Indian Journal of Social Work
Education and Practice (IJSWEP)
Volume-1, Issue-1, October 2023
@IJSWEP

Understanding the Influential Factors in Implementing Integrated Health Programs: A Review

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Abstract

This review aims to explore factors affecting implementation of integrated health programs and how NCDs and mental health programs were integrated into existing health systems. A search of major electronic databases, such as PubMed, ScienceDirect, SCOPUS, and Medline, was conducted to identify relevant peer-reviewed journal articles. The search used specific word categories related to the study, such as health system integration, health system, program, outcome/output, and perception. The findings of the study indicate that leadership in healthcare, available human resources, training, staff workload, availability of drugs and logistics, and availability of clinical guidelines and treatment protocols play an important role in the successful implementation of integrated health programs. The findings also suggest that integrating non-communicable disease (NCD) services with general health systems could help address accessibility and equity issues. Additionally, the review highlights that integrating mental health services into general health services can effectively reduce stigma, address workforce shortages, and detect mental disorders early. However, challenges like overburdened primary care systems and insufficient training for health workers impede successful implementation.

Keywords: Integration, health services, health workers, mental health, non-communicable disease

Introduction

Integration in healthcare is a widely accepted concept across various health settings. The idea of integrated healthcare gained prominence in the 1970s, focusing on improving the health of children, adolescents, and the elderly population. This led to a strong movement towards more

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integrated and coordinated care, which was shaped by the primary healthcare movement following the World Health Organization's Alma-Ata Declaration on Primary Health Care in 1978 (WHO, 1978). The primary care model aimed to provide integrated care within local communities.

Simultaneously, concerns arose regarding healthcare provision for the elderly population due to age-related issues. This prompted professionals to call for the development of Chronic Care Models (Wagner et al., 2001). Many countries eventually adopted these models to organize healthcare and delivery services, thereby improving health outcomes for patients. The Chronic Care Model comprises six key components: self-management support for patients, decision-making support for professionals, care coordination and case management, clinical information systems, community resources for promoting healthy lifestyles, and health system leadership (Wagner et al., 2001).

With the increasing healthcare needs and greater support for elderly patients, the Chronic Care Model has expanded to include determinants of health and various interventions that span primary, secondary, and tertiary levels. These interventions encompass public health issues such as health promotion, prevention, screening, early detection, rehabilitation, and palliative care (Barr et al., 2003). The adoption of an integrated care approach has been driven by primary healthcare and the chronic care model. The aim of the literature review was to examine conceptualization, models and outcome of an integrated approach to delivering health services. This review examines the conceptualization of integration and explores its implementation in the context of both high-income and low-middle-income countries.

Literature Search Strategy and Method

A comprehensive literature search was conducted using electronic databases such as PubMed, ScienceDirect, SCOPUS, and Medline to identify relevant peer-reviewed journal articles The search focused on specific word groups relevant to the study, e.g integrated health systems, health systems, systems, outcomes/consequences, NCDs, mental health etc. Table 1 provides a description of the keywords used during the literature search." The titles and abstracts of the articles we found were saved in an Excel file. Initially, we reviewed the titles and abstracts to determine the relevance of each study. We selected articles that focused on factors related to human resources, training, drugs, logistics, and guidelines for the review, while excluding clinical articles. The majority of the selected articles discussed integrated care, service integration for elderly and chronically ill patients, and the integration of targeted health interventions such as TB, HIV, and malaria. Many of these articles were written by authors from the United

Kingdom, United States, and Canada. Titles and abstracts of the articles we found were saved in Excel files. Initially, the title and abstracts were reviewed to assess the relevance of each study. Then articles were selected that focused on aspects of human resources, training, medications, logistics, and guidelines for review, while excluding clinical issues. Most of the choices addressed integrated care, service integration for the elderly and chronically ill. Many of these articles were written by authors from the United Kingdom, the United Kingdom, and Canada. In addition to conducting a database search, cross-referencing was also performed to find additional relevant articles and research papers. Some articles were retrieved from health and social science journals in India that were specifically related to integration in the Indian context. The gray literature, such as policy documents, program implementation guidelines, and operation guidelines, from government websites, professional councils, and associations. This allowed us to gain insights into the policy and program context of non-communicable diseases (NCDs) in India. The following sections provide a concise summary of factors related to implementation of integrated health programs and integration of NCDs and mental health programs.

