language disorders it was found that Mental Retardation was more prevalent followed by Fluency disorders and Inadequate Speech and Language with Hearing loss in Santhemaralli Hobli (Rural), where as Fluency disorders was more prevalent in Chamarajanagara Town (Urban) when compared to Mental Retardation and Articulation/Phonological Disorders.

Hearing disorders

The percentage prevalence of hearing disorders (Irrespective of the type and degree of hearing loss) was **0.586%** in the population of Bilikere Hobli (Rural) and **0.249%** Hunsur Town (Urban). Amongst the types of hearing loss, the percentage of prevalence of Sensorineural hearing loss was the highest (**0.349%**), followed by the Conductive **(0.102%)** and Mixed type of hearing loss **(0.134%)** in Bilikere Hobli (Rural)**.** In Hunsur Town Sensorineural hearing loss was the highest (**0.159%**), followed by the mixed **(0.062%)** and conductive type of hearing loss **(0.028%).** With respect to degree of hearing loss, the percentage prevalence of Moderate degree of hearing loss was highest, followed by Mild degree, Severe and Profound degree of hearing loss in Bilikere Hobli (Rural) and Hunsur Town (Urban) Mild degree of hearing loss was highest, followed by Moderate degree, Severe and Profound degree of hearing loss. In Bilikere Hobli (Rural), the percentage prevalence of hearing loss in males were higher when compared to females in the type and degree of hearing loss, but in Hunsur Town (Urban) females had higher prevalence percentage than males in the type and degree of loss**.**

Hearing impairment was more prevalent among the rural population **(0.77%)** compared to the urban population **(0.24%).** The percentage prevalence of Sensorineural Hearing Loss was highest followed by Mixed Hearing Loss and Conductive hearing loss in both Pandavapura rural and urban population surveyed.

The percentage prevalence of hearing Loss was more in Santhemaralli Hobli (Rural) **(0.75%)** compared to Chamarajanagara Town (Urban) **(0.29 %).** It was found that % prevalence of Sensorineural Hearing Loss was highest followed by Mixed Hearing Loss and then Conductive Hearing Loss in both Santhemaralli Hobli (Rural) and Chamarajanagara Town (Urban). With respect to degree of hearing loss, the % prevalence of Moderate degree was the highest followed by Mild, Severe and Profound degrees of Hearing Loss in both Santhemaralli Hobli (Rural) and Chamarajanagara Town (Urban). In Santhemaralli Hobli, the % prevalence of Hearing Loss in males was higher when compared to females with respect to the type and degree of Hearing Loss but in Chamarajanagara Town; females had higher prevalence percentage than males with respect to type and degree of loss.

ENT Conditions and Diseases

The prevalence percentage of ENT conditions and diseases was **0.951%** in Hunsur Taluk (0.540% in rural and **0.456%** in urban). In Bilikere Hobli (Rural) and Hunsur Town (Urban), The % prevalence in females was higher compared to males. Overall, it was 0.271% in females and 0.268% in males of Bilikere Hobli (Rural) and in Hunsur Town (Urban) 0.265% in females and 0.190% respectively. Amongst the conditions and diseases, the prevalence % in Bilikere Hobli and Hunsur Town was higher for Middle Ear diseases and Overall Ear

related conditions, followed by other conditions (which included complaints such as ear pain, tinnitus, vertigo etc).

The prevalence percentage of ENT conditions and diseases was **1.36**% in Pandavapura Taluk (**1.02**% in rural and **0.33**% in urban). The % prevalence in females was higher compared to males. It was 0.590% in females and 0.437% in males in Pandavapura Rural (Kasaba II and Chinakurali Hobli) and 0.217% in females and 0.116 % in males in Pandavapura Urban/Town. Amongst the conditions and diseases, the prevalence % in Pandavapura Rural as well as Urban was higher for Middle ear diseases followed by External Ear diseases, and other conditions (which included complaints such as ear pain, tinnitus, vertigo etc).

The prevalence percentage of ENT conditions and diseases was **0.456%** in Santhemaralli Hobli (Rural) and **0.418%** in Chamarajanagara Town (Urban). The % prevalence in Santhemaralli Hobli and Chamarajanagara Town was higher for Middle Ear diseases and Overall Ear related conditions, followed by other conditions (which included complaints such as ear pain, tinnitus, vertigo etc). In Santhemaralli Hobli (Rural) the % prevalence of males (0.237%) was higher compared to the females (0.218%) and in Chamarajanagara Town (Urban), the % prevalence in females (0.233%) was higher compared to males (0.185%).

Dual and Multiple disorders

The percentage prevalence of dual and multiple disorders was very less in both rural and urban population of Hunsur Taluk. In Bilikere Hobli (Rural) and Hunsur Town (Urban), the % prevalence in males was higher compared to females. Overall it was 0.045%, 0.021% in Rural and in Urban 0.023%.

The percentage prevalence of dual and multiple disorders was very less in both rural and urban population of Pandavapura Taluk (0.06%)

The overall % Prevalence of Dual and Multiple disorders in Santhemaralli Hobli (Rural) was 0.030%, which was higher than the Chamarajanagara Town (Urban) (0.0175 %). The prevalence in males was higher compared to females in both the Santhemaralli Hobli (Rural) and Chamarajanagara Town (Urban).

