Review Article

Community Dermatology: Current Status and the Way Forward

Abstract

Community health interventions in dermatology have the potential to deliver healthcare to large populations. Such interventions can bridge the gap between increasing demands from vast populations and limited availability and asymmetric geographical distribution of specialist doctors. This narrative review aims to delineate various areas in which community dermatology initiatives are useful, the different approaches used, and the factors which could determine their effectiveness. We did a PubMed search using the search terms, "Community Health Services"[Mesh]) AND "Dermatology"[Mesh]. A further literature search was performed by cross-referencing these articles. In addition to its primary purpose of increasing access, community involvement can augment medical education, foster research, and help to develop more patient-centered clinical guidelines, understand disease trends and influences of the environment on various diseases, and formulate population-centered health policy. Task shifting, development of culture-sensitive and gender-sensitive community healthcare teams, disease-specific patient support groups, and use of advances in technology such as telemedicine are some of the important methods used in community dermatology. Task shifting may be performed at different levels – general practitioners, pharmacists, nurses, and community health workers. Community interventions harness volunteerism among health professionals as well as various stakeholders in the community. Partnering with non-governmental organizations, involving members of the community, and being a part of a long-term public health program help to sustain community interventions. The interventions should adapt to the ethical and cultural norms of the community. Continuity of care, fidelity, and evidence support are crucial for the success of community interventions in dermatology.

Keywords: *Access, community dermatology, community health volunteers, community health workers, culture, health care, health policy, medical education, medical ethics, non-governmental organizations, partnership with community, sustainability, task shifting, teledermatology, telemedicine, volunteerism*

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Introduction

There are several barriers to accessing health care in society, especially for the vulnerable sections. The provision of primary health care can overcome many such barriers.[1] Community health initiatives can strengthen primary health care.[2,3] World Health Organization (WHO) has identified the empowerment of people and communities as one of the overarching principles and approaches in its global action plan for the prevention and control of non-communicable diseases.[4] This is particularly relevant in resource-poor settings. Community-based interventions have been identified to be useful in addressing chronic non-communicable diseases.[5,6]

Even in rich countries, urban–rural disparities in the distribution of dermatologists can affect access to care by dermatologists.[7] The gap between the density of dermatologists in urban and non-urban areas in the United States of America (USA) increased between 1995 and 2013. This would naturally result in longer waiting times for patients to receive care from specialists. Therefore, enhancing the capacity of primary care physicians to care for patients with skin diseases assumes importance. A study from Maine, which is a predominantly rural state in USA, showed that the diagnostic accuracy of primary care providers is an important determinant of the outcome of dermatology care.[8] Community initiatives have been proven effective in several medical specialities such as psychiatry. There have been several reports about the relevance of community dermatology, including from developing countries.[9-12] Community-based

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interventions could be useful in chronic non-communicable skin diseases such as vitiligo, eczema, and psoriasis. However, there are few randomized controlled trials from dermatology providing evidence for its effectiveness.[13] This narrative review is aimed at delineating various areas of health in which community dermatology initiatives are useful, different approaches used, and the factors which could determine their effectiveness. We started with a PubMed search using the search terms, "Community Health Services"[Mesh]) AND "Dermatology"[Mesh]. The retrieved articles were assessed for their suitability for inclusion in this review. Those selected and full texts of which were available were read carefully. A further literature search was performed by cross referencing. The information gathered was arranged in two broad sections, namely, roles of community dermatology in various areas of health and factors affecting the effectiveness of community interventions in dermatology.

Roles of Community Dermatology in Various Areas of Health

Community dermatology for healthcare delivery

The pattern of skin diseases seen in the community is often different from that in tertiary care centers. This calls for a different prioritization in the delivery of health care services in the community. In a study from Kashmir, India, infectious dermatoses were more frequent among patients in the community compared to hospital patients, whereas non-infectious dermatoses were more frequent among patients attending the hospitals.[14] The focus of interventions in the community could be surveillance, case finding, health promotion, preventive care, or treatment.[15] Task shifting and the use of modern technologies are two useful methods to deliver health care to the community.

