

## Original Article

# ASSESSMENT OF KNOWLEDGE AND PERFORMANCE OF AYUSH DOCTORS POSTED IN COLLOCATION UNDER NATIONAL RURAL HEALTH MISSION IN UDAIPUR DIVISION, RAJASTHAN

Arun Kumar<sup>1</sup>, Keerti<sup>2</sup>, Chandra Prakash Sharma<sup>3</sup>, Sandeep Sharma<sup>4</sup>, Kapil Garg<sup>5</sup>, Rohit Jain<sup>5</sup>,

**Financial Support:** None declared  
**Conflict of interest:** None declared  
**Copy right:** The Journal retains the copyrights of this article. However, reproduction of this article in the part or total in any form is permissible with due acknowledgement of the source.

**How to cite this article:**

Kumar A, Keerti, Sharma CP, Sharma S, Garg K, Jain R. Assessment of Knowledge and Performance of AYUSH Doctors Posted in Collocation under National Rural Health Mission in Udaipur Division, Rajasthan. Natl J Community Med 2013; 4(4): 608-12.

**Author's Affiliation:**

<sup>1</sup>Assistant Professor, Department of Community Medicine, Pacific Medical college, Udaipur; <sup>2</sup>Associate Professor, Department of Community Medicine, R.N.T Medical College, Udaipur; <sup>3</sup>Senior Demonstrator, Department of Community Medicine, SN Medical College, Jodhpur; <sup>4</sup>Surveillance Medical Officer, WHO NPS, Kanpur; <sup>5</sup>Resident, Department of Community Medicine, R.N.T Medical College, Udaipur.

**Correspondence:**

Dr Arun Kumar  
Email: dr.arun.barath@gmail.com

**Date of Submission:** 05-09-13

**Date of Acceptance:** 24-12-13

**Date of Publication:** 31-12-13

## ABSTRACT

**Background:** The objective of mainstreaming of AYUSH through collocation at PHCs (Primary Health Centres) and CHCs (Community Health Centres) meant to strengthen the existing health facilities functionally and correct the architectural flaw in the public health care delivery system and also to bring AYUSH stream side by side with dominant stream that is allopathy.

**Objective:** Purpose is to assess the knowledge and performance of AYUSH practitioners posted in collocation with allopathic counterparts.

**Material and Methods:** All 67 AYUSH doctors posted at different Primary health centres /Community health centres/District hospitals with collocation in randomly selected three districts of Udaipur division were included in the study. Data were analysed statistically by applying analysis of variance using Epi Info Ver 6.0 r

**Results:** Mean age of the AYUSH doctors found to be 35±3.2 years. Majority 49(73.1%) of AYUSH doctors posted in collocation were from ayurveda stream. Majority 58(86.5%) of AYUSH doctors were found to be trained on SBA (Skill Birth Attendant). Maximum respondents i.e 28(41.8%) had good knowledge followed closely by 27(40.3%) doctors with average knowledge. 10(15%) of the respondents had poor knowledge. Cent percent involvement of AYUSH doctors were observed in majority of health care services except management of neonatal and childhood illness

**Keywords:** AYUSH, Collocation, NRHM, Skilled Birth Attendant

## INTRODUCTION

The Indian System of Medicine is of great antiquity. It is the culmination of Indian thought of medicine which represents a way of healthy living valued with a long and unique cultural history. The concept of 'Mainstreaming of AYUSH' implies the bringing of a side-practice or 'weak stream' into the dominant stream<sup>1</sup>. While this ignores the extent of utilisation of AYUSH & Local health tradition in our population and its growing importance and viability in the field of medicine, 'mainstreaming' is relevant for the institutional structures of health care provisioning by the public system. The objective of mainstreaming of AYUSH through co-location at Primary Health Centres and Community Health Centres has inherent

within it two possibilities: One, bringing the AYUSH graduates to strengthen the human resources situation at these facilities, primarily practicing allopathy or at least working under its framework. Second possibility in the co-location is a way of correcting the architectural flaw in the present health care system, that of denying legitimacy to people's practices and local health traditions as well as to knowledge systems other than the dominant modern medicine (Allopathy).

National Rural Health Mission (NRHM)(2005)<sup>1</sup> launched by Government of India in year 2005. Collocation of AYUSH doctors along with paramedics at PHC/CHC/DH with proper training is the major

strategy and framework of mainstreaming AYUSH under NRHM.

