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Health Care Services in Ayurveda: A Critical Analy		special reference	to UGC
<b>Radhika B.C</b> Research Scholar of History, Madurai Kamaraj University, India.			Journal No: 47359
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# **Corresponding Author:** Radhika B.C

Research Scholar of History, Madurai Kamaraj University, India.

Kerala possesses an unbroken tradition of Ayurveda that has surpassed many invasions and intrusions both foreign and native. For hundreds of years the Ayurveda Vaidyas (traditional practitioners of Ayurveda) were almost the only solution for people seeking healing from every kind of disease in Kerala. The legendary eight families of Vaidyas (Ashta vaidyas) and their successors treated the entire state for centuries. Unlike the other Indian states the status of Ayurveda in Kerala is not that an alternative but is main stream. In fact, today, Kerala is the only State in India which practices this system of medicine with absolute dedication. Being the only resort of treatment for the people, the Vaidyars of Kerala were challenged to interpret the theories of Ayurveda and adapt them actively into effective healing systems in everyday life. Thus almost all the contemporary procedures and protocols of Ayurveda have evolved in and around Kerala. Through a closer analysis one could swift out several pitfalls inherent in the *Ayruvedic healthcare practices in Kerala.* 

Keywords: Ayurveda, Kerala, Healthcare, Current limitations

## Introduction

Ayurveda is an ancient and comprehensive system of health care. Ayurveda has its origin in India and extended its wings to various parts of the world. Ayurveda was divided into eight clinical specialties such as Kayachikitsa (internal medicine), Salya Tantra (surgery), Salakya (disease of supra-clavicular origin<sup>1</sup>), Kaumarabhrtya (pediatrics, obstetrics and gynecology), Bhutavidya (psychiatry), Agada Tantra (toxicology), Rasayana Tantra (rejuvenation of geriatrics) and Vajikarana (aphrodisiology and eugenics2<sup>2</sup>). Ayurveda massage is a part of the treatment protocol.

Kerala's health care system consists of Allopathy, Indian Systems of Medicine (ISM) and Homeopathy. ISM consists of Ayurveda, Siddha, Unani and Naturopathy of which Ayurveda is widely practiced and has an extensive network of hospitals and dispensaries, both in government and private sector. Ayurveda is an integral part of Kerala's landscape and encompasses preventive, promotive and curative components of healthcare with equal importance. There are 118 Ayurveda hospitals including 6 speciality hospitals, 782 Ayurveda dispensaries, 4 Visha dispensaries and 20 Ayurveda sub-centres delivering healthcare services in the State. Besides, the State Health and Family Welfare Society of Kerala (SHFWS) also operate 208 Ayurveda dispensaries under National Rural Health Mission (NRHM) in various parts of the State. Medicines required for free distribution to patients in government hospitals/dispensaries were procured from Pharmaceutical Corporation Kerala Ltd.<sup>3</sup>

The Secretary to Government, Health & Family Welfare Department (H&FWD) is the overall in-charge of the health services in the State. A Special Secretary in the H&FWD has been exclusively looking after the charge of ISM and Homeopathy with effect from August 2014. The Director of Indian Systems of Medicine(DISM) and the Director of Ayurveda Medical Education (DAME) exercise overall control over the Ayurveda institutions in the government Sector. At the district level, the District Medical Officers (ISM) exercise administrative control over the respective hospitals and dispensaries.<sup>4</sup>

The Report of the Performance Audit conducted by the Comptroller & Auditor General of India on General and Social Sector has helped to assess whether Ayurveda hospitals & dispensaries have been successful in their mission to deliver intended services to the layman. The Performance Audit was carried out by test check of records in the Department, Offices of the DISM and DAME, five<sup>5</sup> District Medical Officers, Oushadhi, 58 Ayurveda health care institutions, 3 Ayurveda colleges and attached hospitals selected from five out of the 14 districts in the State.

