Review Article

ASHAs in rural India, the ray of hope for diabetes care

Bharathi R. Bhatt

Novo Nordisk India Private Ltd., Whitefield, Bangalore, Karnataka, India

ABSTRACT

Out of 1.21 billion population of India, 69% of them live in rural areas. There is a wide disparity in the distribution of health infrastructure and services in rural areas as compared to that of urban areas. The National Rural Health Mission (NRHM) launched in 2005, aimed to bridge this gap has introduced Accredited Social Health Activists (ASHAs), as health activists into the rural health care. ASHA is an acronym for Accredited Social Health Activists and she has been so far instrumental in facilitating institutionalised delivery, child immunisation, ensuring family planning, besides organising village nutrition day. She has been the vital link between the community and the health care. India, as a nation that is progressing is trying to combat communicable diseases significantly but it is also witnessing the surfacing of a different problem. There is an increasing prevalence of non-communicable diseases (NCDs), including diabetes which poses a big economic burden so much so that NCDs have been labelled as 'a health and developmental emergency'. Diabetes competes with other health concerns in a struggle to secure government health funding. In this resource-limited context, innovative methods are required to reach out to people at grass root levels. ASHA, which means *hope* in Sanskrit, can be true to her name in providing increased access to diabetes care to the rural population, if adequately trained and empowered. A multi-stakeholder approach through a public-private-people partnership (PPPP) is needed to tackle the issue with this kind of magnitude. The current review focuses on providing suggestions on utilising ASHAs' services in spreading awareness on diabetes and ensuring that people with diabetes (PWD) receive optimal diabetes care.

Key words: Accredited Social Health Activists, Diabetes care, Healthcare disparity, Increasing burden of non-communicable diseases, National Rural Health Mission, Public-private-people partnership

INTRODUCTION

As India completes 66 years of independence, it has also witnessed remarkable progress in the health status of its population. However, over the past few decades, there have been major transitions in the country that have serious impact on health. Changes have been observed in economic development, nutritional status, fertility and mortality rates and consequently, the disease profile has changed considerably. Though there have been substantial achievements in controlling communicable diseases, still they contribute significantly to disease burden of the country. Decline in morbidity and mortality from communicable diseases has been accompanied by a gradual shift to and accelerated rise in the prevalence of, chronic non- communicable diseases (NCDs) such as diabetes. Researchers and policy makers around the world have been increasingly recognizing NCDs as a health and developmental emergency. NCDs are the leading cause of death in the South-East Asia Region, killing 7.9 million annually (55% of the total deaths in the Region). NCD deaths in region are expected to increase by 21% over the next decade.[1]

Access this article online	
Quick Response Code:	Website: www.joshd.net
	DOI: 10.4103/2321-0656.120261

NCDs AS NEW PUBLIC HEALTH CHALLENGE IN INDIA

These NCDs — which many people don't even realize they have — add to India's already substantial health burden from infectious diseases and injuries. The NCDs are costly in terms of both human suffering and economics.

A study by David Bloom and Elizabeth Cafiero, both of Harvard School of Public Health (HSPH), in conjunction

Corresponding Author: Dr. Bharathi R. Bhatt, Novo Nordisk India Private Ltd., Plot No. 32,47-50, EPIP Area, Whitefield, Bangalore – 560 66, Karnataka, India. E-mail: bhtr@novonordisk.com

with the World Economic Forum, indicates that these diseases will cost India 126 trillion rupees (roughly 2.3 trillion U.S. dollars) from now through 2030 — an amount that is 1.5 times India's annual aggregate income and almost 35 times India's total annual health spending.

"Through a judicious blend of technological innovation to generate new knowledge, institutional innovation to promote the efficiency and equity of health provision and public finance and increased funding to close knowledge-action gaps, India will be able to ameliorate the human and economic fury of NCDs," wrote Bloom, Clarence James Gamble Professor of Economics and Demography, and Cafiero, research analyst in the Department of Global Health and Population, in a November 7, 2012 World Economic Forum blog. "One thing is clear: when it comes to NCDs, inaction is not an option."[2]

Non-communicable diseases in India accounted for an estimated 53% majority of all mortality in 2008. The most prevalent NCDs in India are cardiovascular diseases, which accounted for 24% of total deaths across all age groups in 2008. Non-communicable variants of respiratory diseases, cancers and diabetes contributed 11%, 6% and 2% to total mortality respectively (2008).[3]

The current review focuses on how diabetes mellitus, one of the NCDs can be tackled optimally in resource limited grass-root levels of India.