Factor Affecting Implementation of Integrated Health Programmes

The success of integration depends upon various factors, such as availability of trained health workers, political will, logistics and drugs supplies, strong monitoring systems, and adequate infrastructure (Watt et al, 2017). In this section I draw on existing reviews on integration of health programmes and discuss health system issues that influence the implementation of integrated health programmes and services delivery. These reviews synthesize empirical evidences on health system barriers and facilitators for integration of health programmes and highlights the programme implementation challenges.

Leadership and Management

Health systems in low-middle income countries suffer from various challenges and are not adequately prepared to provide quality and accessible health care to its citizens. Some of the challenges include the rising cost of care, shortage of trained and qualified staff, health worker migration, lack of basic infrastructure, inadequate training mechanisms, corruption, and lack of drugs and supplies at public health facilities. Leadership in the health system has been considered as a key for successful integration of health services (Atun, de Jongh, et al., 2010; Watt et al., 2017). Dodds et al. (2004), in their study on integration of mental health services with primary HIV care for women, found that strong leadership plays an important role in ensuring the overall vision is shared across multiple stakeholders.

Strong leadership is required to enforce adherence to clinical guidelines for the health programme (Watt et al., 2017). Wyss et al. (2004) observed that factors such as the sense of sharing responsibilities, receiving financial and, and an environment in which staff could mutually rely on each other proved to be the important dimension of leadership in delivering health programmes. Strong leadership can also ensure clear communication across multiple stakeholders. Finally, effective managerial leadership can potentially make decisions quickly, mobilise resources and bring desired changes into the organizational culture.

Human Resources Recruitment

Human resources are one of the integral components of the health system that ensures the functioning of health services. Health workers play a significant role in health systems at different levels, ensuring the management and delivery of health services. Scholars have argued that having an inadequate number of trained health care providers is one of the barriers to integrating and scaling up mental health services (Saxena et al., 2007; Watt et al., 2017; WHO, 2006). Uwimana et al. (2013), in their study on the integration of tuberculosis and prevention of mother-to-child transmission of HIV programmes in South Africa, found that lack of training was a key barrier that was affecting the successful integration and uptake of health services. They found that health workers were not trained and lacked sufficient knowledge and skill to provide care. This gap led to poor TB case detection among pregnant women and reduced the uptake of integrated HIV and TB services. Having an adequate number of health workers is required to ensure access to health care and quality services (J. Campbell et al., 2013). The shortage of trained and motivated health workers impeded success of priority health programmes (Sheikh, 2012) and integrated health service delivery (Legido-Quigley et al., 2013; Uwimana & Jackson, 2013; Watt et al., 2017) in low- and middle-income countries.

Recruitment of health workers is one of the key challenges in low- and middle-income countries (Gill et al., 2009; Munga et al., 2009; Sinha et al., 2019). One study found that district health administrators who are responsible for implementing and managing the integrated health programme lack the authority to recruit health workers (Kaur et al., 2012). Previous studies show that health worker recruitment in a decentralised health care system is complex and time consuming (Munga et al., 2009; Wang et al., 2002). The decentralised recruitment system offers advantages for recruiting local health workers, but it does not attract trained and qualified medical professionals, especially for work in remote areas. There is a growing recognition of the need to produce trained health workforce to meet the demand of health services. But still, many countries in LMIC were unable to have an adequate health workforce.

Training and Workload

Supervision of health workers' work in integrated programmes has been considered a facilitating factor for integration (Watt et al., 2009). Geelhoed (2013) studied the integration of ANC-HIV services in Mozambique and found that staff valued their work supervision because it allows them an opportunity to gain updated knowledge about service delivery and help to clarify programme related doubts. Absence of qualified health workers could be a key challenge in implementing mental health programmes at provincial and district levels. It may affect the managerial capacity of the organisation and impact the planning and management of health services (Marais & Petersen, 2015). Supervisors play an important role in the delivery of quality health services and provide opportunity for health workers to gain knowledge and skill. However, in resource poor institutions, managers are not adequately trained and do not have sufficient time to supervise health workers. In my experience, most of the time, managers' efforts are focused on ensuring service availability at the hospital, regardless of resource constraints; they do not have time to supervise health workers.

