6.1 MAJOR FINDINGS

The study reveals the contrast scenario of Udupi and Koppal districts. Though both the districts emerged as new districts from Dakshina Kannada, Mangalore and Raichur respectively still they retain the characters of original districts. Udupi district has been considered as number two in Human Development rating in Karnataka state with hundred percent literacy, low rate of IMR with 12 per 1000 live births and high life expectancy., Whereas Koppal is placed in 12\textsuperscript{th} position in HDI in the state among 30 districts. The literacy level is only 74\% and IMR is 58 per 1000 live births.

The important indicators like IMR, CMR, MMR, ANC and Universal Immunization have been playing a significant role in the rate of infant death.

The comparative figures of Female literacy, Institutional Delivery and other socio-economic factors of Udupi and Koppal districts show the reasons for difference in IMR in the study area.

The figures of Udupi and Koppal districts is a true reflection of various factors other than public investment in the reduction of IMR. Udupi has the lowest rate of IMR in the state. This has been possible by better health with effort of district administration and good socio-economic factors. It is vice-versa in case of Koppal district where high IMR is prevailing.
The indicators of health, education and income are necessary for computing HDI rank. In the last three decades, the position of these districts more or less remain the same in HDI rank. The health issues related to IMR are ANC institutional delivery and Pre-term delivery. Institutional delivery is 99.7%, 7.25% of children are born underweight and ANC is 83.55% in Udupi district. In case of Koppal district ANC is 95.3% whereas institutional delivery and child born underweight are 90.68% and 11.73% respectively which are resulting in higher IMR in Koppal district.

With regard to objective no. 3 of the study it is evident from the study that both in primary survey and secondary source of data the literacy rate in Udupi district is 100% whereas in Koppal district the literacy level is 55% among the respondents and in general it is 74%. As many studies reveal the correlation between the IMR and literacy level as positive, in the present case also it is proved that literacy level has an impact on IMR in both the districts. Similarly the social factor like caste is also a factor which determines the IMR. In case of Udupi the percentage of SC and ST population is considerably less, i.e. 6.41% and 4.49% respectively as it is revealed in the primary survey and secondary data. In primary survey, selected respondents are 11% and 9% of SC and ST respectively.

On the other hand in Koppal the SC and ST population is high i.e. 18.6% and 11.8% respectively (according to 2011 census). In the primary survey also the respondent composition is 24.69% and 22.22% respectively.

In Udupi district about 94% of them use the toilet of different types whereas in Koppal the accessibility to toilet only 31%; remaining 69% of them are defecating openly. While measuring the standard of living of people accessibility
to toilet is considered as one of the indices. There is a contrast in access to toilet in both the districts which reflects the socio-cultural settings of people in the respective districts.

Source of lighting to the house is an indicator of economic conditions. In Udupi district it is about 93% whereas in Koppal it is still at 86% despite 100% electrification of these villages.

With regard to occupation and livelihood, 43% of the respondents in Udupi district are engaged in wage earnings (coolie) whereas in Koppal district the dependence on coolie is 59%, which reflects the different economic status of the respondents in these two districts.

With regard to the monthly income of the respondents it is found that in Udupi district average earnings of Rs. 4000 to 5000 and above is 50% whereas in Koppal district it is only 33%. The economic empowerment of women plays a significant role in reproductive processes. Similarly the monthly earnings of families in Udupi ranging from 10000 and above is around 47% and in Koppal district it is only 32%.

In Udupi district only 65% has availed credit from different sources whereas in Koppal district about 92.59% have availed credit which shows the economic dependency.

With regard to first pregnancy age of respondents, in Udupi district about 66% of the respondents delivered first baby at the age of 23-25 and 34% in the age group of 19-22 years. In Koppal district about 65% of the respondents delivered first baby at the age of 20-22 years and 31% in the age of 19 years. The delivery of first baby at an early age in Koppal district shows importance of socio-cultural
character in early marriage practices.

In spite of continuous awareness and the presence of ASHA workers in the villages for facilitating ante-natal care, for the pregnancy test is found to be 100% in Udupi district whereas in Koppal district it is only 94%. In Udupi district it is almost 100% registration of pregnancy, whereas in Koppal district only 91% of them have registered the pregnancy. Most of the pregnancies are registered mainly in the nearby PHCs: In Udupi district it is 92.59% and in Koppal district it is 83% which implies the role of ASHAs in mobilizing these women and bringing them for registration.

