Why Health Care Managers Are Reluctant To Rational Use Of Medicines? Case Study In A Regional Hospital Morocco
Z Belrhiti, Y Mohamed

Abstract

Background: Irrational medicine use is a major health problem. It is responsible for low medical care quality and squandering of valuable resources in low and middle income countries. In Morocco, the ministry of health implemented rational medicine use policy in order to optimize drug usage and ensure access to medicine for deprived population. To what extend hospitals have implemented rational medicine use strategy? What are the major facilitators and barriers to its implementation?

Method: We have conducted an in dept qualitative case study using document analysis and semi structured interviews with health care managers at strategic, tactical and operational level.

Results: Implementation gap between policy of rational use of medicines and the actual practices in hospitals is partly due to the lack of information management systems, low commitment of professionals and non effective institutional communication. Main facilitating factors are technical support from Ministry level executives and the institutionalization of medicine committee.

Conclusion: In order to improve rational medicines use it is necessary to institutionalize medicine committee in hospitals and trigger change through communicating and implementation of medicine related information management system.

BACKGROUND

Medicines are a major building block of health systems according to its therapeutic impact and economic costs. Moreover, patients consider medicines as major determinant of health system’s trustworthiness (1)(2)(3). Rational medicine use is a cost effective strategy that ensures effective and secure medical prescriptions, optimize resources utilization and enhance quality of care and health promotion (3)(4). Though, irrational medicine use is a major public health issue according to its frequency, socioeconomic cost and severity (5). In 2010, The World Health Organization (WHO) estimates to 50% the frequency of irrational medicine use which has an impact on population access to medicine (6)(7). Irrational medicine use is responsible for antibiotic resistances, iatrogenic effects, financial resource’s squandering and reduction of deprived population access to medicine (8–14).

Thus, the WHO urges government to implement strategies in order to optimize medicine usage and reduce social, economic, and health consequences of irrational medicine use (5,7,15–19).

In order to ensure accessibility and availability of medicines, the ministry of health in Morocco has implemented several strategies through an insurance scheme for economically deprived population (RAMED[1]), increasing budget which represents actually 31,7% of global health expenditures (National Health Account 2010), promoting generic medicine policies and joint purchasing of medicines, legislation of medicine use in hospitals and specific ministerial circular of rational medicine use (N° 146/DHSA),(20–22).

Nevertheless, irrational medicine use still problematic in Moroccan healthcare facilities which reinforce social exclusion for populations with limited resources (48, 6% household care expenditures) insufficient prescription of generic medicines in public hospitals and resistance of professionals to comply with these legal norms. Therefore, public hospitals and pharmacies are suffering from medicine logistic management issues such as (expiry, shortage and storage saturation) (20,22–26).
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How could we explain lack of compliance of public hospitals professionals to rational medicine use strategy?

We conducted a case study research in a regional hospital to assess to what extend rational medicine practices are implemented (Circular N°146/DHSA) and to analyze contextual factors that enable or limit rational drug strategy implementation.

Our study has practical and theoretical implications. It provides theoretical foundations of organizational, political, psychological levers and barriers of the implementation of rational medicine usage in public hospitals. In practice, it will provide hospital managers with practical solutions for the improvement of the rational medicine usage.


LITERATURE REVIEW

In order to analyze implementation in healthcare organizations we used organizational change theory developed by Champagne and al (27). Authors described organizational change through different theoretical perspectives (hierarchy, organizational development, psychological structural, political, environmental, managerial perspectives and complexity). Successful change in organizations occurs at different organizational levels (individual, organizational, inter-organizational level, environmental). Denis & Champagne (1990) suggest five models that describe key success factor to implement change in organizations (28).

Rational model

The rational model focuses on planning procedures, implementation mechanisms (such as hierarchical control, authority, supervision information sharing with program implementers). (27). Key success factors are quality planning processes, hierarchical control over implementers, coherence between change agent expectations and task, behaviors of implementers, good communication of action plans.

Organisationnel development model

Inspired from behavioral sciences, human relation school and Kurt Lewin studies, organizational development is “a systemic process for applying behavioral science principles and practices in organizations to increase individual and organizational effectiveness”(29). This school of thought consider organizations as open systems that survive whilst adapting to complex and changing environment (technology, markets, challenges) and altering its organizational culture, values, attitudes and employee behaviors.