# **Ayurveda Health Care Services**

Ayurveda, the science of life and longevity, is the oldest healthcare system in the world and it combines the profound thoughts of medicine and philosophy. Since ancient times Ayurveda has stood for the wholesome physical, mental and spiritual growth of

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humanity around the world. Today, it's a unique, indispensable branch of medicine, a complete naturalistic system that depends on the diagnosis of your body's humours - vata, pitta and kapha - to achieve the right balance. Kerala possesses an unbroken tradition of Ayurveda that has surpassed many invasions and intrusions both foreign and native. For hundreds of years the Ayurveda Vaidyas (traditional practitioners of Ayurveda) were almost the only solution for people seeking healing from every kind of disease in Kerala. The legendary eight families of Vaidyas (Ashta vaidyas) and their successors treated the entire state for centuries. Unlike the other Indian states the status of Ayurveda in Kerala is not that an alternative but is main stream. In fact, today, Kerala is the only State in India which practices this system of medicine with absolute dedication. Being the only resort of treatment for the people, the Vaidyars of Kerala were challenged to interpret the theories of Ayurveda and adapt them actively into effective healing systems in everyday life. Thus almost all the contemporary procedures and protocols of Ayurveda have evolved in and around Kerala. Through a closer analysis one could find out the slow pace of growth of Ayurveda in Kerala due to a large number of factors. The important reasons can be explained as under:

#### Lapse of Government of India (GOI) assistance

Department of AYUSH, GOI released Rs 54.71 crore out of Rs 60.70 crore during 2009-12 as grant-in-aid to SHFWS under NRHM for upgradation of AYUSH hospitals and dispensaries including procurement of medicines, engagement of personnel and supply of drugs in the State. The State has not received any assistance from GOI since 2012-13 as Government of Kerala/NRHM is yet to furnish Utility Certificates for Rs 9.38 crore of the Rs 54.71 crore received by it due to which the grant of Rs.12.75 crore receivable from GOI for the years 2012-14 under this component has lapsed. Government of Kerala/NRHMs failure to obtain Government of India's share resulted in the nonpayment of salary to 68 Ayurveda Medical Officer's and 203 Therapists appointed under the scheme, since September 2012. Though the Medical Officers were subsequently redeployed in the NRHM dispensaries, contracts of 203 Therapists were not renewed after March 2014. Audit also noticed that due to the failure of SHFWS to submit Utility Certificates, Rs 0.93 crore sanctioned to VPSV Ayurveda College, Kottakkal under 'Development of AYUSH institutions/colleges' during 2012-13 was also withheld by Government of India.<sup>6</sup>

#### Lack of Development of AYUSH institutions

Under the Scheme for development of AYUSH institutions/colleges, Government of India sanctioned (June 2010) Rs 2.19 crore to Government Ayurveda College, Thiruvananthapuram for construction of buildings for establishing additional departments for Preventive Ayurveda, Yoga, Naturopathy and Vishachikitsa and released Rs.1.5 crore. Audit noticed that GAC Thiruvananthapuram could not start the work due to which the amount was finally refunded to Government of India (May2013).Government replied that M/s Habitat Technology Group who were entrusted with work were not willing to take up work at the prevailing PWD Schedule of rates and that PWD was also not interested in undertaking the work. The reply is an admission of the inefficiency of the department to make arrangements for the construction works when funds were available for the purpose.<sup>7</sup>

#### Ayurveda Healthcare Facilities

The National Policy on ISM&H 2002 and GOI's directions (March 2011) envisaged formation of a separate AYUSH Department with a full-fledged Secretary in States. The State Government appointed a Special Secretary only in August 2014 exclusively to look after the ISM &Homeopathy under H&FWD. AYUSH Department was inaugurated by the former Chief Minister Ommen Chandy on 5.8.2015 at Senate Hall, Kerala University.<sup>8</sup>

