Relationship Between Knowledge Management And Organizational Resilience In Northern Healthcare Sector

Sanjeev K. Sharma, Tamanna

Abstract: The healthcare sector is knowledge intensive, and for the improvement of research and development productivity and innovation knowledge management is a vital component. The healthcare sector is thus greatly influenced by effective knowledge management. The present study aims to extend to the research paper titled “Does Knowledge Management Enhance Organizational Resilience?” presented at national conference on “Paradigm Shift in Management Practice for Fostering Excellence”. The study highlighted the importance of knowledge management in sustainability and competitiveness of an organization. The study was conducted with a sample of 210 employees of thirteen hospitals from the states of Himachal, Punjab and union territory of Chandigarh to study the relationship between the four dimensions of knowledge management and organizational resilience. The results of the study revealed that the four dimensions of knowledge management had a positive influence on organizational resilience. The present study aims at extending the previous conducted study to measure the relationship between all four dimensions of knowledge management with the three dimensions of organizational resilience in the healthcare sector in Northern India. For the present study the statistical sample consisted of 420 respondents from hospitals and pharmaceutical companies from three states: Himachal, Haryana, Punjab and two union territories: Chandigarh and Delhi. The results of the study revealed a positive and significant relationship exists between knowledge management and organizational resilience and their sub dimensions.

Index Terms: Healthcare sector, knowledge Acquisition, knowledge management, knowledge Sharing, knowledge storage, knowledge utilization, organizational adaptability, organizational learning, organizational resourcefulness, organizational resilience,

1. INTRODUCTION

Knowledge now a day is one of the vital factors for the production and development and to stay ahead in the competitive scenario. With growing uncertainties, the organizations are facing unforeseen challenges. Organizations need to be dynamic, flexible and agile in order to face these challenges and to stay ahead (Lengnick-Hall et al, 2011). Organizations have to adapt to the changing situations to sustain themselves. Organizations are bound to redesign its strategies so as to avoid business failure. Adaptability and increased value of the shareholders, by organizations is what is known as organizational resilience (Hamel & Valikangas,2003). Susceptibility to failure has aroused the need for organizations to be resilient, which is the ability to recover quickly from difficulties. Knowledge management ensures strength and sustainability to the organizations. To effectively use and reuse the company’s information and intellectual assets is termed as knowledge management. Knowledge management is about managing organizations rich intellectual assets. “The process through which creation, usage, sharing and management of the knowledge and information in an organization takes place is called knowledge management” (Girard and Girard, 2015). The healthcare sector is greatly influenced by the effective knowledge management. The healthcare sector is knowledge intensive, and for the improvement of research and development productivity and innovation knowledge management is a vital component. Knowledge management can make a difference in the pharmaceutical industry by enabling firms to reap additional profits from its intellectual assets.

2 KNOWLEDGE MANAGEMENT

2.1 Definition

The ability to create, share, utilize and manage the knowledge and information available in the organization is defined as knowledge management (KM). The multidisciplinary approach which by effectively and efficiently using the knowledge, helps in achieving the set objectives of organization may also be termed as knowledge management. Using knowledge management enhances the efficiency, performance and learning of the organizations (Scarbrough et al.1999). Machintosh(1996) defined knowledge management as “one which caters to identification and analysis of available knowledge and requires knowledge for the planning and control of the activities and actions that help to develop knowledge assets to fulfill the objectives of an organization”. Decreased life cycles of products, increasing complexities and volatility in environment have given birth to the need to manage knowledge (Nonaka& Takeuchi,1995). Sharing of knowledge between knowledge bearers and knowledge receivers make management of knowledge problematic (Fortune, 1991; Shapiro and Varian, 1999). Constant re-examination has been necessitated to ensure that the knowledge is managed in the best possible manner, as a result of advancements in technology (Hansen et al., 1999). “The growing interest in knowledge management systems has helped the organizations to transform the knowledge into a planned corporate asset which needs to be generated, maintained, retained, updated, disseminated and applied to the future problems of the organization”, (Drucker,1994). 2.2 Knowledge Management as a ProcessTo achieve competitive advantage, knowledge management acts as the medium. All the organizations require mobilizing their knowledge so that it promotes and supports their strategies and it is ensured that the mobilization of acquired knowledge is facilitated by

