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Contents lists available at ScienceDirect

Journal of Interprofessional Education & Practice

journal homepage: <http://www.jieponline.com>

Factors contributing to interprofessional collaboration in Indonesian health centres: A focus group study



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ARTICLE INFO

Article history:

Received 22 March 2017

Received in revised form

13 June 2017

Accepted 28 June 2017

Keywords:

Collaboration

Interprofessional

Indonesia

Health centres

Focus group discussion

ABSTRACT

Background: The burgeoning health burden in Indonesia requires strengthening primary care services through interprofessional collaboration.

Purpose: to explore factors contributing to interprofessional collaboration within health centres Indonesia.

Methods: Eight focus group discussions involving a range of health professionals from health centres were conducted in four districts in East Java, Indonesia. Thematic analysis was used to generate findings.

Results: Collaborative practices in Indonesian health centres are directly affected by health professional interactions (personnel level) – hierarchy and lack of role understanding have been reported as barriers to the interactions. These factors are in turn affected by health centre's environment (organisational level) and the Government legislation/policy (health system). The health centre's environment included organisation's culture, team management, physical space, as well as communication and coordination mechanisms.

Conclusions: Factors contributing to collaborative practices in this setting were complex and intertwined. Structuring collective actions or strategies would be required to address the identified collaborative issues.

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1. Introduction

Indonesia is the world's largest island nation with a population of more than 200 million.^{1,2} Whilst infectious diseases still remain prevalent, Indonesia faces an increasing burden of chronic diseases, such as cancers, cardiovascular and chronic respiratory diseases.³ In 2014, the country launched a national health insurance programme (*Jaminan Kesehatan Nasional – JKN*) aiming to improve accessibility and quality health care for all Indonesians.⁴ In order to support the programme, the Ministry of Health's priority policy for 2015–2019 includes strengthening primary care services in which health care

providers are encouraged to collaborate to improve quality use of medicines and patient safety.⁵

Collaborative practice in health care occurs when multiple health workers from different professional backgrounds provide comprehensive coordinated services to patients, their families, carers and communities to achieve the highest quality of care across settings.⁶ Effective collaborative practice and optimised health-services, strengthens health systems and improves health outcomes.^{7–12} Research worldwide has shown that collaborative practice can improve access to and coordination of health services, appropriate use of specialist clinical resources, improved health outcomes for people with chronic diseases, patient care and improved safety.^{13–15} Collaborative practice can also decrease disease complications, length of hospital stay, conflict among caregivers, staff turnover, hospital admissions, clinical error rates, and mortality rates.^{9–11,13,16–19} In primary care settings, patients have reported higher levels of satisfaction, better acceptance of care and improved health outcomes following treatment by a collaborative

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team.¹⁶

Several factors may contribute to the successful implementation of interprofessional collaborative practice, such as institutional support (e.g. governance, structured protocols, availability of space and time), working culture support (i.e. communication strategies), professional support (e.g. common interest, willingness, trust), policy support, interprofessional training and long-term funding.^{6,20–24} Specific factors may differ between countries as no two health systems in the world are exactly the same. Thus, countries seeking to move towards more collaborative types of practice should begin with assessing what is readily and currently available, and building on what they have. A questionnaire survey of Indonesian health professionals has reported positive attitudes towards collaboration,²⁵ a better understanding of the local context is required for translation into actual practice. In Indonesia, primary care services are mainly provided within *Pusat Kesehatan Masyarakat* (*Puskesmas*) or health centres with a referral system to the secondary and tertiary facilities, thus health centres are front-line in the implementation of JKN. This study aims to explore factors contributing to interprofessional collaboration within health centres in Indonesia.

2. Methods

2.1. Research design

A qualitative study used focus groups of health professionals employed in Indonesian health centres. This qualitative method was chosen as it enabled exploratory work to be carried out in order to assess the views of study participants.²⁶ Approval for the study was obtained from the Human Research Ethics Committee of Universitas Islam Indonesia (No. 40/Ka.Kom.Et/70/KE/V/2016).