A total population of 3,33,881 were surveyed in this phase, and evaluated. The prevalence of communication disorders was 2.45%. Within communication disorders, the percent of Speech-Language disorders, Herring Impairment, ENT conditions and diseases, and Dual and multiple disorders in group of children, adults and geriatric population (males and females) is shown in tables 81, and 82.

Table 81
Percent prevalence in three Taluks

	Hunsur Taluk	Pandavapura Taluk	Chamarajanagara Taluk
SLD	0.454	0.564	0.55
HI	0.836	1.021	0.99
ENT	0.997	1.363	0.85
D & M	0.045	0.063	0.04
Total	2.332	3.011	2.43

(SLD – Speech-Language Disorders; HI – Hearing Impairment; ENT - ENT conditions and diseases; D & M - Dual and multiple disorders)

	Hunsur Taluk					Pandavapura Taluk					Chamarajanagara Taluk				
	C	A	G	M	F	C	A	G	M	F	C	A	G	M	F
SLD				0.290	0.164				0.073	0.053				0.236	0.201
HI				0.411	0.424				0.107	0.139				0.537	0.50.8
ENT				0.459	0.537				0.114	0.220				0.418	0.456
D & M				0.031	0.014				0.006	0.018				0.003	0.014
	0.740	1.083	0.509	-	-	0.784	1.484	0.743	-	-	0.616	1.103	0.803		

(SLD – Speech-Language Disorders; HI – Hearing Impairment; ENT - ENT conditions and diseases; D & M - Dual and multiple disorders; C – children; A – Adult; G – Geriatric; M – Male; F - Female)

APPENDIX 1

Graphical Representation of the Distance of Targeted Villages of Hunsur Taluk, Mysuru District to AIISH

