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## IMPACT EVALUATION OF AYURVEDA OUTREACH CLINIC FOR THE MANAGEMENT OF NON-COMMUNICABLE DISEASES PROGRAM IN NEPAL

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### ABSTRACT

Department of Ayurveda and Alternative Medicine (DOAA), one of the departments of the Ministry of Health and Population (MOHP), manages Ayurveda and alternative medicine services and promotes health through Ayurveda health institutions across the country. The department also carries out planning, programming, coordination, supervision, and monitoring of Ayurveda service programs. Ayurveda Outreach Clinic for the management of non-communicable diseases (NCDs) is a major program which focuses on the preventive aspect of health care and aims to develop and promote a healthy lifestyle in people and tries to prevent and manage NCDs. This program is being delivered from Ayurveda hospitals, Ayurveda health centres, and outreach clinics (ORC). The key activities are to provide Ayurveda health services to the unreached population. General health check-up and medicine distribution were the main activities of the ORC. The ORC mainly served elderly women and poor people. High blood pressure, gastritis, asthma, osteoarthritis, rheumatoid arthritis, gouty arthritis, and constipation were the chief health complaints of the people. The activities of the program are relevant to bring notable changes in the community as people who visit the ORC site are being informed about the health

and Ayurveda and are also receiving quality services. Provision of *Snehana* and *Swedana* in some places has increased the utilization of the health services and the activities of the program have been performed effectively to bring the desired result to prevent and manage the NCDs.

**Keywords:** Ayurveda, outreach clinic, lifestyle disorder, NCDs, prevention

## INTRODUCTION

Ayurveda practices holistic principles primarily focused on personalized health (Patwardhan, 2014). Ayurveda is commonly referred to as the “science of life”. It is the ancient and traditional but extensively practised and recognised health care system in Nepal. Nepal Ayurveda Health Policy 2052 has emphasized on development of Ayurveda health services and its infrastructure and drug production (Ayurveda Health Policy, 2052). The holistic concepts of Ayurveda emphasize health promotion, disease prevention, early diagnosis, and personalized treatment (Patwardhan, 2010). Nepal had a high prevalence of communicable diseases a few decades ago; now has higher age-standardized death rates and disability-adjusted life years from NCDs than communicable diseases (CDs) (WHO, World Health Statistics 2010). In Nepal, NCDs account for more than 44 % of deaths and 80 % of outpatient contacts. Chronic obstructive pulmonary diseases are the most common non-communicable diseases (NCDs) among outpatients followed by cardiovascular disease, diabetes mellitus, and cancer (Bhandari *et al.*, 2014). Studies also have reported a higher level of alcohol and tobacco use in Nepal (Aryal *et al.*, 2015). Urbanization, behavioural changes and improvements in prevention of maternal and child health to raise life expectancy are factors contributing to shift disease patterns (Mishra *et al.*, 2015). The Department of Ayurveda and Alternative Medicine (DOAA), one of the departments of the Ministry of Health and Population (MOHP), manages Ayurveda and alternative medicine services and promotes health through Ayurveda health institutions across the country. The department carries out planning, programming, coordination, supervision, and monitoring of Ayurveda service programs. The government has been delivering Ayurveda health services through one central Ayurveda hospital, two Ayurveda teaching hospitals, one National Ayurveda research and training centre, three provincial Ayurveda hospitals, 77 district Ayurveda health centres, 305 Ayurveda dispensaries and Nagarik Aarogya Kendra established across the country (Department of Health Services). The DOAA has been providing curative, preventive, and promotive health services. Yoga, *Panchakarma*, lifestyle management

and awareness program, maternal and child health program (lactating mother and child care), health promotion program for senior citizens, rural outreach clinic and management of NCDs, school health program, awareness program for local people on locally available medicinal plants, and free health camp in 75 districts are the major programs of the DOAA.