Executives with an engaging leadership succeed in implementing organizational change through educative strategies using internal communication, fostering participative decision making and team work in decentralized structures, employee training and motivation(27,30–35)

Psychological model

Succeeding in implementing change in organization rely on altering individual resistance to change based on their beliefs, attitudes (27). This model suggests that persuasive skills of managers, consensual engagement of coworkers and training may reduce these resistances and influence positively the general perception about the change process (27,28,36–38).

Structural model

Success in implementing organizational change depends upon structural characteristics (such as size, centralization, formalization, coordination, expertise and organizational context) and upon the attributes of managers’. Indeed, flexibility and span of control of managers are determinant in implementing change (39).

Political model

The political model is theoretically inspired from a resource based view. This model focuses on the importance of power, coalition, resource allocation, strategic analysis in implementing change in organizations. Authors suggest that there are three success factors of implementing organizational strategy: Support of authority, effective control and alignment of the project’s objectives with key stakeholders expectations. Furthermore, process of socialization through training alters perception, values, and behaviors of managers which is responsible for the alignment of their interests with organizational goals (27,39).
CONCEPTUAL MODEL

Our conceptual model is an integrative model that summarize main success factors described in literature review.

Figure 1
Success factors of rational medicine use strategy in hospital

METHOD

Implementation analysis also called “processes analysis” is the appropriate method to analyze implementation process of an intervention or program in organizational settings. It allows an explanation of variations observed while implementing programs and interventions (type 1b figure 1) (28) (35).

Figure 2
Types of implementation analysis

W conducted a descriptive qualitative multilevel case study. It is an appropriate design for implementation analysis (27). We conducted our study at the Mohamed V regional hospital in Meknes. It is a hospital with 378 beds and more than 17 medical and surgical services.

Study population and sampling

Study population

We interviewed managers in charge of the rational medicine use strategy (RMUS) implementation at central, regional and hospital level (see chart 1).

Chart 1
Population study and sampling

Sampling

Qualitative studies rely on small samples (40). We have conducted an exhaustive selection of managers in charge of the RMUS. We ensured that professional profiles we all represented in our sample (purposive sampling) (41).

Variables

Variables were identified according to our literature review and conceptual model (See Chart 2)

Our study aims to explain the implementation gap and assess the completeness and integrity of the rational medicine program. This type of implementation analysis enables the researcher to analyze to what extend organizational setting of public hospital influence the degree of implementation of rational medicine usage practices (27,35). Qualitative methods mainly using case studies are the appropriate tool to gather information about continual adaptation of rational medicine strategy to hospital changing environment (28).

Study design
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Chart 2
Dimensions, variables of the rational medicine use strategy study

<table>
<thead>
<tr>
<th>Dimensions</th>
<th>Measures</th>
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<tbody>
<tr>
<td>Degree of execution of RMUS</td>
<td>Realized versus planned actions</td>
</tr>
<tr>
<td>Central level executive support</td>
<td>Perception of central level executive about the RMUS</td>
</tr>
<tr>
<td>Coaching, empowerment of local managers</td>
<td>Coaching, empowerment of local managers and monitoring of RMUS</td>
</tr>
<tr>
<td>Implementation of hospitals through supervision</td>
<td>Implementation of hospitals through supervision</td>
</tr>
<tr>
<td>Management of action implemented by local managers, their contribution to RMUS execution</td>
<td>Management of action implemented by local managers, their contribution to RMUS execution and the evaluation of the RMUS implementation (supervision meetings)</td>
</tr>
<tr>
<td>Availability of resources</td>
<td>Availability, of financial, material, and human resources necessary for the functioning of hospital medicine committee</td>
</tr>
<tr>
<td>Engagement of Doctors, pharmacist and dental council</td>
<td>Members of doctors, pharmacists, dental council are convinced of the importance of the RMUS. They are engaged, participating in implementing, sensitizing, training professional in rational medicine usage</td>
</tr>
<tr>
<td>Internal Communication on rational medicine usage</td>
<td>Existence of communication mechanisms on the RMUS such educating meetings, pharmaceutical bulletin, information display</td>
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<tr>
<th>Data collection tools</th>
<th>Semi structured interviews</th>
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<tbody>
<tr>
<td>Evaluation grid (see annex1):</td>
<td>We conducted semi structured interviews to assess key actor’s perception (42). We elaborated Interview grids and tested them among similar professionals in charge of implementing RMUS in another regional hospital.</td>
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| Documents analysis                              | Documents are an important source of valid information in case studies (43).We analyzed several administrative documents such as circulars, executive memos, meeting debriefings, performance review, training records. |

| Data analysis method                            | We adopted a qualitative analysis based upon three steps data condensation, presentation, elaboration and verification of conclusions (Miles et Huberman) (44).We made preliminary coding grid based on our conceptual model using RQDA[1] software. These codes were reviewed during analysis. Then we transcribed all interviews in word files. |