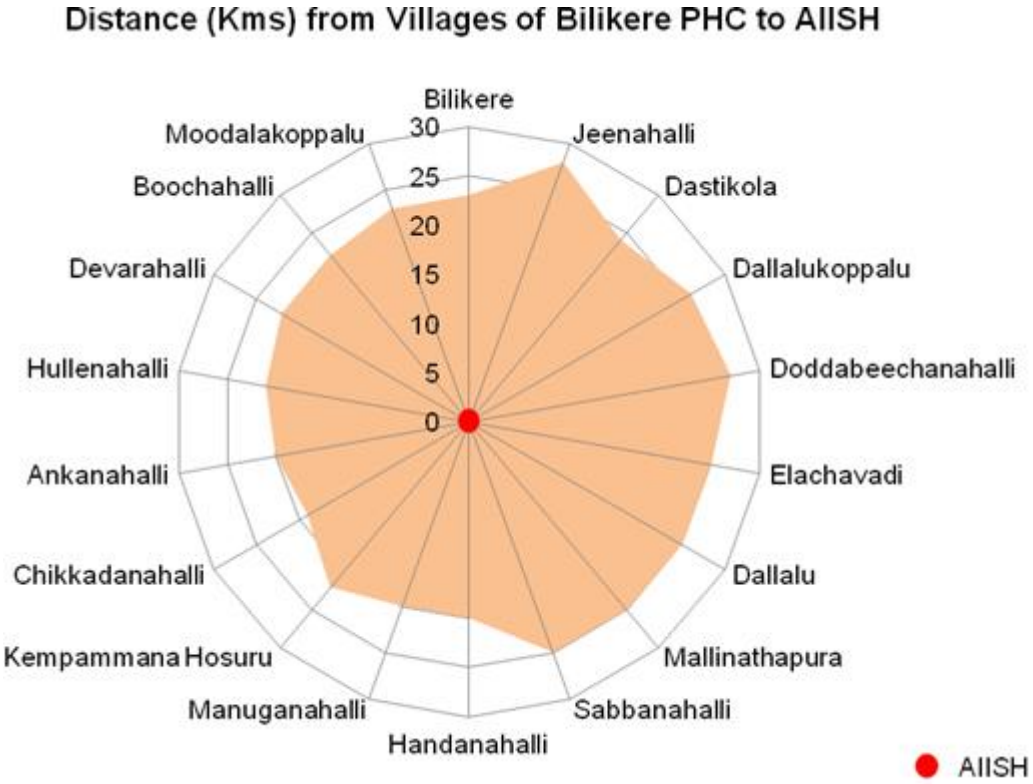

Figure 1. Location of Selected Villages from Bilikere PHC to AIISH

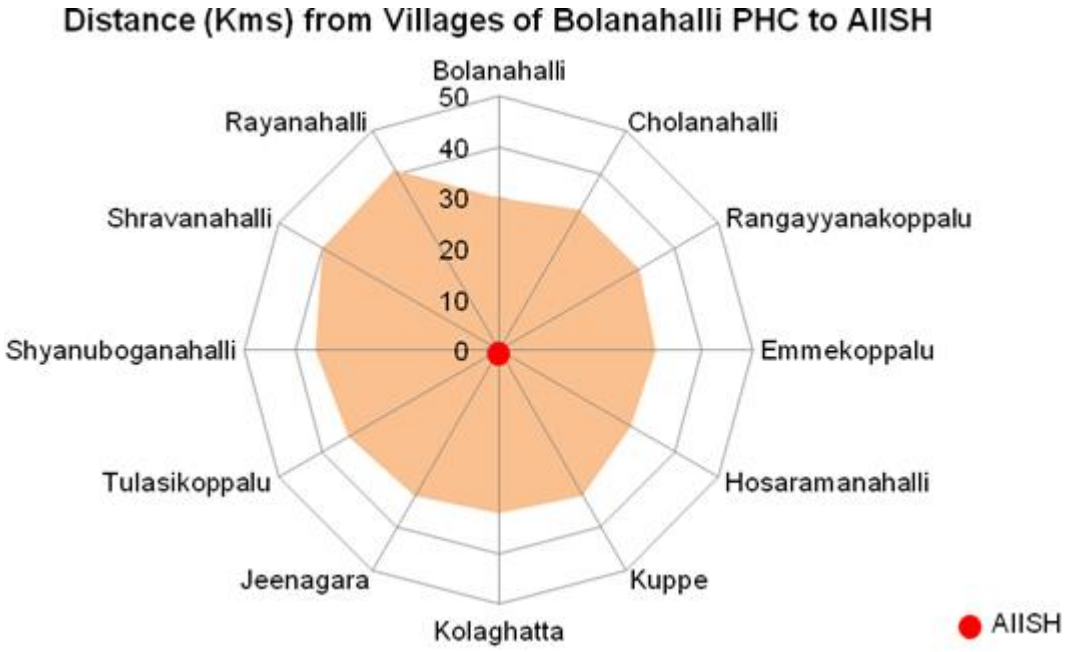

Figure 2. Location of Selected Villages from Bolanahalli PHC to AIISH

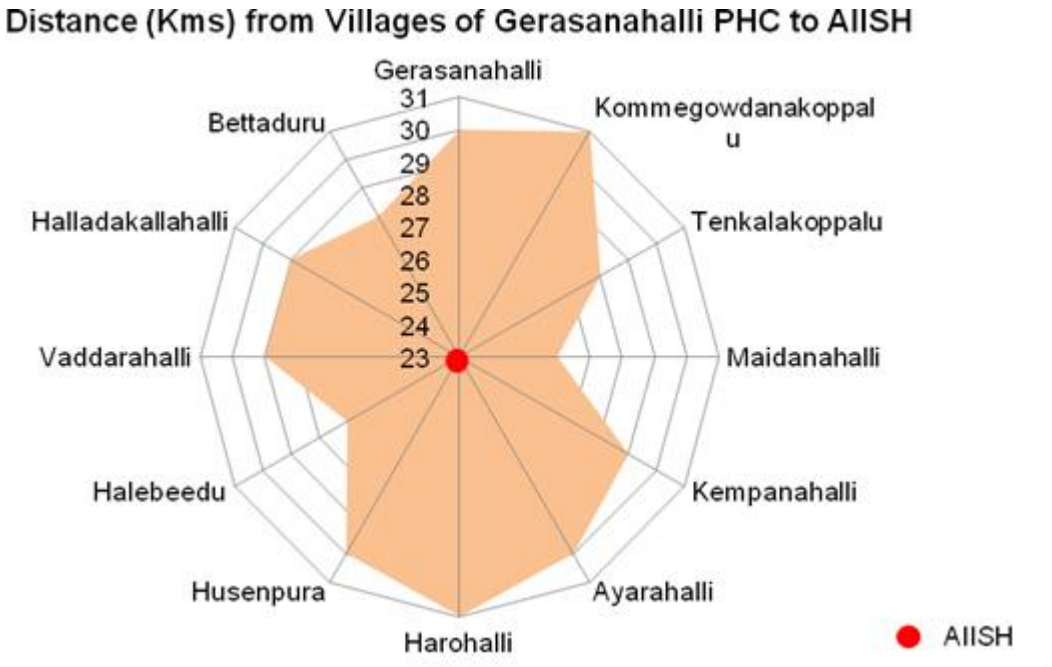