#### Opening of new dispensaries

One of the stated objectives of the Department of ISM was to open an Ayurveda dispensary in every Grama Panchayat. However, no time frame was for attainment of the objective. Audit noticed that (March 2014) 65 out of 425 Grama Panchayats in the test checked districts did not either have a Government Ayurveda Hospital or Dispensary and hence the objective was not yet achieved. However, in 63 of the 65 Grama Panchayats, temporary dispensaries were being operated by NRHM. Government admitted that (Dec 2014) 178 Panchayats in the State were without Government ISM hospitals and dispensaries and that Rs70 lakh was earmarked during 2014-15 for opening such institutions in uncovered Grama Panchayats.<sup>9</sup>

#### Colocation of Ayush facilities

GOI introduced a Centrally Sponsored Scheme, during the 10<sup>th</sup> plan (2002-03 to 2006-07), to integrate AYUSH health care services with mainstream healthcare services. It was envisaged that there should be a cafeteria approach of making Ayush and Allopathic systems available under one roof at Primary Health Care Centers/Community Health Centers(CHC)/District Hospitals. Apart from improving people's access to healthcare services, it was also intended to provide a choice of treatment to the patients. Under the scheme GOI made provision for release of grants to State government for co-location of AYUSH facilities at CHCs/PHCs/DHs.<sup>10</sup>

Government replied (Dec2014) that presently 7 Government Ayurveda Dispensaries are functioning in the premises of PHs/CHCs but the policy of co-location of AYUSH facilities at PHC/CHC/DH level could not materialize in the State due to the reluctance of professional and service organizations in Allopathic medicine sector. The fact, however, remains that Government's failure to address the misplaced concerns of the practitioners of modern medicine has resulted in denying people easy access to healthcare services of their choice, besides loss of GOI grant.

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#### Global Journal of Current Research Radhika B. Up-gradation and Standardization of Ayurveda Hospitals/Dispensaries

Government of Kerala aimed to provide better Ayurveda treatment facilities by up- gradation of hospitals in a phased manner under the scheme 'Up- gradation and Standardization of Hospitals' after fixing standards for infrastructure facilities and services. Government of Kerala has also planned to standardize the facilities in Ayurveda dispensaries in partnership with the LSGIs on a project mode under the scheme 'Strengthening and Improvement of dispensaries'. Under the schemes it was planned to (1) increase the bed strength from the existing 50 to 100 in 10 District Ayurveda Hospitals,(11)to provide X-ray facilities, Panchakarma and in all DAHs (111)to provide laboratory facilities in all hospitals and (iv)to provide Ksharasutra units equipments/furniture/utensils/LPG connection and drugs, etc. in dispensaries. During 2009-14, Government of Kerala provided Rs.14.53 crore and Rs.3, 77 crore respectively. Audit noticed that bed strength was increased to 100 only in DAH Kozhikode against 10 DAHs proposed as GOK is yet to accord sanction for other DAHs. While X-ray units were provided in all DAHs except DAH Ernakulam, Panchakarma and Ksharasutra units were not yet provided in 3 DAHs and 10 DAHs respectively. Laboratories were provided only in 46 hospitals out of the 118 hospitals in the State. Details of poor infrastructure facilities in the test checked hospitals and dispensaries such as hospitals and dispensaries functioning in old/dilapidated/unfit/leaking buildings, space constraints for functioning of wards/therapy rooms, no provision of basic amenities like toilet, drinking water, electricity, water connection, etc., nonfunctioning X-ray units, laboratory units, etc were noticed in Audit.<sup>11</sup>

Government of Kerala/Clinical Establishment (Registration & Regulation) Act 2010 specified 39 common items/equipment required in Ayurveda Dispensaries. Audit found non-availability of common items/equipment when compared to the above.<sup>12</sup>