Ayurveda offers detailed guidance about food, nutrition and diet as per the individual constitution or *Prakriti* as well as seasons (Tachaparamban, 2014). Ayurveda provides valid and practical instruments for managing and coping with stress and lifestyle disorders (Basler, 2011). In Ayurveda, the concept of public health, even encompassing all ages, focuses primarily on the individual capability of healthy aging intended as completely fulfilling one's life (Morandi *et al.*, 2011). Promoting universal health coverage by integrating traditional & complementary medicine (T&CM) services and self-health care into national health systems is one of the strategic objectives of the WHO Traditional Medicine Strategy 2014-2023 (WHO Traditional Medicine Strategy, 2014-2023). There are registered 565 Ayurveda, 75 Homeopathy, 48 Naturopathy, 52 Acupuncture, 11 Aamchi, 1 Unani services centres system of medicine and other many unregistered but practiced in families or local healing tradition in Nepal (Dhimal *et al.*, 2018). With limited access to health care centre and increasing burden of the diseases, the rural outreach clinic (ORC) for management of NCDs program was started by the DOAA. Outreach clinic for management of NCDs, is a major program which focuses on the preventive aspect of health care and aims to develop and promotes a healthy lifestyle in people and tries to manage the incidence and prevalence of non-communicable diseases. The aim of this program was to increase the awareness and accessibility of general people of the rural and urban areas to Ayurveda health services to manage the non-communicable diseases. The key activities are to provide the Ayurveda health services to the unreached population, procurement and distribution of medicines and distribution of *information, education and communication (IEC)* materials related to awareness program on prevention and control measures of NCDs. The provisions of counselling session to people on risk factors for NCDs are also the activities in the ORC program.

#### **OBJECTIVE OF THE STUDY**

- To evaluate the relevancy of program interventions.
- To assess the effectiveness and analyze the impact of the program.

### Key Research Questions

How were the program's activities relevant to bring changes?

Which activities among the program interventions were more effective and useful?

### MATERIAL AND METHODS

We adopted a cross-sectional study design and the nature of this study was both qualitative and quantitative. To ensure representativeness in terms of 3 ecological zones and 7 provinces, 7 districts were purposively selected. The participants for this study were heads of zonal *Ayurveda* hospitals/district *Ayurveda* health centre, heads of *Ayurveda* dispensaries/ other health workers, members of health/school management committees, principals/teachers, chairpersons/mayors of rural/urban municipalities and wards, students, female community health volunteer (FCHVs) and service beneficiaries (community people). The key informant's interviews (KIIs) and focus group discussions (FGDs) were conducted using pre-developed KII guidelines and FGD guidelines. For a selection of the area and participants for KII and FGDs the *Ayurveda* health institution and its coverage ORC site were taken as sampling units for randomization. A list of the *Ayurveda* health institution and their coverage ORC was prepared for the selected districts. The study site and ORC were randomly selected for each district. For this study, we conducted total 14 FGDs and 28 KIIs (details table 1).

**Table 1**

#### *Summary of Participants for the Study*

Informants	Method	Taplejung	Bara	Bhaktapur	Mustang	Dang	Mugu	Kanchanpur
Head- <i>Ayurveda</i> centre	KII	1	1	1	1	1	1	1
Health workers	KII	1	1	1	1	1	1	1
Principal/ Teacher	KII	1	1	1	1	1	1	1
Chairperson/ Mayor	KII	1	1	1	1	1	1	1
Community people	FGD	1	1	1	1	1	1	1
Students	FGD	1	1	1	1	1	1	1

For quantitative data, secondary data of the selected ORC was collected from the ORC registers. The information on the number of ORCs conducted in past 4 fiscal years, the number of people reached through

the ORC clinic and types of NCD treated were collected through a semi-structured template (form).

### **Training of Field Researchers**

For the data collection, enumerators with sound knowledge of Ayurveda and the local language were hired for each district. The hired enumerators were oriented on the tools and techniques for data collection and recording the information in the recorder.

### **Data Collection Tools and Techniques**

Key informants interview (KII) and Focus group discussion (FGD) techniques were used for primary data collection of the study. For the secondary data, the institutional data form was developed and used to record the data on people with NCDs.

### **Data Management**

The qualitative data were collected through the recorder with a unique ID. The recorded information was transcribed in the language of response and was translated into English. The quantitative data collected was entered in Excel.

### **Analysis Method**

The qualitative data were analyzed in a thematic aspect based on the objectives and research question of the study. For analysis of qualitative data free listing of narrative responses, domain formation, code application, and data summarization steps were undertaken using Nvivo software. Whereas, for the quantitative data, descriptive analysis will be done using Excel. The quantitative data (secondary) were entered in Microsoft Excel and analyzed descriptively.

### **Ethical Consideration**

During and after the period of study ethical integrity was maintained. For this, the anonymity of respondents and responses was maintained throughout the survey and after the completion of the survey as well. Informed consent was taken before the collection of the data and information, participants were asked to sign the approval sheet (informed consent forms) before the interview.