Figure 3. Location of Selected Villages from Gerasanahalli PHC to AIISH

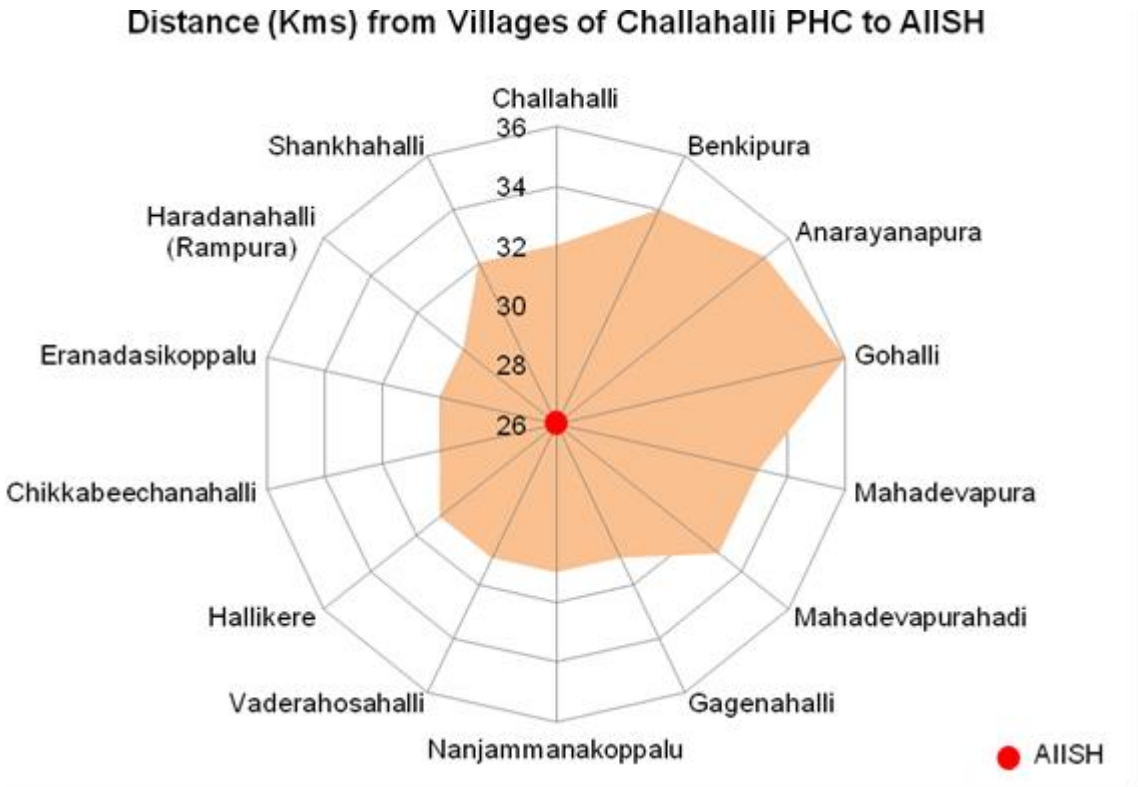

Figure 4. Location of Selected Villages from Challahalli PHC to AIISH

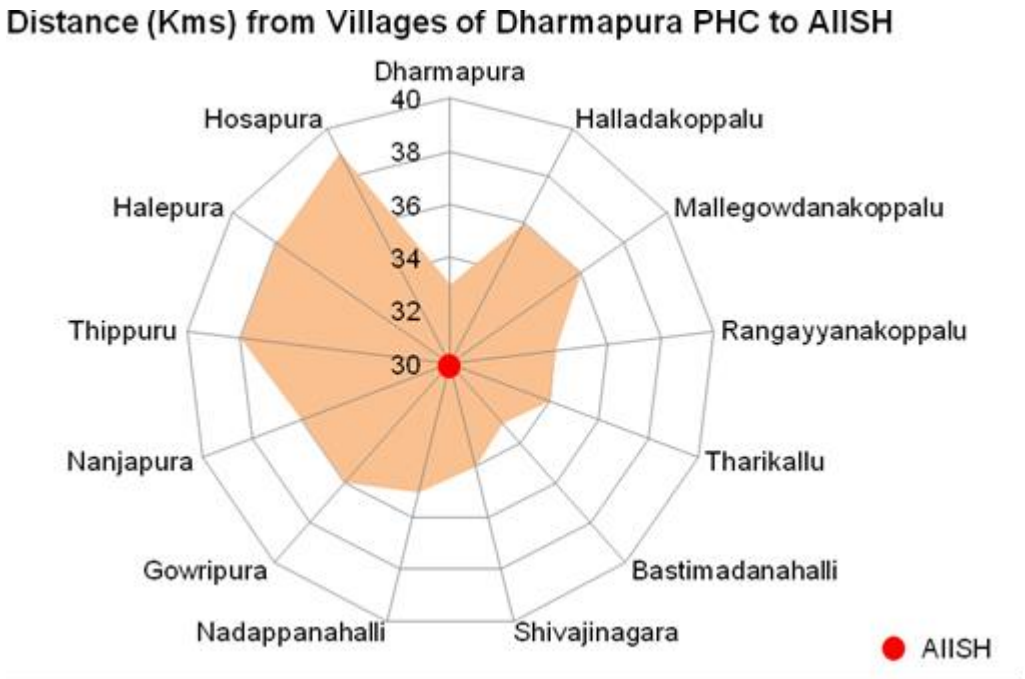