Themes were identified after repetitive reviewing of interviewee’s discourse. we collected additional information during document consultations.

Ethical considerations

We sought Informed consent before meeting with research participants; data gathered were coded. Data was kept anonymous and confidential.

[1] Research Qualitative Data Analyze

RESULTS

Implementation of RMUS (see chart 3)

Chart 3
Assessment of rational medicine strategy implementation, 2014

<table>
<thead>
<tr>
<th>Rational Medicine Use Strategy Activities (Circulating in: ANDHSA/02/2013)</th>
<th>Implementation degree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Elaborate treatment schemes for the most prevalent pathologies at the hospital and provide it to prescribers</td>
<td>partially achieved</td>
</tr>
<tr>
<td>Transmit to pharmacy each prescriptions made for inpatients to check availability of medicines</td>
<td>partially achieved</td>
</tr>
<tr>
<td>Create a database which includes prescribed medicines unavailable at the pharmacy, useful for next command</td>
<td>totally achieved</td>
</tr>
<tr>
<td>Diffusion of the list of available medicines to practitioners</td>
<td>partially achieved</td>
</tr>
<tr>
<td>Display the list of available medicines in hospital departments and services and its update each trimester</td>
<td>partially achieved</td>
</tr>
<tr>
<td>Use nonprescriptive prescribed for antibiotic, long term disease medicine and expensive medicines</td>
<td>totally achieved</td>
</tr>
<tr>
<td>Supervise regularly prescription of available medicines at the hospital by monthly unannounced supervisions</td>
<td>planned but not achieved</td>
</tr>
<tr>
<td>Rodol visits from pharmaceutical industry representatives during working hours</td>
<td>not achieved</td>
</tr>
<tr>
<td>Promote practitioners’ notification of prescribed medicines on the patient record</td>
<td>totally achieved</td>
</tr>
<tr>
<td>Organize semi-annual meetings to promote generic medicine prescription and rational medicine use</td>
<td>partially achieved</td>
</tr>
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</table>

Interviews have shown that members of the Council of Doctors, Dentist, and Pharmacists (CDDP) have created a structure « called Medicine and Medical Device Committee (DMDC)” that was in charge of implementing rational medicine use strategy at the hospital. Members of the CDDP stated: “we created the DMDC that was in charge of identifying activities and objectives and responsible for each activity of the Rational medicine use strategy”. “We do have a clinic organizational culture that facilitates engagement of practitioners in the DMDC activities and foster information flows among professionals”.

This committee is composed by the director of the hospital, practitioners from each specialty at the hospital and pharmacist, general practitioner. Main activities started in January 2012 with information meeting of the committee’s members, diffusion of information and rational medicine use strategy among the rest of professionals. In-depth analysis of the implementation of each activity in presented in annex 2.

Barriers and facilitators of rational medicine use strategy
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Ministry of health support for the rational medicine strategy:

Ministry level executives interviewed perceive RMUS as key component of the national health strategy. Central support for the implementation of the RMUS was ensured through several actions:

- Training of hospitals managers and pharmacist has covered rational medicine use.
- Creation of a central committee in charge of monitoring the activities of the rational medicine use strategy during the implementation of the social assistance for deprived population (RAMED) in 2012.
- Achievement of Inspection and audit missions by the national evaluation commission of hospital pharmacies.
- Elaboration of national therapeutic standardized procedures, review of the medicine essential list according the WHO directives.
- Editing practical guides of management of hospital pharmacies and quantitative assessment of medicine needs.