2.2. Research setting

The study was conducted in East Java, a province of Indonesia located at the eastern end of Java island, with an area of 47,963 km².²⁷ According to the 2010 Population Census estimates, there were approximately 37 million people residing in the East Java, making it Indonesia's second-most-populous province.¹ Although, the health status of the population in Java-Bali regions are generally more advanced than the Eastern parts; East Java's morbidity and mortality rates related to chronic diseases, such as diabetes and cardiovascular diseases, were among the highest in Indonesia.³ East Java is divided into 29 districts (*kabupaten*) and 9 cities (*kota*)²⁷; a health centre is a technical unit of a District/City Health Office to provide primary health care in a sub-district level (*kecamatan*). In 2014, there were 960 health centres in East Java, giving a ratio of 1 health centre per 40,219 of the population. Almost 60% of these health centres included inpatient care to provide first aid for emergency cases, while the remainder only have outpatient facilities.²⁸ Regulations state that a health centre should be at least staffed by a physician, a dentist, a nurse, a midwife, a public health staff, an environmental health staff, medical laboratory technologist, a nutritionist, and pharmacy staff.²⁹ Shortages of health staff in health centres has been reported.²⁸

2.3. Sample and recruitment

Participants in focus groups were health professionals, including physicians, pharmacists and/or pharmacy technicians, nurses and/or midwives, who were currently working in the health centres. Focus groups were conducted in four districts in East Java, namely Trenggalek (a southern district), Madiun (a western district), Tuban

(a northern district), and Mojokerto (a central city). These different areas in East Java were chosen to ensure a wide representation of primary care providers across East Java. Participants were purposefully selected by the Chief of the District/City Health Office. Two focus groups were organised in each district/city and conducted in the District/City Health Office; each focus group consisted of a mixture of health professionals practising in different health centres in the related district/city.

2.4. Data collection

Participants received an information letter and invitation to attend the focus group. Before the focus group, the nature of the study was explained and informed consent was obtained. Each focus group was facilitated by one moderator and one note-taker. The design of focus group questions was aided by a literature review,⁶ followed by a meeting of researchers as well as facilitators (AP, BOB, MM, YW, SI, FA) to finalise the process. The summary of focus group questions can be seen in Table 1.

The participants in two of the focus groups did not consent to have their discussions audiotaped. Hence, extensive notes were taken by a note-taker during the sessions. Both facilitators (moderator and note-taker) expanded these notes during the debriefing session after the focus group, and generated a set of debriefing notes. All focus groups were conducted in Bahasa Indonesia in 2016. Each focus group lasted about 90 min; a summary was provided to the participants at the end of the discussion as a means of member-checking, ensuring credibility of the data.³⁰

2.5. Data analysis

Audio-recorded data from the focus group meetings were transcribed into Microsoft Word. Transcribed data was thematically analysed³¹ by one of the researchers (YW), who discussed and confirmed extracted themes with one of the researchers for consistency (AP). The analysis firstly involved a process of familiarisation with the data by listening to the audio-recordings and reading the transcripts several times. Following this, significant comments relating to factors contributing to collaborative practice were identified and coded. The codes were then clustered and organised at a broader conceptual level (i.e. themes). The data were analysed manually by cutting and pasting between documents. Data analysis was conducted in Bahasa Indonesia and the illustrative verbatim quotes and theme labels were translated into English by YW.

3. Results

Of 72 health professionals approached, 69 agreed to participate in 8 focus group meetings (Table 2). Data saturation occurred after the sixth meeting, from which no new information on factors was gained during data analysis. However, as a further two meetings had already been organised, all meetings were performed. All data were used in the analysis.

There were three themes that emerged from focus group discussions regarding factors contributing to interprofessional collaboration in Indonesian health centres. These themes pertained to: i) personnel level: interprofessional interactions; ii) organisational level: health centre's environment; and iii) system level. The identified themes were complex and intertwined and, as such, the Interprofessional Education for Collaborative Patient-Centred Practice (IECPCP) framework³² and ecological model^{33,34} were combined to explain the interconnections (Fig. 1). The IECPCP framework highlighted the micro (interactional), meso (organisational) and macro (systemic) factors that affect collaborative

Table 1
Focus group questions.

1. Opening question Definition – How do you define ‘interprofessional collaborative practice’?
2. Key question a. Extent of current collaborative practice – Would you tell us about your experience of working collaboratively with other health professionals? b. Facilitator – Would you describe a time when you work collaboratively with other health professionals that you considered a success? c. Barrier – Would you describe a time when interprofessional collaborative practice was unsuccessful (i.e. you did not achieve a solution of a problem)?
3. Closing question (If any) issues considered relevant to improve interprofessional collaborative practice.