Figure 5. Location of Selected Villages from Dharmapura PHC to AIISH

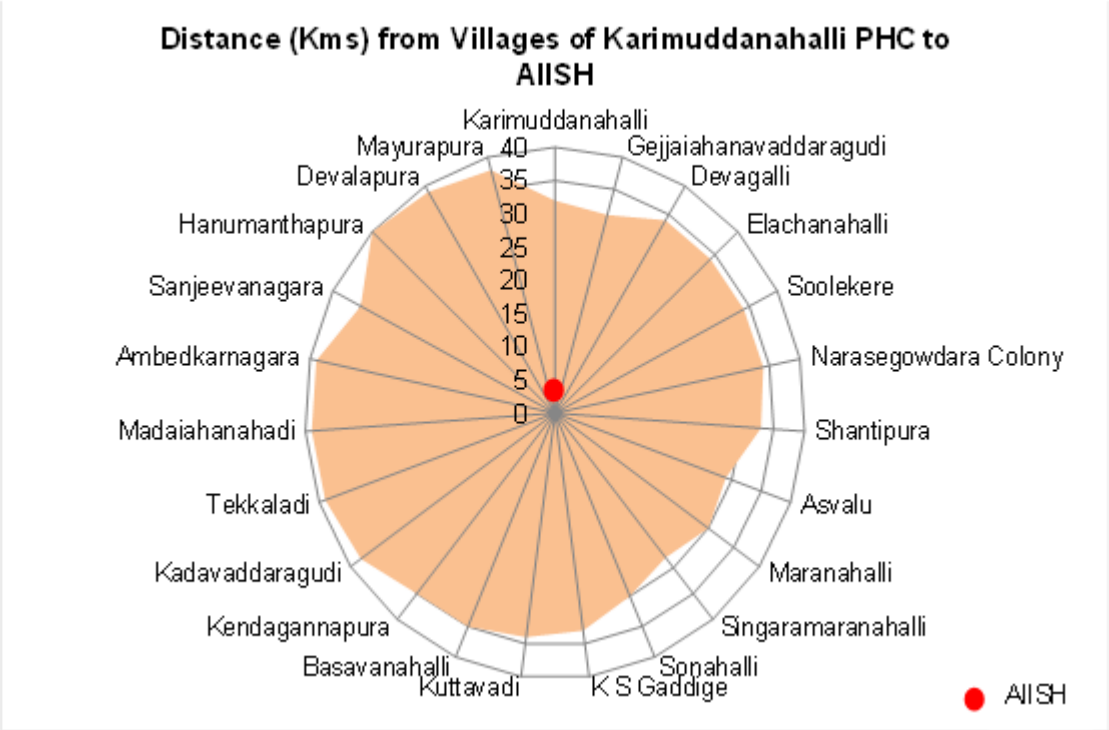

Figure 6. Location of Selected Villages from Karimuddanahalli PHC to AIISH

Graphical Representation of the Distance of Targeted Villages of Pandavapura Taluk, Mandya District to AIISH