After mainstreaming of AYUSH, assessment or evaluation studies regarding knowledge and performance of AYUSH practitioners, collocation strategies conducted across various states. Studies suggest a widespread utilisation of the LHT and AYUSH, but this seems to be largely outside the public sector services<sup>2</sup>. Thus there is a need of assessment of knowledge and performance of AYUSH practitioners to improve the utilization of this considerable resource of AYUSH workforce in strengthening the health facilities functionally and implementation of National Health Programmes in public sector. The present study was conducted among AYUSH doctors posted under NRHM in collocation with their allopathic counterparts in three districts of Udaipur division to assess AYUSH.

## MATERIAL AND METHODS

The present study was a cross-sectional observational study conducted in three randomly selected districts of Udaipur Division viz. Udaipur, Rajsamand and Dungarpur. Udaipur division has total six districts namely Banswara, Chittorgarh, Rajsamand, Udaipur, Dungarpur and Pratapgarh. Three districts (50% of total) were randomly selected from the division by blindly picking up the paper chits viz. Udaipur, Rajsamand, Dungarpur. All 67 AYUSH doctors posted in collocation in randomly selected three districts were included in the study for assessment knowledge and performance regarding selected preventive, promotive and curative health care activities.

### Tools and technique:

1) A close-ended questionnaire: - It was the major tool of the study, used by for assessment of knowledge of AYUSH doctors regarding selected health care activities. In preparation of this tool, area of questions was decided through help of review of literature and discussion with specialist. After completion of this step, the researcher prepared 10 statements in each area. These statements were sent to different subject specialists for valuable suggestions. After getting suggestions, researcher gave final shape to the questionnaire, which was pre tested on a group of ten AYUSH doctors and implemented for study. Questionnaire comprising 30 Questions was given to the respondents with each question verbally explained. The purpose of the Questionnaire was to assess the AYUSH doctors knowledge about contraceptive methods, labour and its complications, new born care and management of neonatal and childhood illness, routine immunization and knowledge regarding certain national health programmes.

Thirty Questions were used to evaluate this. Each correct answer was given one mark while incorrect answer was awarded zero. Total score of each doctor was the sum of marks obtained for the thirty questions. Maximum score was thirty while minimum score was

zero. Scores were graded as:

0-15:Poor, 15-20:Average, 20-25:Good, >25:Excellent

2) Open-ended questionnaire: This was prepared in the same manner as close-ended questionnaire and was used for assessment of performance of the selected sample. The doctors were questioned regarding the work they performed or supervised at the place of posting during last one year like antenatal care and labour case management, immunization of children, treatment of malaria cases, advice regarding family planning etc.

3) Observation of records : Data on number of OPD patients, number of deliveries conducted, other services collected through observation of monthly monitoring statements of AYUSH doctors. Information on various facilities provided for AYUSH doctors at collocated facilities also collected by records available with district AYUSH coordinator.

### Ethical issues and Consent:

Ethical issues were taken care of and informed consent taken from all the AYUSH doctors as well as district chief medical & health officers and district AYUSH coordinators.

### Data Entry and Analysis

A codebook was prepared to facilitate data entry .Collected data was entered and analyzed with MS Excel, SPSS ver 16.0 and EPIInfo ver6

## RESULTS

### Profile of AYUSH doctors

A total of 67 AYUSH doctors posted in Udaipur division in collocation with allopathic doctors under NRHM at various Primary health centers/community health centers/district hospitals.(Table 1)

**Table 1: Profile of AYUSH doctors**

Variables	Number of AYUSH doctors (Total n=67)
<b>Posting District</b>	
Udaipur	37 (55.2)
Dungarpur	12 (17.9)
Rajsamand	18 (26.8)
<b>Stream or Pathy</b>	
Ayurveda	49 (73.1)
Homeopathy	13 (19.4)
Unani	5 (7.5)
Siddha	0 (0)
<b>Gender</b>	
Male	53 (79.1)
Female	14 (20.9)
<b>Age in Years</b>	
26-35	44 (65.7)
36-45	23 (34.3)
>=46	0 (0)

Note: Figures in the parenthesis indicates percentage

The mean age of doctors was found to be 35±3.2 years. Rajsamand district differs from two other districts in this aspect by having more number of AYUSH doctors in higher age group i.e. 36-45 years.. Irrespective of the districts under study mean number of months of experience for AYUSH doctor under NRHM found to be 46 months. (Table2& 3)

Striking feature that defies the efforts of NRHM was that very few doctors were trained on important na-

tional aspect topics like IMNCI (Integrated Management of Neonatal and Childhood Illnesses), RCH (Reproductive child health), and RNTCP (Revised National Tuberculosis Control Programme. None of the AYUSH doctors were found to have training on RTI/STI (Reproductive Tract Infections/Sexually Transmitted Infections).