In both the districts, it is about 40% of them received ANC care in early first months of their pregnancy. Remaining 60% of the pregnant women received antenatal care in both the districts in the second month.

Generally, pregnant women need rest for preventing pregnancy termination due to hard work. In the study area it is found that about 81% of them are under rest in Udupi district whereas in Koppal district it is only 70%. More percentage of women engaged in the work even during pregnancy in Koppal District shows that because of poverty they are forced to be engaged in work for their livelihood.

With regard to rate of termination of pregnancy, it is zero in Udupi district and in Koppal district the respondents have stated that around 10% of the termination happens among the pregnant women.

In India two very strict laws that prohibit the sex selection of a fetus and termination of pregnancy in the form of abortion are the Medical Termination of Pregnancy Act, 1971 and the Pre-natal Diagnostic Techniques (PNDT Regulation and Prevention of Misuse) Act, 1994. However in Koppal district it is alarmingly
higher with 3% termination of pregnancy, whereas in Udupi district this kind of incidence is nil.

The spacing in birth is a significant factor in (MCH) health of maternal mother and child health. More the spacing better the health for both mother and child. The percentage of 1-2 years spacing in Udupi district is 55.5% whereas in Koppal district it is 74%. Between 2-4 years gap it is 31% in Udupi district and 24% in Koppal. There are some cases of spacing more than 4 years in Udupi district with 13% and Koppal district it is just 1%.

In India, particularly among patriarchal societies, the important issue involved in the health of infant is the sex of babies born. If a male child is born, most care is given by the family members as well as mother but if it is a girl child, a kind of neglect prevails in the family. In the study area of Udupi district about 30% of the mother delivered single girl child whereas in Koppal district it is only 26% which clearly indicate the kind of male preferences shown in the backward district like Koppal. The percentage of still birth reflects the poor ANC and anemia of the mother. In Udupi district the rate of still birth is only 1% whereas in Koppal it is still at 5%.

Death of baby before their one year of age is mainly due to lack of post-natal care. In the study of Udupi district the percentage of CMR is just 1.1 percent which reflects better neonatal and post natal care. On the other hand, in Koppal district it is 6% which is considered to be high ie) if it is for 1000 the rate is 60.

The common complaint is that the public are not visiting government hospitals for accessing ante-natal and post-natal care, because of poor medical service rendered in Sub-centres and PHCs. But it has been disproved in the study
area in both the districts that there has been 100% and 98% use of government hospital services.

The institutional delivery plays a major role in reducing IMR. In many developing countries the low percentage of institutional delivery is responsible for high infant mortality. In the study area of Udupi and Koppal districts the average institutional delivery is 99% and 87% respectively. In case of Koppal district it is necessary to take several steps to ensure 100% institutional delivery to bring down IMR.

With regard to universal immunization there has been hundred percent achievement in both Udupi and Koppal districts. This is mainly due to the sincere effort of government machinery involved in processes and the cooperation of parents and volunteers. Anganwadi workers and ASHAs play a major role in dissemination of information about universal immunization.

The investment made on health services in Udupi and Koppal districts are shown in tables 4.15 to 4.25. From 2005-06 to 2011-12, Rs. 18 crore and 15 lakhs have been spent on reproductive and child health (RCH) in Udupi district. Rs. 21 crore and 36 lakhs have been spent on RCH in Koppal district. Though more amount is spent in Koppal district than Udupi district, the IMR is still very high shows that the investment has to be judiciously used for achieving the target. The amount invested on health schemes in Koppal district in 2014 was Rs. 4 crore and 12 lakhs when it is divided by total population the per-capita investment is Rs. 29.69. The amount invested on health schemes in Udupi district in 2014 is Rs. 3 crore and 07 lakhs and if it is divided by total population the per capita investment is Rs. 26.10.
Apart from this public participation particularly the maternal mothers and family members is an important aspect in reducing death of infants. The primary survey of study area reveals that public participation is very high in Udupi district as the result of which the IMR is very low. Lack of awareness and illiteracy among people in Koppal is highly responsible for high IMR in Koppal district.