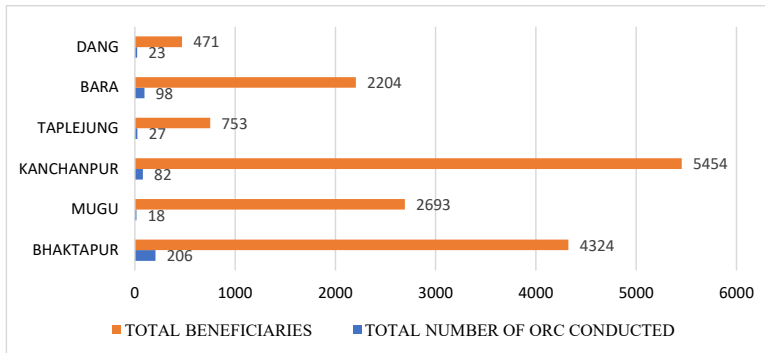
## **RESULTS AND DISCUSSION**

The quantitative (secondary) data analysis of Mustang district couldn't be included as the exact details of the ORCs and beneficiaries

couldn't be figured from the records of the Ayurveda centres. Only qualitative data of Mustang obtained from KIIs and FGDs were analyzed to draw the results. Figure 1 shows the cumulative number of ORCs conducted vs. beneficiaries reached in the period of FY2072/73 to 75/76.

**Figure 1**

*Number of ORCs Conducted in FY2072/73 to 75/76 Vs Number of Beneficiaries Reached*

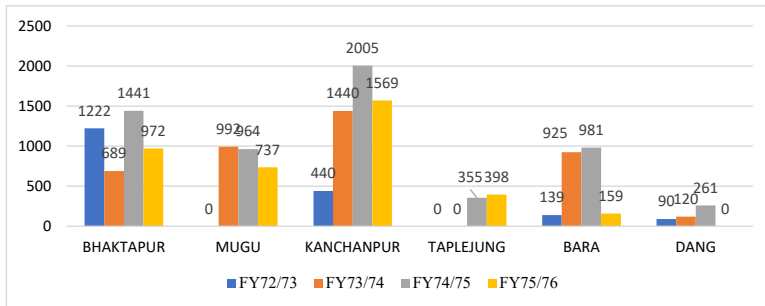


Kanchanpur district conducted a total of 82 ORCs and reached the highest beneficiaries (5454), whereas Bhaktapur conducted the highest 206 ORCs and reached 4324 beneficiaries. Least ORCs were conducted in Mugu (18) and the least beneficiaries reached were in Dang (471).

While looking at the yearly trend (Figure 2) increasing number of the beneficiaries are seen in later years.

**Figure 2**

*Beneficiaries Reached in Each Fiscal Year*



Kanchanpur reached the highest beneficiaries (2005) in Fiscal Year 74/75 and the least (440) in fiscal year 2072/73.

### **Information of Program**

The majority of the participants were not aware of the outreach clinic for the management of the NCD programme. Those people who did not know about the outreach clinic for the management of the NCD programme were students and local leaders. Due to a lack of information, they did not participate in the outreach clinic for the management of the NCDs programme. Those who knew about the program, their sources of information were staff of the Ayurveda health centre and students. These people sent their family members to the programs. As per the information given by the community people, the main services being provided through the outreach clinic were health check-ups and medicine distribution. In most of the districts the two ORCs per month were being conducted in an interval of 15 days but in some districts only one ORC is being conducted. On average one ORC served about 70 persons, and among those who visited the program majority were women and people over 40 years of age and socio-economically weak. Although there are various non-communicable diseases like cancer, diabetes, stroke, cardiovascular diseases, chronic respiratory diseases, obesity, mental disorders, skin diseases like psoriasis, Alzheimer's disease, and many others but the main health complaints shown by the people visiting the ORC are high blood pressure, gastritis, asthma, osteoarthritis, rheumatoid arthritis, gouty arthritis, and constipation.

### **Relevancy of the Program**

The activities of the program were relevant to bring notable changes in the communities as people were being informed about health and Ayurveda and were receiving effective treatment, people were also receiving the counselling from the health workers and also people from the remote areas were being benefitted. The program helps to change the knowledge and awareness level of people and helps to change their perspective about Ayurveda health services.