**Table 2: Distribution of AYUSH doctors according to work experience on the present posting under NRHM**

Work experience in months	Udaipur	Dungarpur	Rajsamand	Total
25-37	15 (40.5)	2 (16.7)	7 (39.0)	24 (35.9)
38-50	9 (24.3)	2 (16.7)	1 (5.5)	12 (17.9)
>50	13 (35.2)	8 (66.6)	10 (55.5)	31 (46.2)
Total (%)	37 (100)	12 (100)	18 (100)	67 (100)

Note: Figures in the parenthesis indicates percentage

**Table 3: Distribution of AYUSH doctors according to past work experience before the present posting**

Past work experience	Udaipur	Dungarpur	Rajsamand	Total
Yes	16(43.2)	10(83.3)	11(61.1)	37(55.2)
No	21(56.8)	2(16.4)	7(38.9)	30(44.8)
Total(%)	37(100)	12(100)	18(100)	67(100)

Note: Figures in the parenthesis indicates percentage

**Knowledge assessment of AYUSH doctors**

Regarding assessment of knowledge total thirty questions were utilized to assess the knowledge of AYUSH doctors regarding selected important health care activities.

Maximum score by any AYUSH doctor was found to be 25 and minimum 11. Overall mean score was found to be 19.4 which comes under category of average knowledge score. Out of total 67 respondent AYUSH doctors highest no. of respondents i.e 28(41.8%) had good knowledge followed closely by 27(40.3%) doctors with average knowledge. 10(15%) of the respondents had poor knowledge. Only 2.9% doctors found to have excellent knowledge. (Table 4)

**Table 4: Distribution of AYUSH doctors according to knowledge score**

Knowledge Score (Grade)	No. of AYUSH doctors (%) (n=67)
≤ 15(Poor)	10 (15.0)
15-20 (Average)	27 (40.3)
20-25 (Good)	28 (41.8)
>25 (Excellent)	2 (2.9)

Note: Figures in the parenthesis indicates percentage

Amongst all the AYUSH doctors highest mean knowledge score was observed of doctors of ayurvedic stream followed by doctors of homeopathic stream followed by unani doctors irrespective of the districts of posting.

**Table 5: Comparison of Knowledge scores**

Variable	AYUSH doctors	Mean Score (Mean±SD)	P value
<b>Stream</b>			
Ayurveda (BAMS)	49	19.6±3.53	0.73
Unani (BUMS)	05	18.3±4.72	
Homeopathy (BHMS)	13	19.3±3.65	
<b>Districts</b>			
Udaipur	35	18.4±3.81	<b>0.02</b>
Rajsamand	18	20.0±2.96	
Dungarpur	12	21.5±2.83	
<b>Gender</b>			
Male	53	19.7±3.63	0.21
Female	14	18.4±3.39	
<b>Work experience in months</b>			
25-37	24	17.37±4.10	<b>0.04</b>
38-50	12	19.85±3.60	
>50	31	20.24±3.06	
<b>Past Work experience in years</b>			
Yes	37	19.62±3.67	0.66
No	30	19.23±3.56	
<b>Training Attended</b>			
<b>SBA</b>			
Yes	58	20.1±3.34	<b>0.04</b>
No	09	17.5±4.86	
<b>RNTCP</b>			
Yes	08	19.6±3.48	0.19
No	59	17.6±4.17	
<b>RI</b>			
Yes	44	20.2±3.49	0.19
No	23	19.0±3.62	
<b>Leprosy</b>			
Yes	26	20.2±3.34	0.20
No	41	18.1±3.69	
<b>IMNCI</b>			
Yes	04	19.5±3.56	0.42
No	63	17.7±4.34	

Greater mean knowledge score was observed among male AYUSH doctors as compared to female counterparts irrespective of their stream and district of posting. Considering any past work experience of AYUSH doctors before the present posting under NRHM bit more mean knowledge score observed of doctors with any past experience as compared to doctors with no past experience.