The prevalence of diabetes is increasing worldwide, more so in the low and middle income countries. An estimated 80%, of people with diabetes in the world, are known to live in these countries. Due to increasing prevalence of diabetes and limited healthcare infrastructure in low income countries, the mortality burden (1.10 deaths/1,000 people) is almost double than that of high-income countries (0.50 deaths/1,000 people).[4]

The real burden of diabetes is due to complications which lead to increased morbidity and mortality.[5] In people with diabetes, the median expenditure on healthcare in rural and urban areas of India is INR 6,260 (USD 142) and INR 10,000 (USD 227) respectively, with urban poor spending one third (34%) and rural poor, one fourth (27%) of their income on diabetes care.[6] In India, where an average rural household spends 75% of its annual income on food, beverages and only 2-3% on housing and health, the costs of diabetes care and its complications carry greater burden on medical treatment. Besides, healthcare expenditure on secondary complications cause large economic burden in the form of lost income and foregone daily needs for population with low income. In a majority of the population living in low income settings, where meagre earnings barely cover nutritional expenses, additional unplanned expenditure can be expected to be met by raising loans, selling assets and other means which lead to further impoverishment in an already precarious economic setting.[7] These people have low awareness of diabetes and its care process and hence, are less likely to engage in interventions based on healthier lifestyles. Thus; fall in the vicious circle of the health impact and economic burden of diabetes reinforcing each other.[8]

Diabetes competes with other health concerns in a struggle to secure government health funding. In this resource-limited context, innovative methods are required to reach out to people at grass root levels.

Also that, issues like NCDs cannot be handled by a single sector like, the government and this has paved way to an era of public-private -people partnerships [PPPP] with other stakeholders like, NGOs, international organisations, pharmaceutical industries and patient organisations. This kind of shared commitment of combatting NCDs ensures achievement of greater progress together than alone. The government can provide the infrastructural framework and other stakeholders can play a fundamental role in increasing awareness and health literacy, empowering local health care providers, improving early detection and facilitating implementation of prevention and control programs.

Increasingly, Government is making an effort to address NCDs and in particular diabetes, but growing awareness of its challenge of pandemic proportions and its socio-economic impact is far from satisfactory.

The National Rural Health Mission (NRHM, 2005-12) seeks to provide effective healthcare to rural population throughout the country with special focus on 18 states, which have weak public health indicators and/or weak infrastructure. These 18 States are Arunachal Pradesh, Assam, Bihar, Chhattisgarh, Himachal Pradesh, Jharkhand, Jammu and Kashmir, Manipur, Mizoram, Meghalaya, Madhya Pradesh, Nagaland, Orissa, Rajasthan, Sikkim, Tripura, Uttarakhand and Uttar Pradesh. The Mission is an articulation of the commitment of the Government to increase public spending on health from 0.9% of GDP to 2-3% of GDP.[9]

As on March, 2012, there were 148366 Sub Centres, 24049 Primary Health Centres (PHCs) and 4833 Community Health Centres (CHCs) functioning in the country [Figure 1].

Accredited Social Health Activists Currently in NRHM

One of the key components of the NRHM is to provide every village in the country with a trained female community health activist, ASHA or Accredited Social Health Activist. Selected from the village itself and accountable to it, the ASHA will be trained to work as an interface between the community and the public health system. Following are the key components of ASHA:

- ASHA must primarily be a woman resident of the village married/widowed/divorced, preferably in the age group of 25 to 45 years.
- She should be a literate woman with formal education up to class eight. This may be relaxed only if no suitable person with this qualification is available.
- ASHA will be chosen through a rigorous process of selection involving various community groups, self-help groups, Anganwadi Institutions, the Block Nodal officer, District Nodal officer, the village Health Committee and the Gram Sabha.
- Capacity building of ASHA is being seen as a continuous process. ASHA will have to undergo series of training episodes to acquire the necessary knowledge, skills and confidence for performing her spelled out roles.
- The ASHAs will receive performance-based incentives for promoting universal immunization, referral and escort services for Reproductive and Child Health (RCH) and other healthcare programmes, and construction of household toilets.
- Empowered with knowledge and a drug-kit to deliver first-contact healthcare, every ASHA is expected to be a fountainhead of community participation in public health programmes in her village.
- ASHA will be the first port of call for any health related demands of deprived sections of the population, especially women and children, who find it difficult to access health services.
- ASHA will be a health activist in the community who will create awareness on health and its social determinants and mobilise the community towards local health planning and increased utilisation and accountability of the existing health services.
- She would be a promoter of good health practices and will also provide a minimum package of curative care as appropriate and feasible for that level and make timely referrals.
- ASHA will provide information to the community on determinants of health such as nutrition, basic sanitation and hygienic practices, healthy living and working conditions, information on existing health services and the need for timely utilisation of health and family welfare services.
- She will counsel women on birth preparedness, importance of safe delivery, breast-feeding and complementary feeding, immunization, contraception and prevention of common infections including Reproductive Tract Infection/Sexually Transmitted Infections (RTIs/STIs) and care of the young child.
- ASHA will mobilise the community and facilitate them in accessing health and health related services available at the Anganwadi/sub-centre/primary health centers, such as immunisation, Ante Natal Check-up (ANC), Post Natal Check-up supplementary nutrition, sanitation and other services being provided by the government.
- She will act as a depot older for essential provisions being made available to all habitations like Oral Rehydration Therapy (ORS), Iron Folic Acid Tablet (IFA), chloroquine, Disposable Delivery Kits (DDK), Oral Pills and Condoms, etc.
- At the village level it is recognised that ASHA cannot function without adequate institutional support. Women's committees (like self-help groups or women's health committees); village Health and Sanitation Committee of the Gram Panchayat, peripheral health workers especially ANMs and Anganwadi workers, and the trainers of ASHA and in-service periodic training would be a major source of support to ASHA.

Coverage of Rural Health Infrastructure (As on March 2012)

- Average Rural Population covered by health facility (based on provisional figures of rural population from 2011 Population Census):

	Norms	Present Status
Sub Centre	3000- 5000	5615
Primary Health Centre (PHC)	20000-30000	34641
Community Health Centre (CHC)	80000-120000	172375

- Average Rural Area (Sq. Km) covered by

Sub Centre	21.02
Primary Health Centre (PHC)	129.66
Community Health Centre (CHC)	645.21

- Average Radial Distance (Kms) covered by

Sub Centre	2.59
Primary Health Centre (PHC)	6.42
Community Health Centre (CHC)	14.33

- Average Number of Villages covered by

Sub Centre	4
Primary Health Centre (PHC)	27
Community Health Centre (CHC)	133

Figure 1: Indicates the coverage of rural health infrastructure as on March 2012

Support Mechanism for ASHA

- One of the key strategies under the National Rural Health Mission (NRHM) is having a Community Health Worker i.e. ASHA (Accredited Social Health Activist) for every village with a population of 1000.
- The above said guidelines also clearly bring out the role of ASHA vis-a-vis that of Anganwadi Worker (AWW) and the Auxiliary Nurse Midwives (ANM). The 18 states where ASHA scheme is presently in place can select ASHAs in urban areas also as link workers.
- The reports received from the States indicate that over 1, 20,000 ASHAs have been selected in the year 2005-06 and that they are being provided with orientation training as envisaged in the guidelines issued on ASHA as shown in Table 1.
- A proper support mechanism for ASHA has been set up by the States to provide guidance and advise on matter relating to selection, training and support for ASHA in terms of familiarising her with the village.
- Beside ASHA is also involved in assisting the paramedical staff in maintaining and updating the village health register, organising village health and nutrition day and co-ordinating with self- help groups.
- ASHAs are incentivised through payments under various schemes that she is a part of and also her kits are replenished during the monthly meetings at the PHC.