DISM has not fixed any standards for infrastructure facilities and services in hospitals/dispensaries. It has also not prepared any evaluation report on implementation of the schemes for each year specifying the physical targets and achievements there-against resulting in non-assurance of effective implementation of the schemes. Government stated that at present there is no provision for standardization of ISM institutions and a Core Committee would soon be formed for the purpose. It was also stated that presently permission to start X-ray and Laboratory units were granted only to hospitals where adequate space was available.<sup>13</sup>

#### **Healthcare Services**

#### **Out-patient and In-patient Services**

Out-patient services were offered by both hospitals and dispensaries while In-patient services were offered only by hospitals. During the year 2013-14 Government Ayurveda Hospitals and dispensaries in the State had patient footfall of 2.04 crore which included 93,387 in-patients. Audit analyzed the footfall of out-patients in test-checked hospitals and dispensaries under DISM in five selected districts. It was seen that the number of out-patients declined in all test checked districts when compared to the footfalls in the year 2009-10 except in Malappuram where an upward trend was noticed in the year 2013-14. <sup>14</sup>The lowest bed occupancy was noticed at GAH, Punnapra. It was noticed that due to the absence of male Nurses/Therapists and Cook, the hospital neither provided therapy treatment to male patients nor provided diet to it's patients, which could explain the very low bed occupancy in the hospital. Nonavailability of Specialist doctors, Therapists and also the isolated location of the hospitals were cited as reasons for the lower bed occupancy by the Medical Officers of two hospitals (DAH Thiruvali and DAH Valavannur).<sup>15</sup>

#### Shortage of Medical Officers and paramedical staff

Audit noticed inadequate number of Medical Officers and Paramedical staff in position against the sanctioned strength in hospitals/dispensaries under the control of DISM.<sup>16</sup> Staff pattern for Ayurveda hospitals under the DISM with reference to the bed strength was fixed as early as in May 1978. Audit noticed shortage/excess in the number of posts sanctioned when compared with the number of posts required against the average bed occupancy in hospitals test checked. It was found that in Government Ayurveda Marma Hospital (GAMH), Kanjiramkulam and Government Visha Vaidya Hospital, Wadakkanchery, the average bed occupancy during 2009-14 was more than the sanctioned bed strength. However there was shortage in the sanctioned posts of Medical Officers/Pharmacists/Nurses. In GAMH, Kanjiramkulam, against the sanctioned bed strength of 10, average bed occupancy was 45 indicating that a large number of patients were availing the facilities in the hospital. However against the required staff strength of 3 Medical Officers, 2 Pharmacists and 5 Nurses, there was a shortage of 1 Medical Officer, 1 Pharmacist and 3 Nurses. Similarly in the GVVH, Wadakkanchery, there was a shortage of 2 Nurses, while at GAH Nedumangad; the shortage of Nurses was 3. The failure of Government of Kerala to rationalize the staff strength has resulted in hospitals with higher number of patients having to function with lesser number of staff. The Government stated that DISM had informed that the vacant posts of Medical Officers and paramedical staff were not filled up from Kerala Public Service Commission was yet to be received. The reply is not acceptable in view of the fact that Government/Hospital Management Committees could have engaged these personnel on temporary basis to address the shortfall in manpower till permanent filling up of these posts.<sup>17</sup>

#### Diet

The Kerala Indigenous Medicine Departmental Manual and subsequent orders of Government prescribed various food items and their quantity to be distributed as diet to its patients. The DISM enhanced the cost of diet to in-patients from the existing Rs 25 to Rs 30 per day per patient, with direction to limit the cost to the prescribed rate of Rs 30. Audit noticed that the food items and the quantity supplied in test checked hospitals viz., bread & milk in the morning, rice & green gram at noon and evening were not as prescribed in

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Vol. 5 No. 2 the Manual and Government Orders.<sup>18</sup>. But still the sane diet is supplied to the patients but at the revised rate of Rs 20 per day for a patient.19