Integration of health services requires health workers to undertake additional tasks. These additional tasks may increase the workload of health workers, which could harm them in several ways. Many scholars have argued about the importance of adopting new approaches to health workforce management. Some of these approaches include task shifting (Khozaim et al., 2014; Martin et al., 2014; Odafe et al., 2013; Watt et al., 2017), task sharing (Dua et al., 2011), and engaging new cadres of health workers from the community. Uwimana et al. (2013) argued that managers need to make adjustments in staff productivity and work distribution to achieve the desired result of integration. However, previous studies on integration do not describe the response of health workers to the task shifting approach (Armitage et al., 2009; Atun, De Jongh, et al., 2010; Haldane et al., 2018; Watt et al., 2017).

Health workers are located at the site where integrated services are delivered. They interact with patients and care providers in their everyday work. They are aware of local health care delivery requirements and everyday challenges. It is important to include and understand the health workers' viewpoint on integrated health care delivery, which has been largely ignored by previous studies. Some studies report the integration of health services may increase health workers' workload (T. E. De Jongh et al., 2016; Gounder et al., 2011). However, they do not go beyond such descriptions and examine how the challenges related to workload first occur or continues to exist.

Drugs and Logistic Supplies

Health facilities in low- and middle-income countries suffer from a severe shortage in infrastructure, equipment and drugs that affect patient care. Many studies highlighted a lack of resources (Joshi et al., 2014; Mabuchi et al., 2018; Rao et al., 2011) and adequate infrastructure in hospitals. Drugs are one of the key components of service delivery that could potentially affect integrated programme service delivery. The lack of availability of drugs and consumables and interrupted supplies of medicine are major barriers in the uptake of integrated health services (Watt et al., 2017). Plotkin et al. (2014) in their cross-sectional study in Tanzania evaluated the integration of HIV screening into 21 government health facilities where cervical cancer services were delivered. The study found that there was adequate uptake of screening for both HIV and cervical cancer. However, they found that due to unavailability of HIV kits at the health facility, nearly 71 per cent of women who received cervical cancer screening, were not screened for HIV. Logistic barriers and access to essential supplies and equipment may have implications for integrated health services.

The lack of availability of drugs at public health facilities and out-of-pocket expenditures on medicine negatively affect low-income populations and reduce their access to essential medicines (Bigdeli et al., 2015; Magadzire et al., 2015; Wirtz et al., 2017). Scholars have highlighted the need to strengthen local drug procurement (Prinja et al., 2015; Tatambhotla et al., 2015; Waako et al., 2009), but it remains a challenging area. Local level purchase depends upon various factors. Mackintosh et al. (2018), in their study on drug procurement in East Africa (Kenya and Tanzania), found that frontline health staff manage procurement at the local level; in addition, the quality of supplies from public wholesale providers are a major concern. At times, health workers are not able to get specific drugs for over six months. The health facility staffs view procurement at the health facility from needs-based perspective. They usually procure from local shops and wholesalers (Mackintosh et al., 2018). Funding this frontline and local procurement is a challenge on day-to-day basis. In addition, health workers often experience a lack of equipment and drugs, which are required to offer integrated health services to patients. At times, they do not have diagnostic and screening tools, or consumables for health and safety (Manongi et al., 2006). These factors affect service quality. The hospital infrastructure and resource availability are important factor to deliver integrated care to patient. However, the hospital infrastructure and resources depend on other factors that are external to health workers. Some factors include organisational policy, procedures, rules, financial resources and the external actors that are involved in health care.