To summarise currently the profile of ASHA is as below

- Every village/large habitation will have a female Accredited Social Health Activist (ASHA)-chosen by and accountable to the panchayat- to act as the interface between the community and the public health system.
- She is an honorary volunteer, receiving performance-based compensation for promoting universal immunization, referral and escort services for RCH, construction of household toilets, and other healthcare delivery programmes.

Table 1: No. of ASHAs / link workers selected during (including ASHAs in tribal areas in Non-High Focus States)

Year	No. of ASHAs / Link workers
2005-06	130313
2006-07	300550
2007-08	171327
2008-09	104298
2009-10	93403
2010-11	47820
2011-12	16608
2012-13	21472
Total	885791

- She is being trained on pedagogy of public health developed and mentored through a Standing Mentoring Group at National level incorporating best practices and implemented through active involvement of community health resource organizations.
- She has been promoted all over the country, with special emphasis on the 18 high focus States. The Government of India is bearing the cost of training, incentives and medical kits. The remaining components are being funded under financial envelope given to the States under the programme.
- She has been given a Drug Kit containing generic AYUSH and allopathic formulations for common ailments. The drug kits would be replenished from time to time.
- Induction training of ASHA is for 23 days in all, spread over 12 months. On the job training continues throughout the year.

NRHM which is promoting access to improved healthcare at household level through the female health activist (ASHA) is well positioned to take NCD care particularly diabetes care through the same change agent.[10]

Public health interventions are of two types

- Educational intervention by fostering behavioural changes in individual and community.
- Policy intervention enabling environment financial-social — physical.

Integrated NCDs in medical colleges/district hospitals are well mooted policy changes

Awareness and knowledge regarding diabetes is still grossly inadequate in India. Massive diabetes education programmes are urgently needed both in urban and rural India.[11]

The current article aims at increasing awareness of prevention, management and control of diabetes through judicious use of human staff force in a resource limited area.

The first step in formulating any strategy for diabetes management is to create awareness of diabetes and its care process in the population living at grass-root levels. Diabetes, a lifestyle disease requires the person to self-manage many aspects in daily activities such as exercise, diet and medication.[12] Awareness programs targeted at non-pharmacological lifestyle interventions to community people living in a resource-poor village in India have showed improvement in glycemic status and obesity parameters.[13] Focusing such awareness programs on school children

can have a major impact on prevention or delay the onset of complications. Children should be encouraged to understand that although urban areas may be resource-rich, they have a larger burden of obesity and other lifestyle diseases and therefore lifestyle modification is essential.

Accessibility of awareness programs should be ensured to all people with diabetes, taking account of culture, ethnicity, psychosocial, and disability issues. Awareness programs should be organised in local languages and should be devoid of any medical jargon.

Awareness should be created about health insurance schemes such as the Rashtriya Swasthya Bima Yojana, launched by the Indian government for people with limited access to regular health services.

The existing Accredited Social Health Activists (ASHA) work force[14] should be trained on laboratory and on-field tests for diagnosis of diabetes and counsel patients about diet, exercise, regular monitoring of blood glucose and compliance with diabetic medication including insulin. Such an approach will benefit from their wide acceptability and accessibility, which should be further augmented by increasing their headcount. ASHA can play a significant role in increasing awareness on diabetes within the community.

The skills of diabetes management can be mastered over a period of time and when they are put to practice