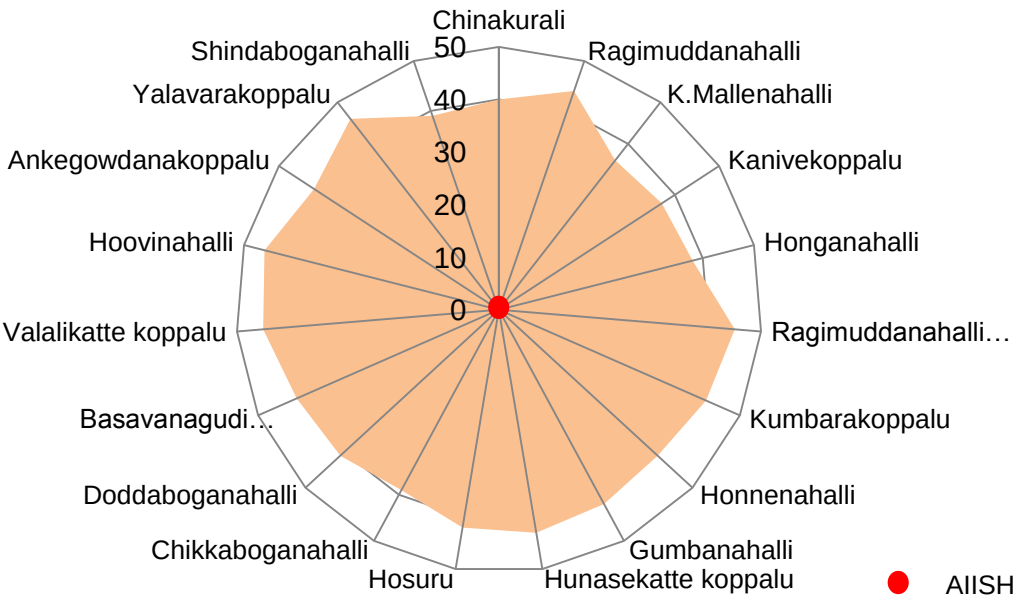

Figure 7. Location of Selected Villages from Chinakurali CHC to AIISH

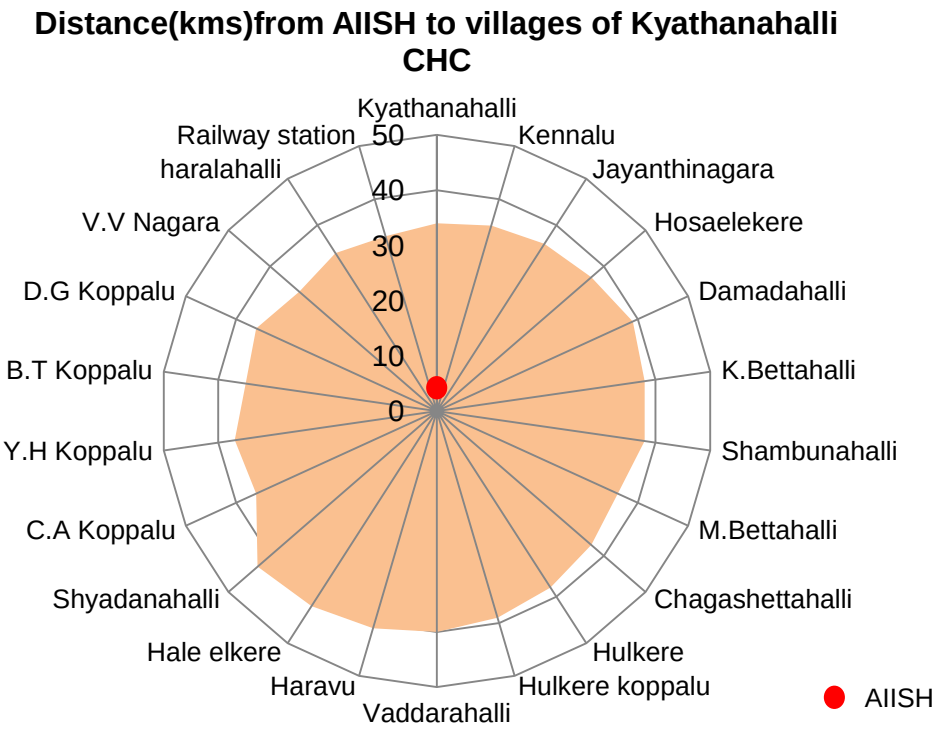

Figure 8. Location of Selected Villages from Kyathanahalli PHC to AIISH

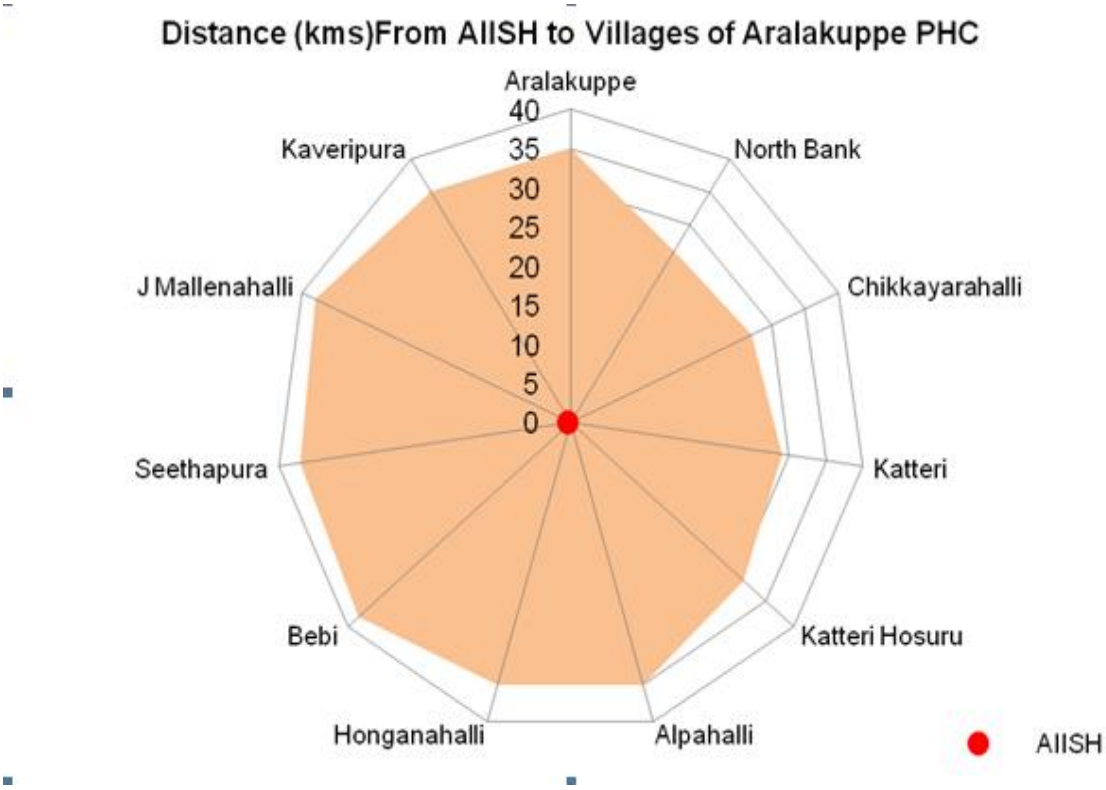