Clinical Guidelines and Treatment Protocols

Previous studies have highlighted the importance of guidelines, textual protocols and checklists for the delivery of health care (Morrow, 2005; Suter et al., 2009; Uwimana & Jackson, 2013). The presence of clear rules and guidelines for prescribing medicine, referrals or care checklists, are considered to be important tools that coordinates work across sites and allows for the exchange of information in standard ways (Watt et al., 2017). Studies show that the implementation of guidelines and clinical protocols improves patient-level health outcomes (Cretin et al., 2001; Reddy et al., 2019). However, the absence of clear guidelines could affect health service quality (A. De Jongh et al., 2016). Uwimana et al. (2013), in their study on the integration of tuberculosis and prevention of mother-to-child transmission of HIV (PMTCT), found that despite having a clear guidelines for the implementation of TB and HIV services including PMTCT, no one was responsible for coordination of the TB-PMTCT activities. The supervision of health workers was largely undermined. The lack of clear communication among stakeholders affects the implementation of integrated health programmes. Guidelines also play an important role in coordinating health services across health sites, especially when health records are shared with other service providers (Inouye et al., 2011; Lombard et al., 2009). The evidence suggests that in the absence of clinical guidelines, administrators write memos and provide guidance to health workers as a means of following treatment protocols. The texts (policy documents, guidelines, clinical protocols or any forms) play an important role in coordinating integrated health services. It is important to explore and understand how health workers interpret and engage with these texts and how policy documents and managerial texts affect the implementation of an integrated health programme at the site of service delivery.

Application of Integration in NCDs and Mental Health Service Delivery

Integration for NCDs Programmes

Integration of non-communicable disease services with general health systems (Narain, 2011; Narain et al., 2013) could address wider accessibility and equity issues. WHO proposed a population-based, integrated approach at the primary health care level for prevention and control of cancer, cardiovascular disease, respiratory diseases and diabetes. The prevention strategies include surveillance, prevention and control, with special emphasis

on low- and middle-income countries (WHO, 1989). In 1986, WHO launched the Inter-Health programmes, a collaborative project, aimed to control and prevent chronic non-communicable diseases (CNDCs) among adults (Berrios et al., 1997; WHO, 1989) . Most of the common CNCDs share the similar risk factor for diseases that are lifestyle-related and modifiable. These lifestyles and non-healthy behaviours could potentially be changed by strategies related to community participant and behaviour change interventions at the primary health care level (Berrios et al., 1997; Hayter et al., 2015).

NCDs are generally heterogeneous and etiologically diverse health problems. They are also characterized as chronic diseases. The successful management of NCDs requires coordination, improved communication and continuity of care (Haggerty et al., 2003; Nolte & McKee, 2008). Nolte and McKee (2008) emphasized that chronic conditions 'require a complex response over an extended time period that involves coordinated inputs from a wide range of health professionals and access to essential medicines and monitoring systems, all of which need to be optimally embedded within a system that promotes patient empowerment'.

Some authors have proposed integration of NCDs into other health programmes, such as HIV, TB, diabetes and family planning. These kinds of inter-programme integration have been proposed since patients are more likely to develop common NCDs and providing additional or topped up NCD services is cost-effective. These diseases share many common features in terms of epidemiology, disease aetiology, progression and management. For example, HIV and NCDs share the behaviour component as their risk factor. HIV/AIDS is related to a high-risk sexual behaviour (Haregu et al., 2015). Similarly, common NCDs such as diabetes, cancer and cardiovascular disease are associated with four major behavioural and lifestyle risk factors: unhealthy diet, insufficient physical activity, tobacco use, and harmful use of alcohol (Amanda & Geneau, 2012; Jaspers et al., 2014; Narain et al., 2013). Similarly integration of TB-Diabetes Mellitus was proposed as diabetes increases the risk of active TB, and recommendations were made that TB patients should screen for Diabetes Mellitus (B. J. Marais et al., 2013). These types of programme integration have been proposed to deliver services to patients, considering patients' needs and available services. Drawing on the work of multiple researchers (Groene and Garcia-Barbero 2001; Briggs and Garner 2006; WHO 2008a,b; Atun et al. 2010a,b; Shigayeva and Coker 2015), Watt et al. (2017) categorises integration of health programmes into the following domains (table 3).