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knowledge management. The most important process in organizations now a day is the process of managing knowledge. Davenport and Prusak (2000) were of the opinion that the most challenging issue that is faced during the process of knowledge management is the increased knowledge power and cultural changes. To study the concept of knowledge management processes large number of studies have been conducted. Four processes of creating, storing, transmission and applicability of knowledge management have been propounded by Alavi and Linder (2001). It was ascertained that the only difference is in the name and number of steps in the processThe knowledge management process proposed by Bose (2004) comprised of creation, registration, refining, dissemination and application of knowledge. Knowledge is the result of experience and skills of the personnel's. Knowledge that is generated must be stored in databases in its original form and should be accessible to everyone whenever it is required.Lee and Hong (2002) stated that “The process of capturing, developing, sharing and utilization of knowledge can be defined as knowledge management”. Trivedi (2007) stated four basic principles of knowledge management which were, capturing, dissemination, reuse and collaboration of knowledge. The stages of knowledge management according to Leonard-Barton (1995) consist of problem solving, implementation and integrating, experimentation and importing of knowledge. Knowledge management has various perspectives, one of which is “process perspective” – “taking into consideration the processes involved and the activities that make up knowledge management”. (Edwards, Collier, & Shaw, 2003). Understanding how knowledge is created, authenticated, presented, disseminated and applied within the organizations is the sole focus of knowledge management.

2.3 What is the Importance of KM in the present scenario?
The importance of knowledge management can be attributed to four key areas namely: 1) Globalised nature of business, 2) Leaner organizations, 3) Corporate amnesia and 4) Technological advances.

1. The globalized nature of business-The organizations nowadays have their presence worldwide as a result of which they have become multi-lingual and multi-cultural in nature.
2. Leaner organizations-Organizations nowadays are working at a fast pace. Along with working fast we also need to work smartly which implies working at a fast pace but also balancing the workload.
3. Corporate amnesia-Workforce being more mobile now, creates issue of continuity of knowledge for organizations, and creates continuous requirement of learning on the knowledge-worker. Working for the same organization, throughout one’s life is no longer expected.
4. Technological advances-Advancements in information technology have helped people to connect easily than before. Technological advances have made connectivity not only ubiquitous but the expectations have also changed drastically. It is expected that the organizations are on at all times, and the time to respond is now measured in minutes instead of weeks.

3 ORGANIZATIONAL RESILIENCE

3.1 Definition
Disasters and crises pose threat to the economic and social stability of the general public. Organizations enable them in planning, responding and recovering from disasters and crises. The organizations manage and look after our infrastructure and help create an economy that contributes effectively and efficiently towards the well being of the society. Only a resilient organization would be able to reciprocate and recover effectively and efficiently after the hazard has occurred. Thus enhancing organizational resilience essential. Organizational resilience and community resilience go hand in hand. This implies that if organizations are unequipped and unwilling to reciprocate to crisis, the communities will also be unwilling. Resilience is a concept borrowed from human and natural sciences, including psychology. Folke (2006), “the concept of resilience was first identified in context of ecosystems in the late 1960’s”. The focus was on the capacity of systems to cope with change and still persist” (Petak, 2002).