Table 2
Characteristics of the participants.

District/city	Focus Group 1	Focus Group 2	Health facility origin of participant
Madiun	1 physician 2 pharmacists 3 pharmacy technicians 1 nurse	2 pharmacists 3 pharmacy technicians 1 nurse 1 midwife	6 health centres - including 2 and 4 health centres with and without inpatient facilities, respectively
Trenggalek	2 physicians 2 pharmacists 1 pharmacy technician 1 nurse	2 physicians 2 pharmacy technicians 2 nurses	4 health centres with inpatient facilities
Mojokerto	2 physician 2 pharmacists 1 pharmacy technician 1 nurse 1 midwife	2 physician 2 pharmacists 1 pharmacy technician 2 nurses 1 midwife	4 health centres - including 3 and 1 health centres with and without inpatient facilities, respectively
Tuban	2 physicians 3 pharmacists 4 pharmacy technicians 3 nurses 2 midwives	3 physicians 2 pharmacists 4 pharmacy technicians 3 nurses 2 midwives	9 health centres - including 5 and 4 health centres with and without inpatient facilities, respectively

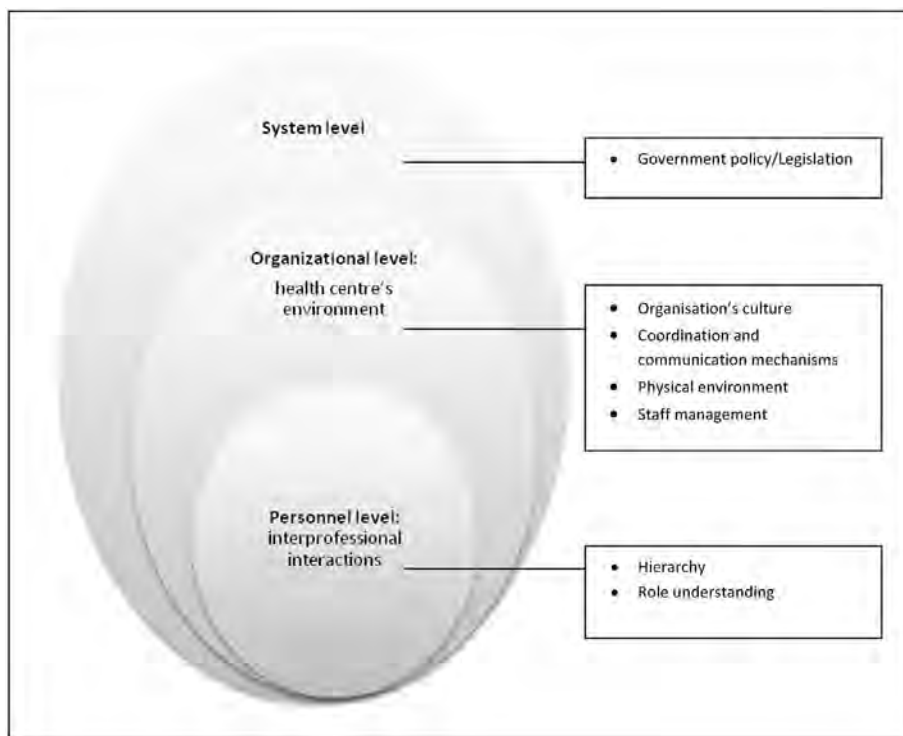


Fig. 1. Factors contributing to interprofessional collaboration in Indonesian health centres.

practice,³² while the ecological model features multiple levels of influence, which are interactive and reinforcing.^{33,34}

3.1. Personnel level: interprofessional interactions

It is interprofessional interaction that is required to create a

collaborative team aimed to ensure quality of care. The focus groups revealed that health professionals in Indonesian health centres perceived that good interpersonal relationships existed, yet limited interprofessional interactions occurred. Currently, patient care was delivered along relatively autonomous service lines with little requirement for contact between the professions. The lack of interprofessional interactions may be due to the hierarchical culture and lack of role understanding among different professions in the health centres.

3.2. Hierarchy

This study revealed that the Indonesian health centre has been characterised by a hierarchical culture where physicians are at the top, as illustrated by Physician MO1.2: *“All health disciplines were based on the medical discipline. A physician has to be able to do all (care), starting from diagnosis, conducting laboratory tests, administering infusion, administering medications, etc.”* Consequently, other health professionals were often positioned as supporting staff to physicians rather than independent professionals that contributed their own knowledge and skills.