Role of task shifting for the delivery of care in the community

Task shifting has been employed in several medical specialities such as psychiatry.[16] Task shifting can be at different levels – general practitioners (GPs),[17,18] pharmacists, nurses,[19,20] physician assistants,[21] and community health workers.[12,22,23] The value of non-physician health workers in the delivery of care for non-communicable diseases in low- and middle-income countries has been supported by systematic reviews.[24]

A study comparing the diagnostic ability of GPs, pharmacists, and nurses in United Kingdom (UK) revealed that the overall diagnostic scores by pharmacists were lower than those of GPs but similar to those of nurses.[25] The diagnostic accuracy of pharmacists was similar to that of GPs for some skin conditions such as tinea corporis, scabies, and plantar warts. A community dermatology program in Mexico used community teams trained in teledermatology for the diagnosis and supervision of treatment of neglected tropical diseases such as mycetoma.[26] Community healthcare programs involving health volunteers and support groups provide information on the trends in diseases in the community too.

Task shifting to nurse practitioners and community dermatology liaison nurses helped to reduce the waiting times of patients in UK.[20] It also provided specialist expertise for community nurses. In India, Kavita *et al*.[27] and Nair *et al*.[28] have highlighted the role of nurses in task shifting in dermatology. The potential roles of nurses in the community include patient education, counseling, early diagnosis, and treatment.[27]

Efficient systems of referral and back referral improve the care of diseases in the community.[29] These steps optimize bed capacity, decrease the duration of inpatient stay, and provide good follow-up medical care. The concept is one of close cooperation between referral hospitals and referring general practitioners or specialists in the community. Ramirez-Fort *et al*. (2013) reported their experience of planning and executing a successful medical mission to an underserved community in Puerto Rico.[30] They emphasized the importance of logistics planning, patient education, and coordination with local healthcare providers for such initiatives.

Mohajer and Singh (2018) viewed community health workers as a form of social capital.[31] They differentiated two caders of community-based health workforce: community health workers who are full-time workers entrusted with task-shifting roles and part-time volunteers focusing on the empowerment of the communities.

Olaniran *et al*. (2018) categorized community health workers into three groups, with increasing levels of education level and training received in health-related areas.[32] They are lay health workers who provide basic health services as unpaid volunteers, level-one paraprofessionals who receive an allowance, and level-two paraprofessionals who are salaried.

Use of technology to improve access to care in the community

Online peer support communities have been used effectively in dermatology for supporting patients in the community.[33] Online services and social networking platforms have been used in China to improve access to health care and have facilities for scheduling consultations, follow-up, post-procedure monitoring, payments, and handling of prescriptions and payments.[34,35] A study in Norway demonstrated the potential of electronic health technologies in the follow-up of patients.[36] Online patient decision aids have been developed for acne and psoriasis to improve accessibility for patients.[37]

Many rural and underserved communities face a shortage of dermatologists and long patient wait times. With the current shortage of dermatologists in many communities,

teledermatology complements conventional face-to-face dermatologic care where access to specialty care is limited. Dermatology is one of the most widely explored branches of telemedicine.[38] Teledermatology has been an important tool to deliver training to health workers, thereby improving the quality of community dermatology.[39] There is evidence for the effectiveness of teledermatology from Australia, Haiti, and Nepal.[40-43] A study from Jammu and Kashmir, India, supported the benefits of teledermatology among the rural population.[44]

Patient-assisted teledermatology practice, also called patient-enabled teledermatology or home-based teledermatology, is an advancement of teledermatology.[45,46] It may be used for initial or follow-up consultations. Follow-up teleconsultations are particularly suited for chronic diseases such as psoriasis, vitiligo, and leg ulcers, especially for the care of the elderly in the community.

The success of telemedicine is dependent on the commitment and willingness of the dermatologists who utilize it.[47] Cost could be a limiting factor.[44] Women, older participants, and participants living in rural regions may be less enthusiastic about the use of teledermatology.[48] Impersonality, doubts about the quality of the service, lack of technical expertise inadequate guidelines, diagnostic limitations, and medico-legal aspects including concerns about data safety and privacy are other challenges.[42,49] There is also a risk of aggravating 'digital divide', thereby exacerbating disparities in the delivery of healthcare.[50]

Role of community dermatology in medical education

Exposure to the community could be valuable for training residents. A survey on family practice rural residencies in USA suggested that they provided a rural immersion experience to the trainees.[51] This helped those who selected rural practice after graduation. Community dermatology helps to develop contextualized curriculum. Community immersion and encounters help to achieve cultural competencies in medical education.[52] A study revealed that incorporating the views, opinions, and concerns of patients helped to develop important components of a psoriasis curriculum.[53] This may be relevant in developing curriculums for other chronic diseases as well.