ASHA can play an important role in the below mentioned areas of diabetes care

- Conducting awareness-raising campaigns on diabetes, generally to prevent the onset of diabetes and its complications.
- Identifying cases of diabetes within the community and referring them to diabetes care facilities (targeted screening).
- Blood glucose monitoring. Point-of-care testing that generates a diagnosis in real time without the need for a laboratory is a particularly exciting approach in detecting asymptomatic diseases early and monitoring for complications.
- Motivating expectant mothers for blood glucose testing as a part of their antenatal care.
- Diet and exercise counselling for people with diabetes (PWD).
- Checking on compliance with diet, exercise, medication and blood glucose monitoring and thereby motivating and supporting PWD to achieve better glycemic control.
- Allaying fears and misconceptions in PWD requiring insulin injections.
- Educating on proper storage conditions for insulin vials.
- Encouraging regular follow-ups to clinics.
- Early detection of PWD with complications and their referrals — like PWD with foot ulcers/ blurred vision/ tingling of nerves etc.
- Providing simple tips for foot care in PWD.
- Identifying symptoms of hypoglycaemia and management of mild hypoglycaemia.
- Conducting self- help groups for PWD which fosters better psycho-social network.
- Identifying herself as a key person in the team providing diabetes care.

Stakeholders from the pharmaceutical industry can build the capacity of ASHA by investing on her training and providing the glucometers and ancillaries at a subsidised price in order. ASHA can offer some of the above mentioned services like blood glucose monitoring for a nominal price that is in agreement with all the other stakeholders. This allows ASHA to generate her own incentives and will also help in terms of achieving sustainability of the outreach diabetes care program as an intended outcome.

Profiling of ASHA for Diabetes Care

The below mentioned can be considered while selecting ASHA for propagating diabetes care, but are not limited to

- must have secondary level education (i.e., more than seven years of School).
- must have motivation to serve the community.
- must have some entrepreneurship skills.
- ASHA living with diabetes or a close family member diagnosed with diabetes.
- must participate in the diabetes training program and must have scored more than 90% in the post test.
- must be able to give regular feedback about her activity progress to the designated person.
- must be able to allocate time for diabetes care along with her routine activities.
- must identify herself as a key person in the team providing diabetes care.

Training of the ASHAs

The curriculum for diabetes care can be divided into modules covering topics that include introduction on diabetes and its types, risk factors, complications, nutrition, physical activity, use of the glucose meter and medications, building partnerships with a diabetes health care team, psychosocial effects of illness, problem-solving strategies.

Pre-test and post-test can be self-administered to a small group of participants, post-test score of 90% and over can resulted in certification as 'Lay Diabetes Facilitator'. ASHA in the role of lay diabetes facilitators can prove to be one of the promising solutions in a country that has absolute dearth for trained diabetes educators.

When ASHAs are empowered with adequate knowledge and skills, complimented by government backing their acceptability and credibility also will be reinforced in the community.

By doing so, diabetes care can also be ensured within the close proximity of people at grass-root levels. Primary care, as the level of care provision closest to the patient and the community and focused on the whole patient rather than a single organ or disease, has a starring role in the fight against NCDs.[15]

Through collective engagement of the community, participatory programs can serve as a prototype for future prevention and management efforts, which are rare and underutilized in India.[16]

This way of enhancing the reach for diabetes care with a gamut of outreach tools and innovative means of resource generation will rapidly alter the landscape of actors and potential partners relevant in multi-sectoral action towards achieving NCD prevention and management goals.

Advantages of PPPP in Diabetes Care

- Decentralising diabetes care.

Taking diabetes care to the grass-root levels through its existing resources and thereby the scope of this could be extended to other NCDs in future

- Community empowerment.

It is more than the involvement, participation or engagement of communities. It implies community ownership and action that explicitly aims at social and behavioural change.

- Empowerment of women.

ASHA can act as local change agents, role models and mentors. It also builds their self-esteem, self-confidence and leadership qualities in a gender biased setting. This can also create more employment opportunities and enable ASHAs to earn their own income, and at the same time gain respect, credibility and acceptance in the community. The initiative if driven by the state government, can also earn the ASHAs, the respect of being a part of 'government project' which can be sustainable and scalable.

Summary

Health is a fundamental human right and our government is facing the dual burden of increasing health care costs not only due to communicable diseases but also due to non-communicable diseases like diabetes.

There has been an increasing demand to strengthen the efforts of government through various collaborative efforts with other stakeholders and public-private -people partnerships is one such paradigm shift to combat NCDs. A multi-stakeholder approach means aligning of goals, pooling of resources, allowing the collaboration to maximize its financial and technical expertise, which is particularly important in fiscally constrained environments. By working together, stakeholders can draw on their collective core competencies to create a more comprehensive set of capabilities. India has witnessed a lot of consorted efforts in strengthening policies for diabetes care through such partnerships. Truly innovative approaches are needed to build and upgrade the diabetes care infrastructure.