Nurses and midwives tended not to see their subordination to the physicians as a problem, this hierarchical culture caused pharmacists and pharmacy technicians to perceive that physicians were unapproachable (difficult to work with), as illustrated by: Pharmacist MD2.3 *“In relation to the barrier - for us who are in the pharmacy - it is the physician. Physicians are strong-willed and each has his/her own (prescribing) style”*; and Pharmacy Technician MD1.5 *“This is dependent on personal characteristics – it is generally easier to work with nurses/midwives (than physicians).”*

3.3. Role understanding

Understanding their own professional identity as well as professional's roles in the health care team is an important prerequisite for interprofessional interactions to occur. This study reported a lack of understanding among physicians, nurses and midwives towards the pharmacists and pharmacy technicians' roles. Pharmacy staff were mainly categorised as managing medicine supply systems to maintain availability and accessibility of medicines, and providing information on how to use medicines, as illustrated by: Physician TR1.5 *“What pharmacy staff have been doing is good, they communicate frequently – explaining how to take medications”*; and Nurse TR1.3 *“Pharmacy staff should maintain the supply of medications, especially injections. If the supply is well-maintained – that's it – the nurse can do the rest.”*

However, pharmacists – supported by pharmacy technicians – assumed more clinical roles, namely reviewing prescriptions (for dosing, interactions, duplication etc) and patient counselling to reduce errors; as illustrated by Pharmacist MD2.3 *“Sometimes this (duplication) can happen. Pharmacy staff should first review all prescriptions from different clinics in the health centre for the same patient”*; and Pharmacy technician TR1.1 *“Counselling should be provided while patients collect their medications.”*

3.4. Organisational level: health centre's environment

It is important to recognise that interprofessionality is not only influenced by interactions within a team, but also in the context of a larger organisational setting. The focus group participants suggested that health centres should create the right culture, coordination and communication mechanisms, physical environment and staff management to ensure interprofessional interactions.

3.5. Organisation's culture

Culture is a system of shared values and norms that guide member's attitudes and behaviors. The focus group participants discussed the importance of health centres to have a positive culture to encourage collaboration among health professionals – such as a no blame, questioning, and sharing/learning culture, as illustrated by comments from different health professionals: Physician TR 2.3 *“The physician should not blame other health professionals; on the contrary, they should share information to enhance the decision making process to improve patient outcomes”*; Pharmacist MO1.1 *“For inpatient cases, before writing the prescription, the physician could ask the pharmacist – what suitable medications are available? – thus ensuring patient-oriented and quality care”*; and Midwife TR 1.8 *“Sharing knowledge and information should be formalised to ensure that everyone who needs the information gets it.”*

3.6. Coordination and communication mechanisms

Data from the focus groups suggested that communication and coordination is an essential feature of collaboration as an effort to break down divisions that limit information sharing. Thus, the development of formalised information systems would be essential in ensuring clarity and continuity of information. Physician TR2.1 suggested: *“Patient Medical Records sometimes can be adequate as a means of communication.”* Further, the introduction of Sistem informasi manajemen puskesmas (Simpus), an integrated electronic information system to manage processes within a health centre, can enhance effective coordination and communication between team members; as illustrated by Physician MD 1.4: *“After diagnosis, the physician will input the (patient) data to the software, thus others could access it.”* Thus, the software should be continuously evaluated and improved for a better acceptance.

In addition to information systems, participants reported that routine team meetings, have been an effective strategy for enhancing coordination and communication. For example: monthly 'mini workshop' which is a staff meeting led by the chief of a health centre to discuss health-related issues/programs, as illustrated by Pharmacist MO1.1 *“A 'mini workshop' (e.g. discussing vaccination programs) could facilitate the related units to know each others roles, thus enhancing collaboration.”* Other meeting opportunities include clinical audit, afternoon wrap-up meeting, meeting to discuss important issues, and ward rounds, as Pharmacist TR2.1 said: *“If there is a special case, we usually discuss it with the physician as well as the nurse, e.g. during ward round.”*; Midwife MD 2.4 *“For example: we might discuss women and child health services during clinical audit – involving nurses/midwives, nutritionists, etc.”*