Audit also noticed that out of the 14 Ayurveda hospitals test checked, GAH Punnapra did not provide diet to in-patients as there was no cook in the hospital. The diet was not able to provide nutritive food to the injured sportsperson admitted in the Sports unit of GAH Nedumangad and Rama Varma District Ayurveda Hospital (RVDAH), Thrissur. Government replied that the diet charges of Rs 30 per day were grossly insufficient to give quality food to patients and enhancement of diet charges is under its consideration.<sup>20</sup>

#### X-ray Services

Atomic Energy (Radiation Protection) Rules, 2004 on licensing of X-ray units provide for issuing of license for operating radiation installations after inspecting the working practices being followed to ensure adherence to prescribed safety standards, availability of appropriate radiation monitors and dosimetry devices for purposes of radiation surveillance, etc. The Director of Radiation Safety (DRS) is the authorized agency in Kerala to issue licenses on behalf of Atomic Energy Regulatory Board. Five out of the 14 testchecked hospitals was provided with X-ray units. Out of these, 3 hospitals (DAH Alappuzha, RVDAH Thrissur and DAH Valavannur) offered X-ray services and in 2 hospitals (GAMH Kanjiramkulam and DAH Palakkad), the units were not made functional. Audit noticed that X-ray machines were operated in DAH Alappuzha and in RVDAH Thrissur from May 2012 without obtaining Certification of Safety from the DRS. The technician handling the X-ray unit in DAH Alappuzha was not provided TLD 13 film badges to indicate levels of exposure to radiation. Government replied vaguely that action has been initiated to obtain Safety Certificate from DRS.<sup>21</sup>

#### Oil Massage

Oil Massages play a major role in the treatment protocol under Ayurveda."Thailam" used in therapy requires to be heated prior to application on the patients. Audit noticed that in DAH Valavannur in Malappuram district, Panchakarma Hospital, Alappuzha, GAH Nedumangad, GAH Punnapra, GAH Palode, GVVH Wadakkanchery and GAH Thiruvali there was no heating facility in the Therapy/treatment room. Failure of the hospitals to make provision for heating Thailam resulted in patients being forced to bring stoves and fuel for warming of Thailam which is a matter of concern. CMO, DAH Valavannur stated that the facility was not provided as sanction was not received for LPG installation. Government replied that majority of in-patients in hospitals have to undergo various treatment procedures and accepted that the allocation for fuel was meager. It has also stated that DISM had since issued directions to District Medical Officers in this regard. The reply is not acceptable in view of the immense hardships being caused to patients. In the circumstances, the Government/DISM is required to provide these basic facilities.<sup>22</sup>

#### Distribution of Ayurveda drugs to patients

Government Avurveda Hospitals and Dispensaries supply free drugs to all patients obtaining treatment from these institutions. Audit noticed that, the survey conducted among the in-patients and out-patients revealed that 33.02 percent of in-patients and 58.51 percent of out-patients were getting all drugs from the Pharmacy, 64.15 percent of in-patients and 35.33 percent of out-patients purchased some drugs from the market due to non-availability of drugs in Pharmacy. Further 1.89 percent of the in-patients were purchasing drugs from the market due to difficulty in coming to the hospitals as drugs were supplied from Pharmacy on alternate days only during treatment period. Moreover 1.09 percent of the out-patients were skipping the treatment as cost of drugs was not affordable. Audit also noticed that time expired medicines were administered to patients in GAD Mundathikode in Thrissur district, even after having been pointed out about such defects by Audit.<sup>23</sup>