With regard to the children going to the Anganwadis it is pointed in the study area that about 72% of children goes to Anganwadis in Udupi district, whereas in Koppal district it is 74%. In a backward district like Koppal district there must be 100 percentage attendance of children to Anganwadis to prevent the malnourishment. Therefore, there is a need for improving the quality of food supply in the Anganwadis.

The Health and Family Welfare department has made a mandatory provision for auxiliary staffs to visit every village to facilitate the neonatal care. In the study area, it is stated that both in Udupi and Koppal district weekly visit by health worker is 47% and 37% respectively and monthly it is 49% and 52% respectively. This data clearly shows that the commitment among health worker in ensuring neonatal care requires improvement. Department supplies tonic/ tablets at free of cost to pregnant women to reduce anemia. In the study area of Udupi district, the supply is 98% and in Koppal district it is only 88%, which has to be improved to hundred percent.

Another very important and useful scheme is the Madilu/Thayi Bhagya to the maternal mother at the time of delivery. It is to increase the Institutional delivery. In the study area of Udupi and Koppal districts, the benefit is extended only to 77% and 75% respectively.
6.2 SUGGESTIONS FOR FURTHER RESEARCH

As pointed out in the study of two districts, Udupi district which is number one in reducing IMR with 11 IMR for 1000 live birth can still improve its access and need to bring it to less than 10 per 1000 live birth. It will put this district in the map on par with other developed countries where the IMR is less than 10. On the other hand, Koppal district which has been selected for comparison is listed as backward district in the Hyderabad-Karnataka region which has to make use of the special status extended to the region. The existing high rate of IMR with 56 per thousand must come down to less than 40 in the next few years. To achieve this, special attention has to be given by the health administration. Mere achieving the target of spending allotted fund may not serve the purpose. To achieve the target effective strategies need to be evolved.

To ensure easy monitoring and supervision, the implementing agency need to entrust the responsibility of this task to the nearest PHCs. The participation of elected members and Village Health and Nutritional Committees is necessary. The members of the respective gram panchayats have to take further responsibility in achieving this great task.

Koppal district has high illiteracy among rural women. To create awareness among them, special task force needs to be created with the help of Zilla panchayat. It must be ensured that all the pregnant women are brought under the coverage of ANC and anemia programme.
The NGOs which are playing a major role in health and education programs need to be associated in this last mile challenge of reducing IMR in Koppal district.

Human resources in the form of ASHA workers and Anganwadi workers shall have a vital role to play in effective implementation of ANCs and institutional delivery. The whole process of RCH have to be revitalized by the Koppal district administration.

There is also need for assessing the IMR at gram panchayat level periodically. Special package may be given to the gram panchayat area which is having high child mortality. For example in Yelburga taluk of Koppal district, the IMR is 80 per 1000 live birth which is the highest in the district which needs to be given special attention. Similarly in Gangawati taluk, the MMR is highest with 283 per 100000 pregnancies which needs special attention in the form of 100% ANCs and institutional delivery.

Population covered by each sub-centre in Udupi district is in the average of 3591, whereas in Koppal district it is 6615. Similarly in case of PHC, on an average each PHC in Udupi district has the population of 17032, whereas in Koppal district it is 27563. Even though Koppal district has greater health challenges it has less man power and infrastructure which has to be addressed on priority for providing easy accessibility of health services.
6.3 CONCLUSIONS

Udupi district is already in the front line in reducing IMR and other health indicators which needs to be continued in future also as a model district for the entire state.

Government agencies in association with stakeholders have to play a pivotal role in creating awareness among communities, particularly the vulnerable section of the society to achieve the targets promised in Millennium Development Goals and Sustainable Development Goals.

This comparative study on preventing IMR in two districts is to understand and appreciate the contrasts existing within a state. Udupi district stands as an example for achieving the expected level of IMR in the line of Kerala state which is a model for the nation. On the other extreme end Koppal district has highest IMR within the state which is posing a big challenge to the department.

This study underscores the importance of having differentiated approach in providing human resources and special strategies.

Every child which is born or yet to be born has the right to life and that right must be ensured.