Figure 9 . Location of Selected Villages from Aralakuppe PHC to AIISH

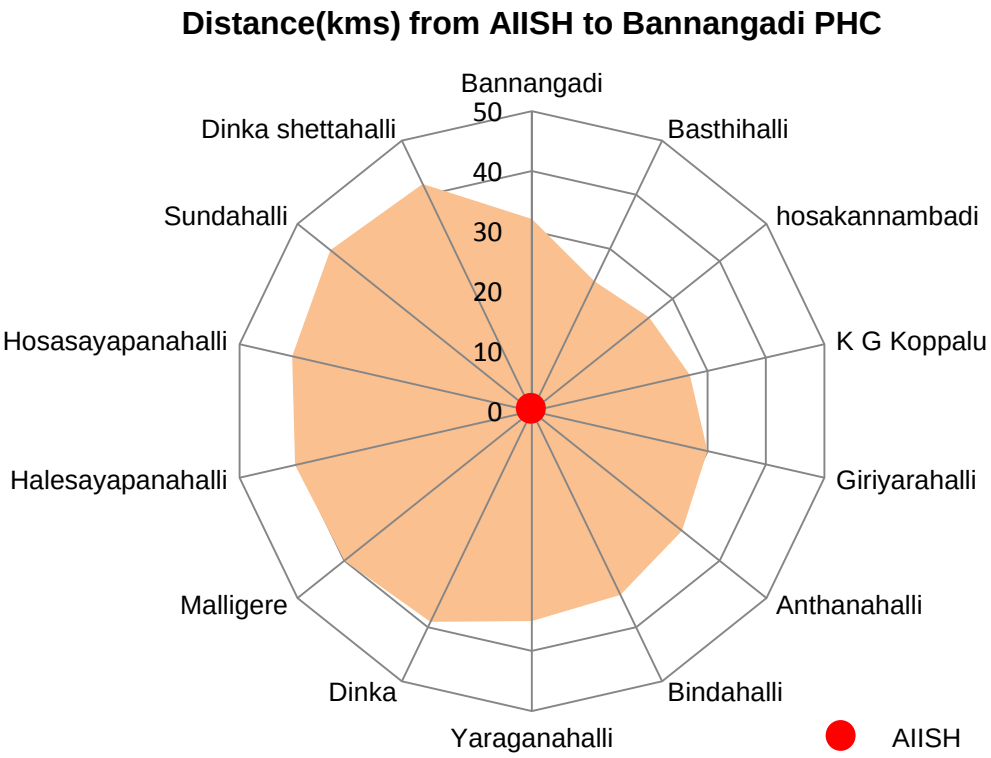

Figure 10 . Location of Selected Villages from Bannangadi PHC to AIISH

Graphical Representation of the Distance of Targeted Villages of Chamarajanagara Taluk, Chamarajanagara District to AIISH