Government can provide infrastructural facilities and private corporate bodies can invest on raising awareness on diabetes in the community and on training local health care providers. Currently government of India has launched NRHM to take health care to rural areas. ASHA, who is the main catalyst for various public health programs, is well positioned as lay diabetes facilitator to take diabetes care including other NCDs to grass-root levels, if adequately trained and empowered.

The current review presented here provides some insights for a multi-faceted approach to empowerment, focusing on ASHA as 'agents of change' and transformation. Further research will be necessary to elaborate on the causal nature of this relationship.

References

1. Kumar S, Kaushik A. Non-communicable diseases: A challenge. Indian J Community Health 2013;24:252-4.
2. Available from: http://www.hsph.harvard.edu/news/hsph-in-the-news/david-bloom-ncds-india/ [Last accessed on 02/09/2013]
3. Available from: http://www.commonwealthhealth.org/non-communicable-diseases/asia/india/ Last accessed on 02/09/2013
4. International Diabetes Federation. IDF Diabetes Atlas.5th ed. Brussels, Belgium: International Diabetes Federation;2011. http://www.idf.org/diabetesatlas Last accessed on 03/09/2013
5. Mohan V, Shanthirani CS, Deepa M, Deepa R, Unnikrishnan RI, Datta M. Mortality rates due to diabetes in a selected urban south Indian population — The Chennai Urban Population Study (CUPS-16). J Assoc Physicians India 2006;54:113-7.
6. Ramachandran A, Ramachandran S, Snehalatha C, Augustine C,

Murugesan N, Viswanathan V, *et al*. Increasing expenditure on health care incurred by diabetic subjects in a developing country: A study from India. Diabetes Care 2007;30:252-6.
7. Kapur A.Economic analysis of diabetes care. Indian J Med Res 2007;125:473-82.
8. Withall J, Jago R, Fox KR. Why some do but most don't. Barriers and enablers to engaging low-income groups in physical activity programmes: A mixed methods study. BMC Public Health 2011;11:507.
9. Available from http://www.nrhm.gov.in/images/pdf/publication/RHS-2012.pdf [Last accessed on 10 Oct 13]
10. http://nrhm.gov.in/communitisation/asha/about-asha.html/ Last accessed on 02/09/2013 [Last accessed on 10 Oct 13]
11. Mohan D, Raj D, Shanthirani CS, Datta M, Unwin NC, Kapur A.Awareness and knowledge of diabetes in Chennai - The Chennai urban rural epidemiology study. J Assoc Physicians India 2005;53:283-7.
12. Norris SL, Engelgau MM, Narayan KM. Effectiveness of self-management training in type 2 diabetes. A systematic review of randomized controlled trials. Diabetes Care 2001;24:561-87.
13. Balagopal P, Kamalamma N, Patel TG, Misra R. A community-based diabetes prevention and management education in a rural village in India. Diabetes care 2008;31:1097-104.
14. Rao MB, Prašek M, Metelko Z. Organization of diabetes healthcare in Indian rural areas. Diabetologia Croatica 2002;31(3):161-71.
15. Kruk M, Knaul FM, Nigenda G. Reconfiguring primary care for the era of chronic and non-communicable diseases http://www.ifpma.org/fileadmin/content/Publication/2013/Johns_Hopkins_Addressing_the_Gaps_in_Global_Policy_and_Research_for_NCDs.pdf,16-20. [Last accessed on 2 Sep 2013].
16. Balagopal P, Kamalamma N, Patel TG, Misra R. A community-based diabetes prevention and management intervention in rural India using community health workers. Diabetes Educ. 2012;38:822-34.

How to cite this article: Bhatt BR. ASHAs in rural India, the ray of hope for diabetes care. J Soc Health Diabetes 2014;2:18-24.

Source of Support: Nil. **Conflict of Interest:** None declared.