Table 1 : Domain of integration (Watt et al. 2017)

1. Integration across disease programmes (clinically related diseases)
2. Integration across disease programmes (clinically different diseases), e.g.:
   - Integration across high burden conditions (e.g. HIV, malaria, TB) to reduce impact of co-infections
3. Integration between vertical (disease-specific) and horizontal (system-wide) programmes, which may involve:
   - Integration of interventions within a 'building block' of the health system (e.g. integrated staff training, financial and organizational management etc.)
   - Integration across one or more building blocks of the health system (e.g. human resource policies and governance initiatives)
   - Integration across 'service functions': of inputs, of different levels of service delivery, of management and operational decisions and technology
4. Integration across public health programmes and health service interventions, e.g.:
   - Integration between MNCH, family planning, through trained community health workers, and health promotion.
5. Integration across activities in the health systems and other sectors (e.g. treatment combined with educational interventions and community mobilization)

Source: (Adopted from Watt et al., 2017)

In Vietnam, population based NCD interventions were integrated with primary health care. These interventions include activities such as special event campaigns (e.g. the World No-Tobacco Day) and routine information, education, and communication activities such as meetings, loudspeaker announcements, and distribution of posters and leaflets. Van, Do, Bautista and Taun (2014) found that primary health care clinics are not able to provide appropriate services to the patients attending primary health centres for common NCD treatment in Vietnam. The health workers involved in NCD prevention receive low remuneration. There is a lack of trained health staff to manage NCD diseases at the primary care level. In addition, some necessary equipment and medicines, which were recommended by WHO, are unavailable at community health centres (Kien et al., 2016).

In Bangladesh, integrated community-based interventions show positive changes in the lifestyle of people, such as a reduction in consumption of red and white meat, eggs, rice and sweets. Also, residents in the study area gave up smoking and tobacco chewing. Similar projects in India, such as community-based interventions, were well received and accepted by the

community. In 2010, WHO proposed an action-oriented primary health care approach for prevention and control of NCDs, called Package of Essential Non-communicable disease interventions or WHO PEN, especially for low and middle-income countries (WHO, 2010). It aimed to deliver prioritized, cost-effective interventions into different components of health systems, and was a step towards integrating NCDs services into primary health care. The integration of an NCD programme into primary health care has some positive results. In Bhutan, it improved the knowledge and skills of health workers and brought diagnosis and management of common NCDs closer to the community (Samb et al., 2010).

Integration for Mental Health Programmes

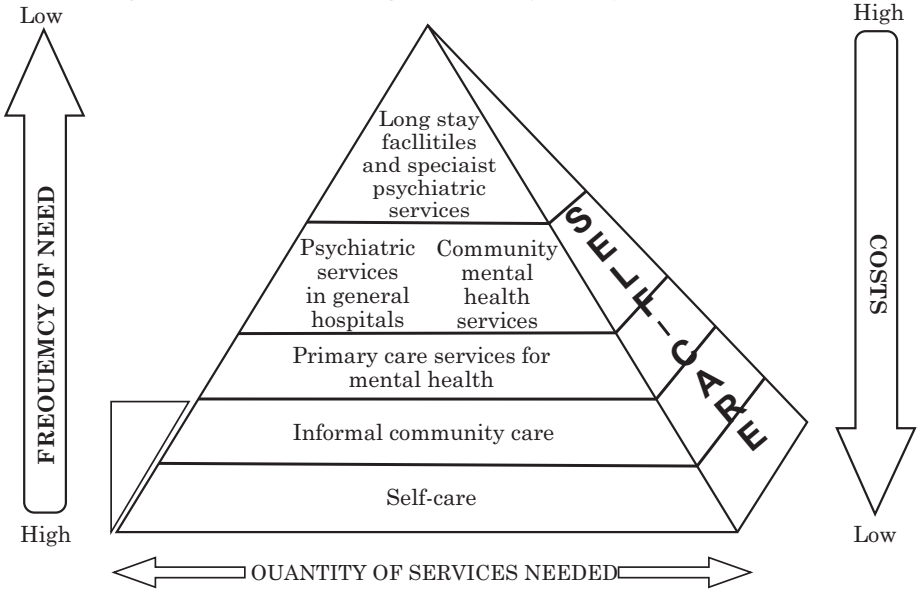
Integration of mental health services into general health services has been recognized as a proven strategy to reduce stigma, address a shortage of health workers and increase identification of persons with mental disorders at an early stage (WHO, 2003). In many low- and middle-income countries, patients visit psychiatric institutions to access mental health care services. These institutions are often located in major towns and cities, which are far from the patient's residence. The long distance and travel time become a barrier for people to seek care when required. To improve wider access to mental health services, policy makers advocate for the integration of mental health services into primary health care. Primary healthcare is 'the first level of contact of individuals, the family and community with the national health system', the closest and easiest form of care available, located near to peoples' homes and communities (WHO, 1978).