#### Non-adherence of stipulated standards by Oushadhi

DISM procured Ayurveda drugs from Oushadhi, a Government of Kerala Undertaking for free distribution to patients in government hospitals. As part of the Audit for assessing the quality of drugs procured by Government of Kerala for free distribution among patients, physical verification of the manufacturing facility of Oushadhi, jointly with its officials revealed that stipulated standards were not being adhered to by Oushadhi. Audit noticed that 'Churnam' manufactured in the factory was piled on the floor of the factory and the possibility of the drug being contaminated with dirt and sand cannot be ruled out. Oushadhi also admitted that there was no separate area for manufacturing sterile 'Elaneerkuzhambu' and stated that they have now planned to shift the production to a separate area. Oushadhi also admitted its inability to conduct tests about heavy-metals, aflatoxins, toxicity and pesticide residue and stated that facilities were available for testing only microbial load and physico-chemical parameters. Therefore Audit could not obtain assurance that the drugs supplied by Oushadhi conformed to stipulated safety standards.<sup>2</sup>

#### Drug production at GAC Thiruvananthapuram

Ayurveda drugs are manufactured at the Pharmacy at GAC Thiruvananthapuram for use of patients in the 3 hospitals attached viz., GAC Hospital, Women and Children (W&C) Hospital and Panchakarma Hospital in Thiruvananthapuram. Audit noticed that the Pharmacy did not possess a license under D&C Act, though it manufactured drugs on a large scale.

To improve the functioning of the Pharmacy and to oversee all the activities of it, a Pharmacy Advisory Board was set up attached to the GAC Thiruvananthapuram and Pharmacy Production Committee for scientific production of Ayurveda drugs for laying down procedures for storing of raw materials/finished products, etc. Government replied that license was not essential since the drugs were

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manufactured at the Pharmacy for free distribution to the patients and was not intended for sale. The reply is not at all acceptable because possessing a license under the D&C Act would have ensured adherence to the provisions of the Act and the resultant production and distribution of quality drugs to the patients.<sup>25</sup>

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### Improvement of infrastructure in Colleges and Hospitals

Audit found several deficiencies in infrastructure facilities in test checked colleges and attached hospitals. It was noticed that the W&C hospital, Poojappura (Prasuthithantra and Kaumarabhritya departments of GAC Thiruvananthapuram), with 80 beds including the Ayurvedic paediatric ward meant for treating children with complaints of Developmental diseases, Cerebral palsy and Autism was functioning in two old tile roofed buildings which were congested due to lack of space. Then a 4 storied building was constructed to increase the bed strength and to accommodate the operation theatre and labour room and inaugurated on Oct 2013 and put to use on Dec 2014.<sup>26</sup>

In W&C hospital on the second floor of the four storied building a scheme called as "Snehadhara" functions under the Kaumarabhritya Department. With the cooperation of District Panchayat children were selected challenging from Autism/Cerebral palsy were found out and given continuous medical aid and treatment from the last three years. They have presently six staffs: one doctor, one speech therapist, one Physiotherapist, one Psychologist and two Panchakarma Therapists. The child patients are given food prepared from here free of cost. The bystanders (mothers) are allowed to cook their food in Community Kitchen in the back side of this building.<sup>27</sup>The LSGDs supply funds for the execution of this scheme. Multidisciplinary integration with other departments, active community participation, organizing more camps, allocating more funds and increasing the number of posts can help to find out the disabled children from economically backward classes

#### Conclusion

Though the changing governments conduct heated discussions and speeches on women and children, are they sincerely looking into whether their problems are being solved or not, is a question to be discussed. Instead of simply allocating massive funds for Women and children the authorities have to allocate funds with proper planning and monitor whether the common people are being benefited or not. The Audit reports show us the shortcomings in the Ayurveda Health Care Services which needs to be corrected with the help of governmental authorities and department personnel. Not only qualified but dedicated personnel have to be recruited to ensure that governmental schemes framed for women and children benefits them fully.

#### Suggestions

- 1. Up gradation and Standardization of Ayurvedic hospitals and Dispensaries in the State in a specific timeframe.
- 2. Increasing the Infrastructure facilities.
- 3. Integration with other departments.
- 4. Scientific assessment about manpower requirement and appropriate placement.
- 5. Continuous monitoring to ensure whether layman are benefited or not
- 6. Stringent measures to be taken against those officers who are failing to do their duty.