The concept of resilience appeared in behavioral studies later in 1970’s where it signified as an individual’s ability to bounce back from crisis (Walsh, 1996). According to Lele, (1998) it was only by the middle of 1980 that the human environmental interactions were referred to as resilience which were also delineated in the discourse of sustainability. In 1988, Wildavsky used the concept of resilience with respect to organizations for the first time. The concept to resilience in organizations gained popularity in the 1990’s. Petak (2002), resilience has been discussed in context of disasters such as earthquakes. The question of how individuals and groups deal with uncertainty and change is well addressed by the concept of resilience. The concept of resilience has been widely applicable in studies catering to hospitals (Mallak, 1998), firefighting teams (Weick, 1993), ecosystem (Holling, 1973; Folk, 2006). The concept of organizational resilience is now used for, private sector, public, nonprofit, nongovernmental organizations. McManus et al. (2008) have classified organizational resilience on the basis of three parameters namely: 1. situation awareness, 2. management of keystone vulnerabilities, and 3. adaptive capacity. Endsley, et al. (2003) defined situation awareness as “an organization’s understanding of background of its business, awareness about what is happening around, and how significant is that information for the organization now as well as in the future”. Identification, treating the vulnerabilities and proactive management would threaten the ability of an organization to survive. Hamel & Välikangas, (2003) defined the adaptive capacity as an “organization’s ability to constantly and continuously evolve to match or exceed the needs of its operating environment before those needs become critical”.

3.2 Measures of Organizational Resilience
There are three measures of organizational resilience namely: organizational learning, Adaptability and dynamic capability. These are described below:
1. Organizational Learning: It studies theories and models about various ways in which organizations gain knowledge and becomes adaptable. An adaptive organization is characterized by organizational
development. Learning is acquisition of new knowledge. Refinement of the accessible knowledge, skills, behaviors, values or preferences and sometimes creation of new information may also be defined as learning. Organizational learning is a continuous and constant process. Accepting, making sense and responding to challenges both internal and external enhance the organizational ability. Meticulous amalgamations of the pre-requisite of organizational learning. Cumulatively interpreting the new knowledge will usher collective actions and would also involve a great deal of risk taking. Davis and Nutley (2000) defined the primary reasons for organizations quest for enhanced learning. They are: a) due to rapid changes and profound uncertainty in the environmental conditions the organizations aspire to preserve their adaptability and competitiveness. And b) the need to improve the capacity for innovation and competition.

2. Adaptive capacity: Walker et al., (2002) defined adaptive capacity “as the aspect of resilience which reflects flexibility to experiment, learning, adoption of innovative solutions and the development of standardized responses to broad classes of challenges”. Denison (2007) has opined that “amount of degree to which an organization has ability to adapt behavior, structures as well as systems in order to survive in the case of changes is described as adaptability”. Organizations exist as open environmental systems that are complex and uncertain. Organizations need to continuously adapt themselves to environmental uncertainties to survive and to make profits (Amah and Baridam, 2012).

3. Dynamic capability / organizational resourcefulness: The use of any type of resource by organizational structures, which enables the organization to survive any difficult environmental situation is defined as resourcefulness. Dynamic capabilities have been defined by Teece, et al. (2010) as “the ability of the firm to integrate, build and reconfigure internal and external competencies to address the rapidly changing environments”.

4 REVIEW OF LITERATURE

To understand the impacts that knowledge management and organizational innovation have on an organization Chibuzor et al. (2019) carried out research Imo State. Key aspects of knowledge management that were studied are: gathering of knowledge, sharing knowledge, and how this knowledge is applied in organization. It is established that investments made by a firm in knowledge management is vital for it to stay sustainable and competitive in the business environment which is depicted by sudden and unceasing changes. Ibrahim and Salleh (2019) conducted a study which focused on assessing the role that knowledge management has on organizations and how education institutes can also benefit though its practice. The study illustrated that efficiency in teaching can be increased by practicing knowledge management which will lead to creating, transforming, storing and dissemination of knowledge which will be beneficial for academic needs of students. Duchek (2019) conducted a research to have deep understanding of composite and rooted constructs of organizational resilience. Three stages namely: anticipation, coping, and adaptation were suggested that gave a brief summary of the basic capabilities that formed the organizational resilience. The study that for organizations to be directed towards advancements resilience was essential as it enabled the firms to survive through stressful situations, for continuous innovation, and quickly adapt to changes. In order to understand how organizational resilience is developed and how it works, a framework addressing the two approaches was formulated by the author having one of the approaches a d the process approach and the other one as focus on resilience capabilities. The three sub stages of resilience were defined under the conceptual framework through anticipation, coping, and adaptation. The results of the study revealed that for improving organizational resilience a combined approach for improving all the three stages shall have to be adopted. Bernard(2015) conducted a study with the aim for quantification of organizational resilience of organizations in New Jersey. The author used Benchmark Resilience tool by (Lee et al., 2013) for data collection for the present study. Comparative analysis of organizational resilience between organizations present in New Jersey was done with organizations present in New Zealand. The findings revealed that strong leadership and staff engagement positively influenced the resilience of organizations present in New Jersey while lack of partnerships and silo mentality had a negative impact on their organizational resilience. The data gathered in New Jersey about organizational resilience helped in conducting the organizational resilience research. The results of New Jersey respondent organizations was better when compared with the New Zealand respondent organizations. The scores of the respondent originations is listed as below:

<table>
<thead>
<tr>
<th>Parameter</th>
<th>New Jersey Organizations</th>
<th>New Zealand Organizations</th>
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<tbody>
<tr>
<td>Organizational Resilience</td>
<td>68.59%</td>
<td>65.23%</td>
</tr>
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</table>

Also there was comparatively lesser disparity between scores of adaptive capacity and planning which were 65.59% and 68.60% respectively amongst organizations present in New Jersey as compared to organizations present in New Zealand where the disparity was relatively higher with scores of adaptive capacity and planning being 72.66% and 57.8% respectively. The results reflected that organization resilience gets positively impacted as a result of strong leadership. Rahman et al. (2017) scrutinized the process of how indigenous knowledge of tsunami risk can be preserved effectively on the island of Simeulue, in Aceh, Indonesia. Literature review and qualitative methodology for research was used through use of semi structured interviewing process. The results of the study indicate the use of knowledge management for the management of Smong traditions in organizations. The findings of study also support the conclusion that to face future tsunami risks, knowledge management can be used as a remedy which can offer ways to strengthen the community’s ability to adapt to the imminent threat and take best and well informed decisions for further actions, when faced with disasters. Also, for enhancement of community level resilience indigenous and exclusive
knowledge is required to be linked with the disaster management activities. Fard (2015) analyzed the relationship between resilience of an organization and knowledge management. A sample of 270 from 28 Public organizations of Iran was taken for the study. The respondents were middle and senior managers working in the organization. The results of the present study were similar to the results of study by Godwin, Ikpe, Umoh, Edwinah Amah. All the four dimensions of knowledge management i.e. acquisition, sharing, storage and utilization, had a significantly positive impact resilience of an organization. Thus as per the study, KM and all its 4 dimensions did enhance organizational resilience in Iranian public organizations. From the study it was also concluded that knowledge management helped the public organizations of Iran to increase organizational resilience. Karamat et al. (2019) appreciated the adoption of knowledge management practices and aimed to identify drivers of knowledge management in public and private hospitals of Pakistan. In the study, nineteen drivers were diagnosed and screened out by the experts. As per the study, most important drivers to implement KM in the healthcare of Pakistan were: driver 1: gaining a competitive advantage; driver 2: setting a standard for other organizations; driver 3: effective decision making; driver 7: intra-organizational communication; and driver 8 : collaboration with other healthcare organizations. These were the drivers with strong driving power and weak dependence power and it is due to them that government of Pakistan is implementing knowledge management in healthcare sector. Vijayabanu et.al (2016) in their case study focused on significance of Knowledge management practices for Pharmaceutical industry. Authors reviewed about various methods of knowledge acquisitions & sharing and discussed about its effects on Pharmaceutical-industry. The researchers concluded that the knowledge management practices need to be followed in the Pharmaceutical industry for enhanced performance and preserving of knowledge which is critical for the pharma-industry. Explicit and tacit knowledge is vital for the pharmaceutical industry to sustain and grow in today’s competitive scenario. Mccann et al. (2013) conducted a research from five different health professions namely: nursing, social work, psychology, counseling and medicine in order to categorize the individual resilience and contextual resilience that enhance the qualities of each profession. The study focused on identifying the similarities and differences between the five disciplines so as to arrive at a perfect explanation of resilience across the health professions. The results of the review of literature suggested that resilience involved interactions of individual and contextual factors. The individual factors constituted of demographic characteristics namely the age, gender, work experience; personal characteristics comprised of work-life balance, laughter, relaxation etc. while the professional characteristics included factors such as continuing education, professional identity. The contextual factors identified were family support, clinical supervision and culture of the discipline. In the present age of continuous work related stress and adversity, the result of this interaction should enable the maintenance of personal and professional wellbeing. Mallak(1998) conducted a study to measure resilience of healthcare organizations. The author developed and tested many scales for measurement of resilience in the health care sector before identifying the final factors. The scale developed was tested amongst 445 nursing executives from 168 critical-care hospitals in Michigan. After testing and analyses of the scale six factors were identified. The factors were: a) clarity of goal, b) avoidance, c) understanding, d) defining role and dependencies, e) source-reliance and f) access to resource. These six factors identified were chosen as the starting point in the research stream which helped in identifying the various dimensions of resilient organizations. The findings can be used to design interventions that aim to produce a resilient work force. The present study signifies that in order to critically evaluate and creatively seek solutions; the available information should be effectively and efficiently used. The amount of competition among organizations is increasing tremendously. The aim of every organization is to have an edge over the other and each of them is competing to stay ahead in the race. Healthcare sector is one that is thoroughly knowledge dependent and management of that knowledge is vital for research and development productivity and innovation. Healthcare sector aims to provide a flawless continuum as the patients transit from between care providers starting from appearance stage to diagnosis stage, to treatment and finally the follow-up. Any delay in providing treatment/ care to the patient can be life threatening and the healthcare systems would be defined as inefficient. The ability to be able to avoid the delays in treatment of the patients would be defined as resilience. Thus this forms the basis for the need of research to study knowledge management and organizational resilience in healthcare sector.