Mean knowledge score observed to be more of AYUSH doctors who had taken trainings on RNTCP, Routine Immunization, Leprosy, IMNCI(Integrated Management of Neonatal and Childhood illness) as compared to those who not attended them but On applying analysis of variance those abovementioned differences were found to be statistically insignificant( $p$  value $>0.05$ ).(Table 5)

Considering the three selected districts irrespective of the stream highest mean knowledge score was observed of the AYUSH doctors posted in Dungarpur district, followed by Rajsamand district and lastly the doctors posted in Udaipur district showed least mean knowledge score and this difference is found to be statistically significant( $p$  value  $<0.05$ ). Comparison of mean knowledge scores of AYUSH doctors with different work experience under NRHM showed that doctors with more experience on the present post scored more as compared to doctors with less experience. Mean knowledge score observed to be more of AYUSH doctors who completed their 21 days SBA(Skill Birth Attendant) training as compared to those who not completed that On applying analysis of variance those differences were found statistically significant( $p$  value $<0.05$ ).(Table 5)

#### Performance of AYUSH doctors:

Cent percent involvement of AYUSH doctors were observed in majority of health care services like Antenatal care of pregnant women, management of labour and its complications, Routine child immunization, RCH and family planning services, Pulse Polio programme, Treatment of malaria cases and management of swine flu cases. Only 43(64.1%) AYUSH doctors observed in management of neonatal and childhood illness.

Mean performance of AYUSH doctors were assessed for selected services on the basis of certain set targets for them. Data of last one year (April 2011-March 2012) was taken and analyzed for that. Considering AYUSH doctors posted in all the districts simultaneously none of the targets were cent per cent achieved. Target of 30 patients per day per doctor in OPD got achieved up to 96% as the mean number of outdoor patients seen by an AYUSH doctor found to be 28.8, client motivation targets for IUD insertion and sterilization(at least six clients/year/doctor) got achieved up to 70%(4.2 clients/yr/dr) and 40%(2.4 clients/yr/dr) respectively during last one year. On an average four deliveries conducted by AYUSH doctors per month irrespective of district of posting and stream.

## DISCUSSION

The present study is a cross sectional study done to assess knowledge and performance of AYUSH doctors regarding selected preventive, promotive and curative health care services.

Very few doctors were found to be trained on important national aspect topics like IMNCI (5.9%), RCH (4.5%), and RNTCP (11.9%). Similar findings with our study, a study conducted by **Krishna D Rao et al (2010)**<sup>3</sup> in state of Chattisgarh revealed that AYUSH practitioners in government service undergo some training in allopathic medicine, particularly in the control and treatment of diseases covered in the national disease control programs (e.g. TB, malaria, leprosy, and blindness) and vaccinations. In congruence with our findings an appraisal study by **NHSRC(National Health Systems Resource Centre) (2009)**<sup>4</sup> of state PIPs of 2007-10 found that majority of AYUSH doctors are being given training in SBA in six states but in contrast to our findings they also observed that AYUSH doctors are also trained on IMNCI in three states. In contrast to our study **NRHM Manipur report 2011**<sup>5</sup> found that, majority of AYUSH Doctors are trained in IMNCI. Supporting our study findings **PIP of NRHM Rajasthan 2011-12**<sup>6</sup> reveal that majority of AYUSH doctors are being imparted SBA training.

Only around 40% of doctors responded correctly to theoretical knowledge questions on signs of true labour pain, placental separation and fetal distress. Similarly a Study by **Deokinandan, SS Kushwaha et al (2008)**<sup>7</sup> revealed that Knowledge and competency for diagnosing and management of complications of labour was not up to the set benchmarks in health care providers. Majority of doctors (>70%) responded correctly to all the questions on routine immunization probably because of widespread awareness and in service training programme on RI this finding is in contrast with the finding of a study by **Kaushik Lodhiya et al (2012)**<sup>8</sup> that found that a very high proportion of HWs were ignorant in some key areas of vaccination. Majority of doctors (70%) were correct on questions of RNTCP(Revised National Tuberculosis Control Programme) guidelines and DOTS(Directly Observed Treatment Short Course) categories might be because of widespread awareness however this finding is in contrast with the findings of a study by **Surya P Bhatt, Anant Mohan et al (2012)**<sup>9</sup> regarding assessment of awareness, and attitude towards tuberculosis of health providers at Gurgaon that revealed that only 58% physicians had heard of the Revised National Tuberculosis Control Programme (RNTCP).