Mental health service delivery through health workers at primary health centres is considered a more cost-effective strategy than utilizing highly skilled workers. Recent studies show that some mental health disorders can be diagnosed and treated effectively at the primary care level. In a review, Patel et al. (2007) concluded that a brief intervention delivered by primary care professionals could be beneficial for people with alcohol dependence (Patel et al., 2007). These interventions include management of hazardous alcohol use, and pharmacological and psychosocial interventions. The WHO defines primary mental healthcare as "mental health services that are integrated into formal general health care at a primary care level […] provided by primary care workers who are skilled, able and supported to provide mental healthcare services" including "first-line interventions that are provided as an integral part of general healthcare" (WHO, 2008).

WHO proposed mental healthcare delivery at each tier of the health system that could be more or less integrated with primary care service delivery (WHO, 2008). A visual representation can be described through a pyramid (Figure 3). The top block of the pyramid is associated with a

specialist at the tertiary care who can provide more specialized care to patients that require continuous monitoring and supervision for their health. The secondary level of care includes mental health services delivered through hospitals and community health centres. At the bottom of the pyramid, the mental health services could be provided by non-specialist providers or front-line workers involved in primary and community care. They are often involved in early identification of mental illness, and they can refer a patient to appropriate health providers for comprehensive diagnosis and treatment. These front-line workers also create awareness about mental health problems in the community to reduce stigma and violence against mental health patients.

Figure 1. WHO service organisation pyramid for mental health



Source: WHO-WONCA, 2008

Decision makers in LMICs experience challenges in providing wide-scale, accessible and affordable health services. Some common barriers are related to leadership, effective management, financing arrangements, ownership and technical innovation; these are important characteristics of any successful programme implementation (Atun, de Jongh, et al., 2010; Patel et al., 2007, 2013). There is evidence to support the finding that integration of mental health services has failed (Patel et al., 2013). These failures can be attributed to three key barriers. First, primary health care systems are generally overburdened with patient loads, with multiple tasks and generally, a shortage of staff to provide proper care for people with mental disorders. Second, health workers at the primary care level do not have access to appropriate training and sufficient supervision. Most of the

time, primary health care workers receive short-term training without any appropriate follow up. They are also generally de-attached from specialized services, which are required to help patients after referral (Patel et al 2013).

Discussion and Conclusion

Non-communicable diseases (NCDs) are a major health challenge, especially in low- and middle-income countries. Integration of NCDs and mental health services can have many benefits, including reduced frequency of risk factors, increased access to care, and increased productivity. Integration can take many forms (Armitage et al. 2009). The findings in this paper highlight the importance of leadership and management skills in the successful implementation of integrated health systems, as strong leadership is critical for adherence and monitoring of clinical guidelines for transparent communication between stakeholders (Atun et al., 2010; Dodds et al. ,2004). In addition, the lack of trained health workers is a major barrier to integration of health services, hindering access to quality care (Saxena et al., 2007; Uwimana et al., 2013). The lack of these resources can hinder integrated health care delivery access (Watt et al., 2017; Plotkin et al., 2014). The findings emphasize the importance of providing clear clinical guidelines and treatment protocols for health services and improving health outcomes at the patient level (Cretin et al., 2001; Uwimana et al.)

Integration of NCDs into primary health care could bring NCD care closer to people and strengthen the capacity of health professionals. However, Integration is not easy. This includes multiple barriers, including inadequate healthcare systems, lack of resources, and cultural factors. Integration should therefore be well planned and implemented, based on local data and evidence. Future research in this area should focus on low-income and middle-income countries, exploring alternative leadership and management strategies to promote effective implementation of integrated health systems encouraged to. In addition, further research should examine the impact of technology and telemedicine on improving access and quality of integrated health services, especially in remote or underserved areas. In conclusion, the integration of NCD services into general health systems is a promising but challenging approach to improving global health.

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