5 RESEARCH METHODOLOGY

5.1 Present Study
The above mentioned and other similar studies made the plot for the present study. The authors attempt to study KM and Organizational resilience in Healthcare sector in the states of Himachal, Punjab, Haryana and union territories of Chandigarh and Delhi. In all 39 hospitals from the list of ADR Monitoring Centre's of pharmacovigilance programme of India and 10 companies were selected from the list of pharmaceutical manufacturing units in North India.

5.2 Objectives
The core objective of the present research was to study the relationship between knowledge management and organizational resilience. The study however attempts to accomplish the following objectives:
1. To investigate the various knowledge management and organizational resilience practices being pursued in selected healthcare organizations in North India.
2. To understand the association between knowledge management and organizational resilience.

Hypothesis
H1a:Satisfactory knowledge management practices are being pursued by the healthcare organizations.
H1b:Satisfactory organizational resilience practices are being pursued by the healthcare organizations.
H2:Knowledge management and measures of organizational resilience are notably related to each other.
H2a:Knowledge acquisition and organizational adaptability are notably related.
H2b:Knowledge acquisition and organizational
resourcefulness are notably related.

H2c: Knowledge acquisition and organizational learning are notably related.

H2d: Knowledge storage and organizational adaptability are notably related.

H2e: Knowledge storage and organizational resourcefulness are notably related.

H2f: Knowledge storage and organizational learning are notably related.

H2g: Knowledge sharing and organizational adaptability are notably related.

H2h: Knowledge sharing and organizational resourcefulness are notably related.

H2i: Knowledge sharing and organizational learning are notably related.

H2j: Knowledge utilization and organizational adaptability are notably related.

H2k: Knowledge utilization and organizational resourcefulness are notably related.

H2l: Knowledge utilization and organizational learning are notably related.

5.3 Research Design

The study is descriptive in nature. 39 hospitals from the list of ADR Monitoring Centre’s of pharmacovigilance programme of India and 10 companies were selected from the list of pharmaceutical manufacturing units in North India. For the present study, the questionnaire was distributed among 625 respondents out of which only 420 were found suitable for the present study thus yielding a response rate of 67.2%. The respondents for the study comprised of doctors, team leaders, pharmacovigilance scientists and functional division executives.