Community dermatology for the development of treatment guidelines

The Group for Research and Assessment of Psoriasis and Psoriatic Arthritis (GRAPPA) utilized patient research partners in research on psoriasis and psoriatic arthritis.[54,55] Treatment guidelines, developed through such initiatives, have the potential to reflect the expectations and needs of patients more accurately. Community participation would help academicians to develop guidelines specific to a particular country or region.

Community dermatology for the formulation of health policy

Exposure to the community at the grassroots level provides useful information about the needs of the population. Such feedback can be vital in determining or modifying the health policy from time to time.[15,56] Online surveys of individuals in the community are being increasingly utilized for community-oriented research.[49] An outline of various areas in which different types of community initiatives have been effective in dermatology is provided in Figure 1.

Factors affecting the effectiveness of community interventions in dermatology

Various factorsthat could influence the success and effectiveness of community interventions in dermatology are summarized in Box 1.

Degree of volunteerism

Most models of community dermatology would include a certain degree of volunteerism. Volunteerism works at different levels – individuals, neighborhood groups, and non-governmental organizations (NGOs). Harnessing the goodwill of the people is useful for community health interventions.[57]

Adaptation to ethical and cultural norms

Conflicts may arise between the cultural and ethical norms of the agencies and the community.[46,58] These would have to be negotiated successfully. Being culturally sensitive to different sections of the community such as Lesbian Gay Bisexual Transgender and Queer (LGBTQ) populations is important for the success of any community interventions in health.[59] This would need institutional policy changes and medical staff trained in cultural competency. Patient experience as identified by the community is an important starting point for the development of such effective and inclusive policies.

Partnerships in the community and the role of non-governmental organizations

Partnerships and coalitions are keys to the success of public health interventions.[60] Partnership with NGOs

Box 1: Factors affecting the effectiveness of community interventions in dermatology

Different patterns of skin diseases in the community
Volunteerism in community dermatology
Ethical and cultural issues
Partnerships in community dermatology and the role of non-governmental organizations
Different levels of health interventions in the community and their sustainability
Quality of care delivered in community dermatology