3.7. Physical environment

Physical environments refer to the spaces where health-related work is undertaken. Space design can impact on information exchange among health professionals of different disciplines, and between health professionals and patients, as illustrated by Nurse TR 2.2 *“The current design of the medication supply unit which is close to the inpatient wards has helped with building collaboration (between nurse-pharmacist) as medication can be directly given to the patients”*; and Physician TB 1.1 *“The medication supply unit design should be changed, it should be of open counter design with no barrier between the staff and the patient.”*

3.8. Staff management

A strong collaboration demands effective staff management that allows enough time be available for the team professionals to share

information, develop interpersonal relationships and address team issues. It was reported that health centres often have limited staff, causing professional staff to spend a great deal of time doing administrative work which limits their time for collaborative work, as illustrated by Pharmacy Technician TR1.1: *"We are busy doing reports and even being asked to help with the financial reports etc, thus the resources are limited"*.

3.9. System level: government legislation/policy

Legislation and policies adopted by the government are key mechanisms to create systems that would be in keeping with interprofessionality. It is the Government's policy that a health centre-participating JKN should be accredited, thus requiring health professionals in the health centre to collaborate in order to ensure quality care, as illustrated by Nurse TB1.2 (chief of a health centre): *"Accreditation helps us to create a system, and this requires solid team work. When a system has been established, I just need to look for things that need to be improved (continous improvement)"*. The participants were more focused on the importance of collaboration in improving medication management; as illustrated Physician TR1.2: *"I hope that the pharmacist could continuously update the physician regarding new drugs, drugs that are (currently) available, drugs that are about to expire (as considerations when prescribing)"*.

4. Discussion

The aim of this qualitative focus group study was to map factors contributing to collaboration in Indonesian health centres, as experienced by health professionals from various background. Although most of the factors described correspond to the general theory of interprofessional collaboration,³² and findings from previous published studies/reviews,^{6,20–24} this present study provides new insights within an Indonesian context: a diverse archipelago nation and a major developing country with the recent implementation of JKN. With the dispersion of islands over a wide area, Indonesia is facing problems with supply, mix and distribution of health workforce.³⁵ Interprofessional collaboration, thus, can be seen as one of the potential solutions. This study found that the development of collaboration in Indonesia requires structured collective actions based on interprofessional interactions (personnel level), the process inside the organisation (organisational level), as well as in the organisation's external environment (the system level).

It is well recognised that shared common goals and mutual trust are of prime importance to build interprofessional interactions.^{21–23,32} Shared goals emerge when the team focus is patient centred.³² However, this study suggested a hierarchy of power – where physicians were considered as the main providers – that may hamper sharing of care among professions to fulfil patient needs. Further, Indonesian health professionals reported lack of role understanding, especially toward the role of pharmacists. It is only recently that most health centres recruited pharmacists (to comply with the new regulation/accreditation)³⁷; the late inclusion of pharmacists in health centres as well as low levels of clinical practices among pharmacists in Indonesia, all of which may contribute to the lack of understanding towards pharmacists' roles. It was recognised that knowledge of each other's role is a prerequisite for mutual trust; knowledge on roles allows mutual recognition among team members toward their professional autonomy while accepting common professional territories where their respective contributions may overlap (interdependence).^{24,32} Thus, collaborative programs should initially be developed to moderate the strong hierarchical perceptions found in this study.

Collaborative programs could facilitate different professional groups working together and demonstrate their diverse skills. While health centres' main issues are still at the medication management levels; the collaborative programs might start with evaluation of prescribing, dispensing and drug administration errors and systems for their minimisation, local formulary development and monitoring prescribing. These could identify processes that improve then with respect to better patient outcomes.