5.4 Reliability and Validity Analysis

The reliability of the research instrument was tested using the reliability coefficient called cronbach’s alpha. It was calculated to find out the internal consistency of the grouping of items. Satisfactory internal consistency is generally indicated by an alpha value of .60 and .70 or above. The alpha values of different standardized scales to measure KM and OR is shown in the table I.

<table>
<thead>
<tr>
<th>Cronbach’s Alpha</th>
<th>Total No. of Items</th>
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<tr>
<td>.967</td>
<td>44</td>
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Table II Descriptive Statistics

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Mean</th>
<th>Std. Deviation</th>
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<tbody>
<tr>
<td>KA</td>
<td>420</td>
<td>1</td>
<td>4</td>
<td>2.22</td>
<td>.717</td>
</tr>
<tr>
<td>KS</td>
<td>420</td>
<td>1</td>
<td>4</td>
<td>2.39</td>
<td>.770</td>
</tr>
<tr>
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<td>4</td>
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<td>.698</td>
</tr>
<tr>
<td>KU</td>
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<td>5</td>
<td>2.39</td>
<td>.813</td>
</tr>
<tr>
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<td>4</td>
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<td>.671</td>
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<tr>
<td>ORGADO</td>
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<td>5</td>
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<td>.823</td>
</tr>
<tr>
<td>ORGRES</td>
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<td>5</td>
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<td>.805</td>
</tr>
<tr>
<td>OL</td>
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<td>1</td>
<td>4</td>
<td>2.44</td>
<td>.723</td>
</tr>
<tr>
<td>ORGREGI</td>
<td>420</td>
<td>1</td>
<td>4</td>
<td>2.43</td>
<td>.725</td>
</tr>
</tbody>
</table>

6 DATA ANALYSIS

Data were examined for outliers and possible errors prior analysis, and none were detected. The results descriptive statistics of the study variables are shown in Table II

From table III it is evident that there is a positive and significant correlation between the dimensions of knowledge management and the dimensions of organizational resilience.

7 FINDINGS AND DISCUSSIONS

A notable and positive relationship exists in between the adaptiveness of an organization and the knowledge
management (.582); a significant and positive relationship between knowledge acquisition and organizational resourcefulness (.587) and positive and significant relationship between knowledge acquisition and organizational learning (.560). A positive and notable relationship exists between Knowledge Storage and Organizational Adaptability (.707); positive and notable relationship between Knowledge Storage and Organizational Resourcefulness (.706) and a positive and notable relationship exists between Knowledge Sharing and Organizational Learning (.649). Knowledge Sharing and Organizational Adaptability (.782) also depict a notable and positive relationship between them; positive and notable relationship exists between Knowledge Sharing and Organizational Resourcefulness (.769) and positive and notable relationship exists between Knowledge Sharing and Organizational Learning (.686). A positive and notable relationship exists between Knowledge Utilization and Organizational Adaptability (.814); positive and notable relationship exists between Knowledge Utilization and Organizational Resourcefulness (.838) and positive and notable relationship exists between Knowledge Utilization and Organizational Learning (.733). The results of the present study conclude that a notable and positive relationship exists between knowledge management and its dimensions and organizational resilience and its dimensions. From the results it is evident that the organizations that are practicing knowledge management practices would be more resilient compared to the ones that do not practice knowledge management. Effective and efficient management of knowledge is the need of the hour. With unpredictable and unsteady environment and increased competition there is a need for organizations to adapt themselves to the changing demands and stay ahead in the competitive scenario. Knowledge management ensures strength and sustainability to the organizations. And in adapting themselves the organizations are bound to redesign its strategies so as to avoid business failure. The use of knowledge management has resulted in a positive impact on healthcare systems. Using knowledge management has allowed: a) reduction in the number medicinal errors and adverse drug reactions and b) the healthcare cost as a result of medical errors has been considerably reduced. Before the outbreak of the Ebola virus the fragility and vulnerability of healthcare systems was never given any importance. Only after the epidemic occurred and the failure to provide the basic health-care services as a result of which enormous social disruption, along with the loss of life made us realize the importance of being resilient. The present study has thus highlighted the importance of knowledge management along with being resilient.

REFERENCES