*KII Mayor: This program helps to change the knowledge and awareness level of people and helps to change their perspective about the Ayurveda health services that is why the activities are relevant as the objective of the program is also to change the level of knowledge of people.*

*FGD Community: Yes, these activities are relevant. I have notices, changes, people who took medicine for joint pain from the ORCs have admitted that their pain is relieved now.*

*KII\_School Teacher: The activities of this program are relevant as people cannot come to the centre from remote areas. The ORCs are planned to be conducted in such remote areas to cover those people.*

*KII\_Principal: Previously people didn't know about the Ayurveda office and its services. But now, due to the ORCs, people are aware of the office, they know that free medicines are available from the Aausadhalaya. Now people are visiting the Ayurveda Aausadhalya and the ORC as well.*

In some places, it is found that the program is not being implemented in the appropriate time and required number. The implementation of the program has been affected due to the unavailability of staff and budget. Whereas in some districts, the activities of the program were conducted as per the norm of the guideline.

*KII Head: The program activities are implemented appropriate time but less than the required task and target which can produce significant change. But as per the guidelines, the program activities being conducted are up to the required task and target.*

*KII\_Health Worker: We are not being able to conduct this program in a timely manner. Sometimes the programs are delayed due to unavailability of medicine and management of medicines. From the month of Ashoj to Magh, due to extreme cold people tend to shift their habitat towards the lower belt, and before this period there is no release of budget and necessary medicine which has affected the timeliness and effectiveness of the program.*

### **Effectiveness**

All people believe that Ayurveda medicines have no side effects; therefore, the program is suitable for the management of NCDs. Many people cannot travel to health centre due to their age and conditions; this program has facilitated those people to access medicines to manage NCDs. In other hand some expressed the effectiveness also depends upon the availability of resources, medicine and regularity. The provision of *Snehana* (Ayurveda massage) and *Swedana* (fomentation) in some places has increased the number of beneficiaries reaching the ORC site.

*FGD\_Community: Yes the program is effective, as people are here all the time and they do not get a chance to get updated about their health status, when there is an ORC in their own community, they get a chance to do their health check-ups and be updated on their health status.*



Activities being conducted are appropriate, as this program focuses on reaching those people who do not visit health facilities very often. The experience of studies demonstrates high rates of facility and community follow-up in integrated primary care intervention (Kumar *et al.*, 2019). The ORCs provide the very primary care from Ayurveda perspectives. Many participants stated that there is no such underperforming activity in the program. Some pointed out that medicine distribution was stated as the underperforming activity of the program, as there was inadequacy of medicine during the ORC and people did not get the medicine in an appropriate amount. Provision and *Snehana* and *Swedana* were most effective along with the general health check-up and counselling. As people come to the site for the general check-up. People also admitted that all programs were equally effective.

### **Impact**

There is a notable increase in the number of people visiting the ORCs, the possible reasons for this were free-of-cost medicine and check-up, regularity of the services being provided, and effective drugs. This ORC has also helped in increasing the flow of patients in the Ayurveda health centre. The people who seek the health treatment in the ORCs are coming for follow-up in health centre for more medicine and check-ups. Inadequate access to healthcare services can increase the likelihood of diseases like diabetes (Rawal *et al.*, 2023). ORCs being conducted in remote areas can be helpful in screening the vulnerable population. The implementation aspect of the many policies in Nepal regarding NCDs remains weak (Shrestha *et al.*, 2022). Engaging Community health workers can provide good impact on NCDs prevention as suggested by previous study (Rawal *et al.*, 2020). Immediate impacts seen due to the program: a raised level of awareness among the community people about Ayurveda, change in the thinking about the Ayurveda health services, effective treatment of gastritis, asthma and arthritis. If there was sufficient medicine, then medicine distribution would have been better. ORC has been an act of advocacy and advertisement of the health services being provided at the Ayurveda health centres. The program seems to be in line with goals and objectives. The people visiting ORC are following advice and also making some behavioural changes for NCD prevention and opting for Ayurveda for chronic pain management. The program intervention is effective and useful. The number of beneficiaries with healthy life-styles and recipient of Ayurveda health services have

increased indicating the positive impact of the reduction and management of NCDs.

## **CONCLUSION**

General health check-ups, lifestyle counselling and medicine distribution were the main activities of the Ayurveda outreach clinic. The ORC mainly served the elderly, women, and poor people. The activities of the program are relevant to bring notable changes in the community as people who visit the ORC site are being informed about health and Ayurveda and are also receiving quality services. The activities of the programs have raised the level of awareness among community people about Ayurveda and non-communicable diseases helping in the prevention of NCDs. The change in the perception of Ayurveda health services and the effective treatment of various diseases was the immediate impact of the program which ultimately strengthened the service delivery of the Ayurveda health centre.

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