Engagement of local managers

Middle and front line managers (see chart1) were involved in the process of editing practical guides and update of the national essential medicine list. Though many of them asserted that although the RMUS is capital for the health system and the success of the Universal Health Coverage (UHC) strategy there has been no single supervision of its implementation at hospital level. At the regional and provincial level, middle line manages perceived the RMUS as a key strategic component the national health system. These strategy is embedded in the annual action plans of regional and provincial medicine committees and in the 2012-2016 performance based program strategic objective called “improve accessibility of medicines and pharmaceutical device. Middle level managers play a key role as an intermediate regulation authority that supervise medicine management through audit missions and inform front line managers through regular regional and provincial meeting and training sessions.

Front line managers at the hospital level ensure availability of resources and access to information for the members of medicine committees and for DDPC. The later stated that hospital administration support is a key success factor in implementing RMUS. Professionals’ interviewed stated that it’s necessary to reinforce training and foster monitoring systems to assess RDU Strategy execution to ensure its effectiveness.

Availability of Resources

Local hospital managers are responsible for budget allocation to ensure sustainability of RMUS activities (training, scientific seminar organization, regular supply of pharmaceutical products to clinical services). Local managers stated "management of vital medicines are our core mission, we are convinced that the rational medicine policy is an effective resource optimization strategy”

Nevertheless, professionals stated the budget still insufficient to cover training programs’ expenditures. Consequently, the pharmaceutical industry is still the major funder of round tables, training sessions, seminars in which they promote information about drugs that are not necessary adequate with the strategy of promoting generic prescription.

Finally, professionals stated that of adequate lack information management system hinders the optimization of drug management process.

Motivation of practitioners

Professionals are strongly involved in the process of implementing the RMUS because they are convinced about the effectiveness of this strategy in improving quality of care “a member of the DDPC stated: the rational use of medicines in our hospital has been a seminal strategic objective our committee since its constitution in 2006” another member added “this will reduce variation in therapeutic procedures which will optimize medicines consumption and improve quality of care”

Interviewee point out to working hours they spent during the annual pharmaceutical needs assessment process and during the conception and diffusion of standardized therapeutic procedures and training of professionals. Their involved is motivated by the purpose of in improving professionals’ knowledge, perception and attitudes towards RMUS.

Medicine committee members asserted “all members are often working together to harmonize clinical practices in order to achieve the same desired outcomes”. We are motivated by the multidisciplinary approach. But not all members have the same engagement in this process.

Involvement of clinicians is a seminal lever for the success of this strategy. The participative decision making process is fundamental in order to adapt clinical practices to standardized protocols “we have to be involved in the process of protocols’ conception so we are aware of these
protocols and we will apply them in our daily practices” asserted one professional.

Even though protocols are diffused, many practitioners still reluctant to apply standardized procedures and are convinced that this excessive procedure standardization limits their autonomy and freedom in their clinical practice. Moreover a professional stated: “It is simpler to prescribe on routine basis than to change ones’ practice according to new protocols rather than choosing among a standardized medicine list.” Other interviewee added that time shortage and over workload are barriers for an effective clinical practice change.

Institutional Communication mechanisms

At the ministry level, senior executives stated that they have ensured the diffusion of the RMUS through coordination meeting, national journeys, guides, circulars, and trainings. « Diversity of communication channels is essential to maintain coordination amongst local health managers »

At the hospital level, the governing board communicated the RMUS circular via the DDPC committee meeting, training sessions and display at bulletin boards. One local manager stated that theses communication channels are intended to improve professionals’ knowledge, and understanding of the RMUS, and to get them to adopt these new attitudes.

At the operational level, practitioners have criticized the lack of a formal communication plan and expressed the need for sustainable internal communication strategy such as pharmaceutical information bulletins... “Informal communication is indeed most prevalent in the conception of the annual medicine command” says a responsible at the pharmacy.

DISCUSSION

Our study aimed to assess the degree of the implementation of the rational medicine strategy in a regional hospital and to explore barriers and facilitators of the execution of the strategy in hospital setting.

Central level support seems to be an enabling factor that facilitates the appropriation of this strategy at local health systems. Many change management strategies were implemented for instance coaching, supervision and training. Moroccan public hospitals are mechanic bureaucracies rather than professional bureaucracy. Central control, authority and support, legislation are key drivers for strategy execution in this type of organization. This offers more legitimacy to this strategy and facilitates its adoption by key stakeholders (27,28,45–47). Supervision in public healthcare organization is considered a powerful mechanism to ensure professional’s adoption of the rational medicine strategy (48,49). Therefore, our case study has shown a lack of supervision as stated by many professionals interviewed which has limited the scope of practitioners’ behavior change.