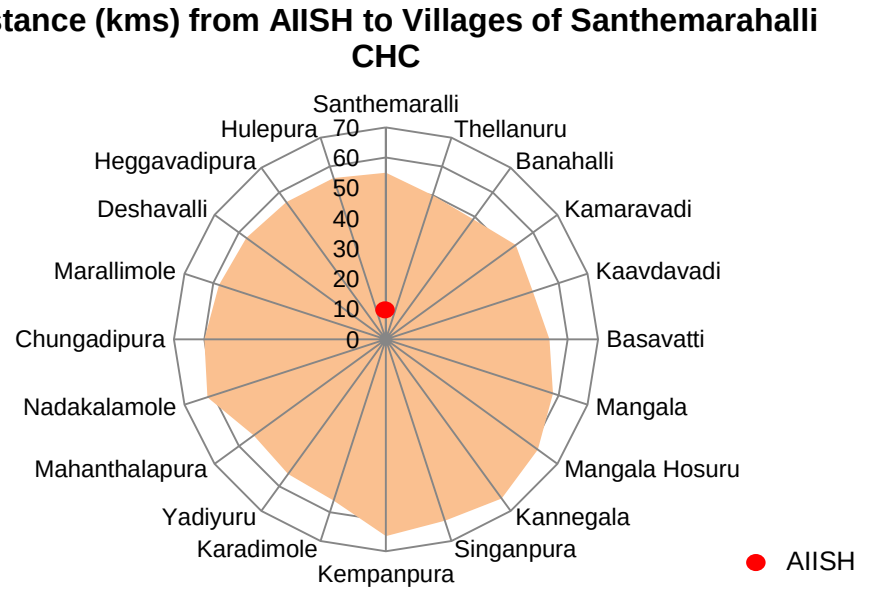

Figure 11. Location of selected Villages from Santhemarahalli CHC to AIISH

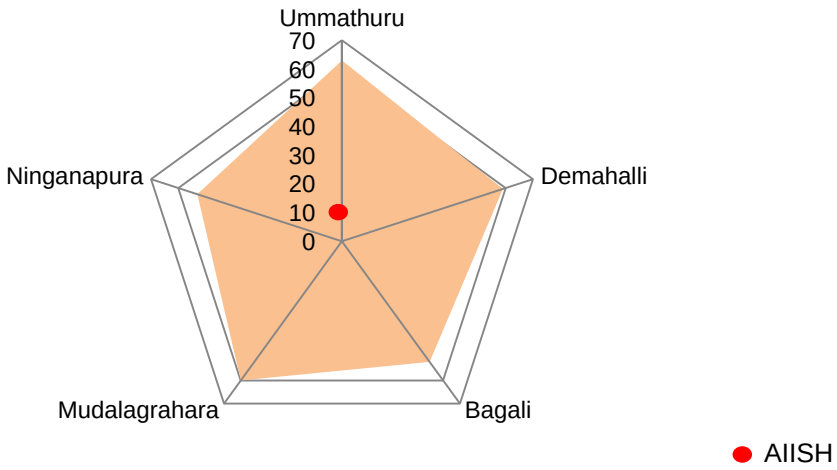

Figure 12. Location of selected Villages from Ummathuru PHC to AIISH

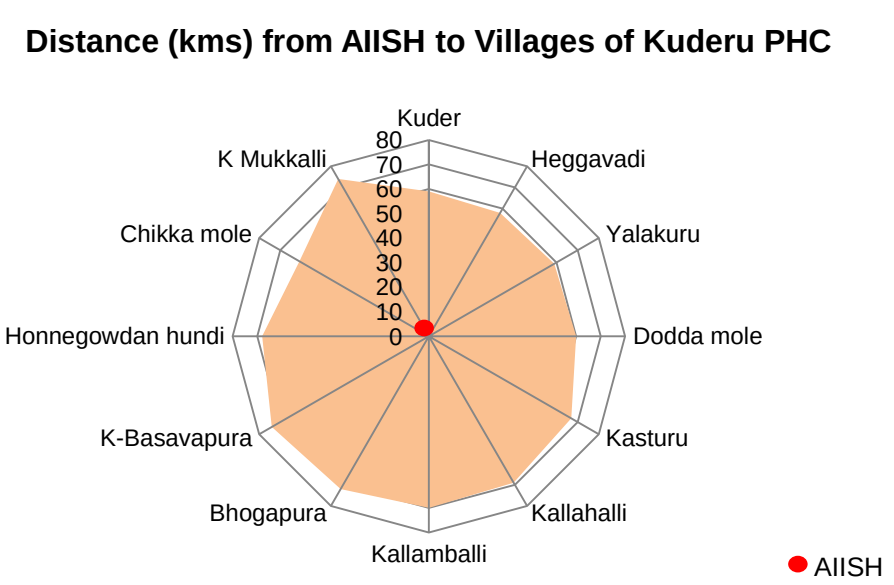

Figure 13. Location of selected Villages from Kuderu PHC to AIISH

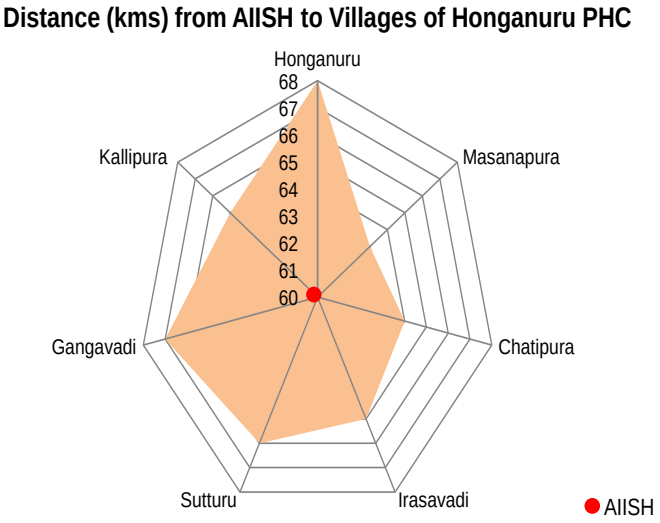

Figure 14. Location of selected Villages from Honganuru PHC to AIISH

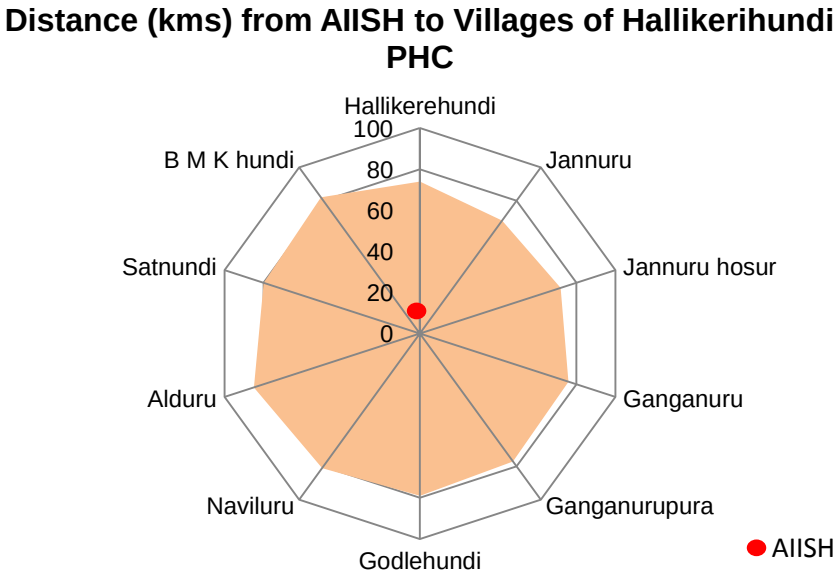

Figure 15. Location of selected Villages from Hallikerihundi PHC to AIISH

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