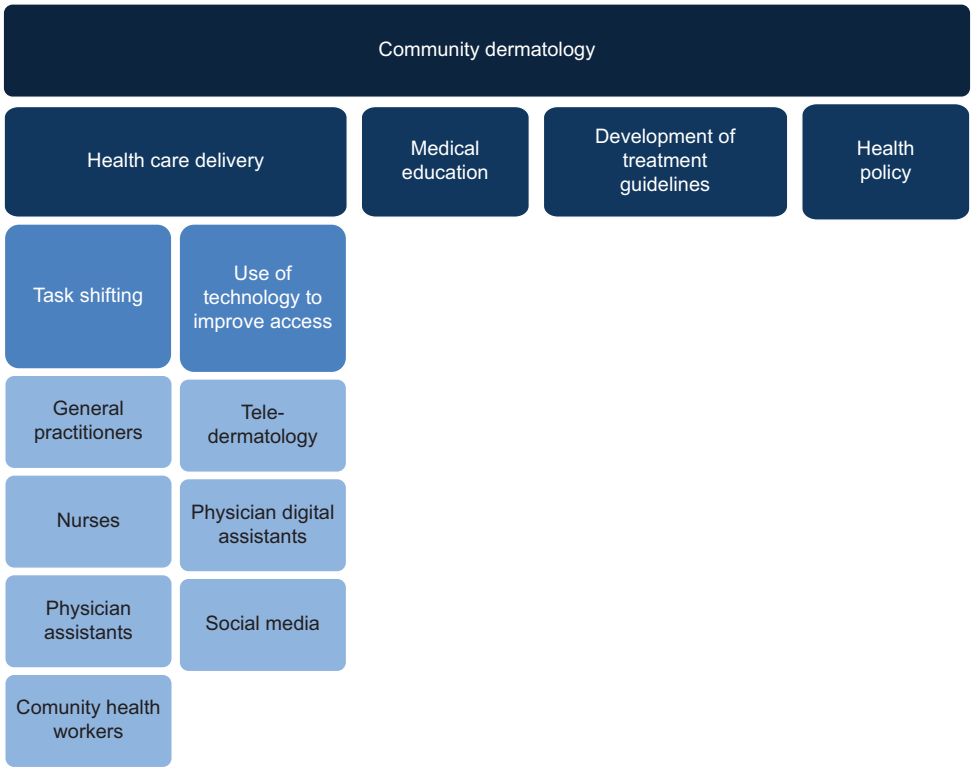

Figure 1: A summary of various areas and types of community initiatives in dermatology

foster community-led healthcare initiatives.[12,61] Various agencies including government and private agencies – as individuals, neighborhood groups, and NGOs– working together in public–private partnerships can sustain public health interventions including community dermatology. The involvement of reputed educational institutions and influential opinion makers such as religious, social, and political leaders are important facilitating factors. Partnering with communities in planning and implementation is important.[62] 'The International Society of Dermatology's Task Force for Skin Care for All: Community Dermatology' was a milestone in establishing the role of participatory initiatives in dermatology.[62] It provided a broad outline of interventions that could be the focus of community dermatology.

Different levels of health interventions in the community and their sustainability

Community health interventions have been practiced at several levels, which are complementary and not mutually exclusive.[15] The interventions may be directed at the entire community, the systems that affect the health of those in the community, and/or the individuals and families within those populations.

Sustainability is an important concept in community health interventions.[63] Once a population is provided a service, it is not desirable to dilute it or withdraw it as long as the need exists. Different types of interventions have varying levels of sustainability. Those provided as a single or a few medical camps may be the easiest to carry out, but are the least sustainable. Sustained interventions with the active participation of its members represent a deeper level of engagement with the community, although these are more difficult to implement. Delivering the interventions as a part of a long-term public health program improves sustainability.

Quality of care delivered in community dermatology

Quality of the care provided is an important concept in community health initiatives.[60] A 'freebies' attitude to community dermatology is not desirable. Community interventions are not charity or philanthropy alone, although the sources of funding may have elements of these. The interventions at the community level may be simple but should be of proven quality and be evidence-supported. The involvement of academicians from tertiary care institutions in community health projects helps to make them more evidence-based. If at all, the community deserves more, rather than less, evidence-based interventions, because small interventions in the community will have a greater impact on the population, compared to large interventions in an individual or a small group of individuals. Therefore, community interventions must be well-designed and well-executed. During task shifting, the fidelity of the processes and interventions should be maintained.[64] In regions of the world where quackery is a threat to health care, task shifting should be implemented

cautiously. Well-thought-about protocols and guidelines are vital components of all community health interventions, including task shifting, and act as safeguards to ensure quality.[60] Periodic reviews with community participation help to ensure the quality and effectiveness of various interventions.

Conclusion

Community health interventions in dermatology have the potential to deliver health care to large populations.[46] Such interventions have the potential to bridge the gap between increasing demands from vast populations and limited availability and asymmetric geographical distribution of specialist doctors. In addition to its primary purpose of increasing access, community involvement can augment medical education by exposing students to the health problems in the community, helping to assess disease trends in the community, fostering research, and helping to develop more patient-centered clinical guidelines and to formulate population-centered health policy. Task shifting, the development of trained community health care teams, and the use of advances in technology such as telemedicine are some important methods used in community dermatology. Community interventions harness volunteerism among health professionals as well as various stakeholders in the community and should aim at a sustained engagement with the population. Partnering with NGOs can help to sustain it. Ensuring continuity of care and fidelity of interventions when task shifting, development of clear guidelines for treatment of diseases at the primary health care level, definite protocols for referral to higher levels of care and back referral, and ensuring that the interventions are evidence-supported are crucial for the success of community interventions. The professional associations of dermatologists can play an important role in these. Involvement of the teaching institutions like medical colleges can ensure that the interventions are evidence-based. There is considerable scope for more community-based interventions and research in dermatology from India.

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