Resistance to change is more likely to occur when autonomy and competence of professional is at stake (50). Engaging local health managers at the beginning in the process of conception of the RMUS facilitates their engagement in the implementation process. This has a positive effect on their perception about the relevance of the RMUS.

Even though change is triggered by the Ministry of Health (strategic apex), engaging all organizational levels managers and practitioners is essential to succeed in the implementation process.(29) Success in implementing change in public healthcare organizations is linked to the availability of human, material and information resources (28). Our case study has shown that participative decision making process and multidisciplinary teams in the drug committee, as stated by WHO and by other authors, plays a major role in promoting RMUS (51). Which necessary leads to a rational medicine use and quality of patient care (17,52–56).

Lack in training funds leads to dependency upon pharmaceutical industry funding which represent a major ethical dilemma. Authors stipulated that pharmaceutical industry influence doctors’ decision making process, promote their specific products and are less motivated by the need to improve quality of care nor by the promotion of generic drug use. consequently, the industrial representatives influence knowledge and attitudes of practitioners and limits the scope of the RMUS (57–62).

Our case study, as in many others research, has shown that time shortage and lack of information management system are hindering the implementation of the RDUS, reducing the quality of drug management and limits the engagement of practitioners (29,63–68). Inadequate internal communication is also another barrier that explains partial implementation of the RMUS. Indeed, communication is major tool in managing change in organizations. It facilitates convergence of point of views, create a climate of trust, and clarify
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expectations of both change initiators and employees (64,69,70).

On one hand, passive distribution of rational medicine strategy directives (circular) has little impact in changing prescribers’ behavior as stated in other research (71). On the other hand active distribution (meetings, training sessions, seminars and repetitive reminders have more impact on practitioner’s knowledge and prescription practices (72)(73).

We could assert the training and internal communication strategies used passively are not effective in reaching the success of a change strategy. Our case study has shown little influence of training and passive communication on practitioner’s behaviors. Many authors asserts that there is little evidence on its effectiveness on professional practices (74,75).

At the end, managers should use composite strategies using several methods and maximum efforts in order to succeed in managing change in healthcare organizations (76)(77). Hierarchy, supervision, standardization which are described in literature as barriers to change are in hospital settings recommended in order to implement new organizational practices “managerial innovation” (78)(79).

Our multilevel case study design is a design that has a sufficient internal validity i (28,41). Triangulation of multiple qualitative sources (documents consultation, interviews) reduce bias linked to data collection methods.

CONCLUSION

Even though there is an evident implementation gap in local health systems of the rational drug use strategy, we assert that succeeding in its implementation could be facilitated by central ministry department support, middle manager’s support and institutionalization of multidisciplinary structures in charge of strategy implementation (DDPC, Drug committee).

Passive communication and lack of information management systems are major barriers to a successful change management in health care settings. Indeed, managing change in healthcare organizations must take into consideration perception of autonomy of practitioners based on socialization process. Moreover, managers have to implement an information management system that enables them to monitor strategy execution and deal with complex drug management issues in large healthcare organizations.

Managing change in healthcare settings need sustainable communication efforts, diversified communication strategies, training sessions and mainly support from institutional structures in order to alter practitioners’ representations and diminish collective resistance to change and finally create a trustworthy climate.

Availability of Supporting Data

We do have supporting data that are kept with respect to confidentiality and anonymous procedures.

List of abbreviations used

RMUS : Rational medicine use strategy
DPDC Drug and pharmaceutical devices committee
DDPC doctors, dentist, pharmacist council

Competing interests

“Authors declare that there is no competing interest”

Authors' contributions :

Z.B conceptualized the study protocol, contributed to data analysis, design of the study, performed the qualitative analysis, participated to the coordination and drafted the final manuscript. Y.M carried out the literature review, contributed to the conception of the study protocol, carried out data collection, data analysis. All authors read and approved the final manuscript. Authors declare that this research has no funding sources.

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Annex 2: evaluation chart of the rational medicine use strategy

References

Author Information

Zakaria Belrhiiti, PhD Candidate
National School of Public Health
drbelrhiiti@gmail.com

Yammou Mohamed, MPH
yammoumohammed@yahoo.fr