Statistically significant difference in mean scores observed between doctors posted in different districts with AYUSH doctors of Dungarpur leading the list probable reason for this difference is that experience of AYUSH doctors on present post as well as past experience also follows the same descending order. Comparison of mean knowledge scores of AYUSH doctors with different work experience under NRHM showed

that there is statistically significant difference and as the experience in months increasing, mean knowledge score also increasing. This finding showed the positive impact of experience on the present post on knowledge of AYUSH doctors. Comparison of mean knowledge scores of AYUSH doctors attending certain trainings with those not attending them respectively showed that difference in mean scores found to be statistically significant only in case of SBA training.

Majority of AYUSH doctors found to be involved in various health care activities. Similar findings observed in a survey done by Ritu Priya and Shweta A.S (2010)<sup>10</sup> reveal that in Manipur and Orissa, at PHCs AYUSH doctors are conducting deliveries. Similarly NRHM PIP 2011-12 of Chattisgarh<sup>11</sup> revealed that AYUSH doctors play critical role in the delivery of essential health care services.

### CONCLUSION:

Although evaluation studies are not meant to be prescriptive and so making stringent suggestions is to be refrained but as this study was planned after seven years of execution of NRHM and the findings have been an eye opener so this lead us to recommend us that in order to effectively address the issues of public health there is need of enhancement and updating of knowledge of AYUSH doctor specially on the topics like management of neonatal and childhood illness and various national health programme. Already covered training topics need refresher trainings and upgradation of the contents of training programme. There is no clarity on basic rules for managing an integrated facility. Clear guidelines should be formulated and made available regarding prescription of allopathic medicines by AYUSH doctor in certain conditions at collocated facility.

### REFERENCES:

1. NRHM, Ministry of Health and Family Welfare, Govt of India. Available from: <http://www.mohfw.nic.in>. Accessed 18<sup>th</sup> January, 2013
2. K. Chopra, T. Mathiyazhagan. Delivery of health care services through indigenous system of medicine in Gwalior district of Madhya Pradesh. *Health and Population- Perspectives and Issues* 1997; 20(4):173-183
3. Public Health Foundation Of India. Krishna D Rao et al. Which Doctor For Primary Health Care? An Assessment Of Primary Health Care Providers In Chhattisgarh, India:PHFI; June 2010.
4. Mainstreaming AYUSH & Revitalizing Local Health Traditions UNDER NRHM. An appraisal of the annual state programme implementation plans, 2007-10 and mapping of technical assistance needs. NHRM 2009; 3-30.
5. NRHM Manipur progress report 2011. Available from: [www.nrhmanipur.org](http://www.nrhmanipur.org). Accessed 20<sup>th</sup> January, 2013
6. PIP of NRHM Rajasthan 2011-12. Available from: <http://www.nrhmrj.nic.in>. Accessed 18<sup>th</sup> January, 2013
7. Deokinandan, SS Kushwaha et al. A study for assessing birth preparedness and complication readiness intervention in Rewa district of Madhya Pradesh. *Department of Community Medicine, Rewa and NIHFWS*, 2008; 32-33.
8. Kaushik Lodhiya K et al. Assessment of quality of immunization services provided by health workers in rural areas of Gujarat, India. *Journal of Pharmaceutical and Biomedical Sciences (JPBMS)*. 2012; 15(06):2-3.
9. Surya P Bhatt, Anant Mohan et al. Lack of awareness, and attitude towards tuberculosis of health providers outside the ambit of DOTS centres. *Indian Journal of Medical Specialities (IJMS)*. 2012. Available from: <http://dx.doi.org/10.7713/ijms.2012.0031>.
10. Ritu Priya, Shweta A.S. Status & role of ayush & local health traditions under the national rural health mission. NHRM:2010.
11. PIP of NRHM Chattisgarh 2011-12. Available from: [www.nrhmn.nic.in](http://www.nrhmn.nic.in). Accessed 18<sup>th</sup> January, 2013