7. Adequate training to be given to acquire necessary knowledge, skills & competencies which will equip them to carry out their jobs effectively.

8. Active Community Involvement can help to trace out the challenging children from poor economic status.

9. Proper Planning and Policy Development along with effective management can help to bring out better results

#### **Notes and References**

- 1. This branch deals with dentistry, disease of ear, nose, throat, head and oral cavity.
- 2. This branch deals with the means of enhancing sexual vitality and efficiency for producing healthy and ideal progeny.
- 3. Interview with Dr. Roshni, HOD, Paedeatric , W&C Hospital.
- 4. Interview with Prabhath, Clerk, Ayush Department.
- 5. The five tests checked districts are Alappuzha, Malappuram, Palakkad, Thiruvananthapuram and Thrissur.
- 6. Report No: 2 of the Comptroller and Auditor General of India, 2015, p.39
- 7. ibid,pp.39-40, For more references see, Prasad, B.M and Muraleedharan, V.R, "*Community Health Workers: A Review of Concept*, *Practices and Policy Concerns*", Loyola Journal of Social Sciences, Vol. xxvii,No.2,July-December,2013.
- 8. Sathotthara Rajatha Jubilee Newsletter, Vol No:01, Publication division ,GAC, 2013-14.
- 9. op.cit.,p.40, For more references see, Nirmala Dorasamy, et.al "Perceptions of Community Health Worker's on Training Services", Loyola Journal of Social Sciences, Vol xxvii,No.2, 2014.
- 10. Interview with Hari, Accounts Officer, Ayush Department.
- 11. Chart showing institution-wise details of deficiencies in buildings, basic amenities, furniture and equipment.
- 12. Chart showing the non availability/nonfunctioning/shortage of common equipment required in Health care institutions.

- 13. Interview with Mr Mahesh, Assistant Account's Officer, AG's Office.
- 14. Report No: 2 of the Comptroller and Auditor General of India, 2015, p.42.
- 15. Chart showing bed occupancy in the hospitals test checked.
- 16. Table showing shortage of staff in hospitals/dispensaries under DISM.
- 17. Report No: 2 of the Comptroller and Auditor General of India, 2015, pp.44-45.
- 18. Milk Diet : Milk 750 ml, Bread 400 gm, Butter 20 gm, Biscuit 40 gm, Egg 1 no; Kanji Diet: Rice 200 gm, Green gram 60 gm, Milk 500 ml, Bread 400 gm, Butter 25 gm.
- 19. Interview with Mrs Pramitha, Clerk, GAH, Thiruvananthapuram
- 20. Interview with Mr. Anil, Assistant Accountant Officer, AG's Office.
- 21. op.cit, pp.45-46, For more readings see Designs of Social Research, D.K. Lal Das, Rawat Publications, Jaipur, pp.262-270.
- 22. op.cit, p.46, For more references see Dr.Rajeev Sharma, Complete Book of Child Care, Lotus Press, New Delhi, 2008.
- 23. op.cit, p.46-47, For more readings refer Dr.B.Ramaswamy, *Introduction to Disability: Basic concepts & issues*, Kanishka Publishers, New Delhi, 2013.
- 24. op.cit, pp.48-49, For more references see John.W.Santrock, Child Development, Tata McGraw-Hill Publishing Company Limited, New Delhi, 2007.
- 25. op.cit, p.49, For more readings see Hema.S, "*Development and Social Change: A Global Perspective*", Journal of Parliamentary Studies, Vol. 1, Issue 1, June 2010.
- 26. op.cit, p.55, For more readings see Abraham Mathew ,"*Role of Panchayats in Welfare Administration*", Journal of Parliamentary Studies, Vol.1, Issue 1, 2010.
- 27. Interview with Dr. Shafna, DMO, W&C Hospital.