To support collaborative programs, this study reported the role of organisational attributes to define the work of environment of the team, such as its culture, team management, physical space, as well as communication mechanisms. D'Amour and Oandasan suggested that the patient was the core of collaborative practice,³² thus Indonesian health centre should first endorse and promote a culture of quality patient-centred care. The culture should be supported with clear governance systems where staff participating in collaborative practices understand and perform delegated roles and responsibilities, and the systems should enable regular review of their performance for continuous improvement.^{32,36} While this study reported information exchange systems, such as *"Simpus"*, have been developed to facilitate interprofessional coordination, this should be supported with clear protocols or procedures to further formalise or structure clinical care in a more systematised way, thus creating clear governance systems. In line with this study, adequate time and space are also reported to be essential for interprofessional collaboration and delivery of care.^{6,21,23}

Further, this study found that the Government's policy has been the facilitator of collaborative practices. Health systems have mechanisms through which health services are delivered. Since 2014, the Indonesian health system provides universal access to a range of services through JKN (Government of Republic of Indonesia, 2004).⁴ Within the scheme, it is Government policy that health service providers, such as health centres, should be accredited to ensure quality health care.³⁷ In general, the accreditation includes three main aspects: i) administration and management, ii) community/public health services, and iii) individual health services.³⁷ The implementation of accreditation as a quality improvement mechanism should further integrate collaborative practices within the existing programs to ensure better patient outcomes.

This study's limitations are related to qualitative data that are a product of views, experiences and perceptions of respondents, thus it can be biased if respondents are not sharing their true responses.²⁶ To ensure accuracy, however, the results of this study were provided to the focus group participants ('member-checking').³⁰ In addition, no new themes emerged after the sixth set of focus groups (data saturation), suggesting that all possible issues had been covered.²⁶

5. Conclusions

Factors contributing to interprofessional collaboration in the East Javan health centres are complex and intertwined at the personnel, organisational and system levels. Implementation of programs that foster collaboration such as quality improvement should be tested initially. These results should be used as a foundation to integrate interprofessional collaboration, and at the same time, to develop the appropriate infrastructure and support within the three levels of collaboration. Further research would be required to explore potential strategies to address identified collaborative issues, and to implement and evaluate those strategies in order to continuously improve collaborative practice, ensuring quality patient care.

Funding

This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

Declaration of interest

This study was conducted as part of the East Java Provincial Health Office programs in promoting the roles of pharmacists. The authors report no conflicts of interest. The authors alone are responsible for the content and writing of this paper.

Acknowledgement

The authors would like to thank health professionals who participated in the survey, as well as staff from the Centre for Medicine Information and Pharmaceutical Care (CMIPC) – Faculty of Pharmacy, Universitas Surabaya and East Java Provincial Health Office, Ministry of Health Republic of Indonesia, for assisting in the data collection.

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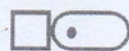
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2015-ongoing

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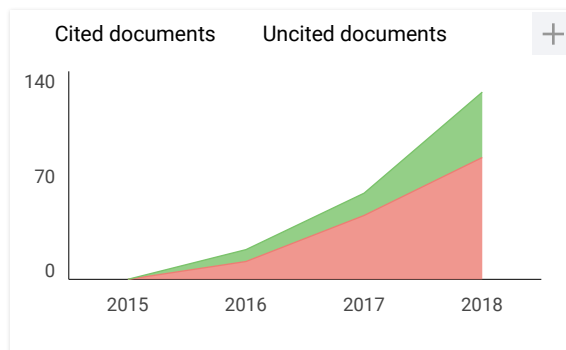
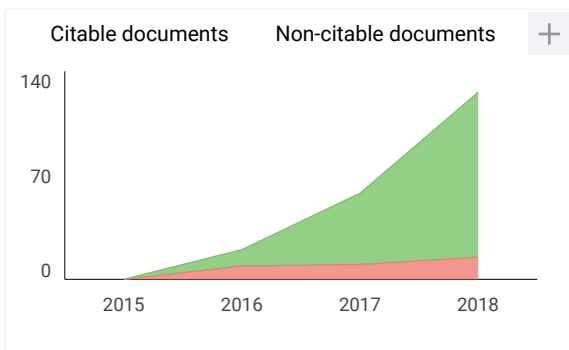
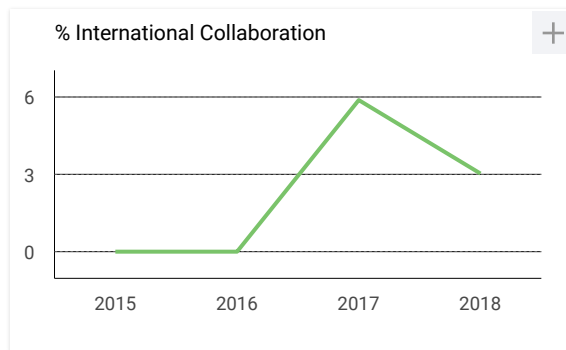
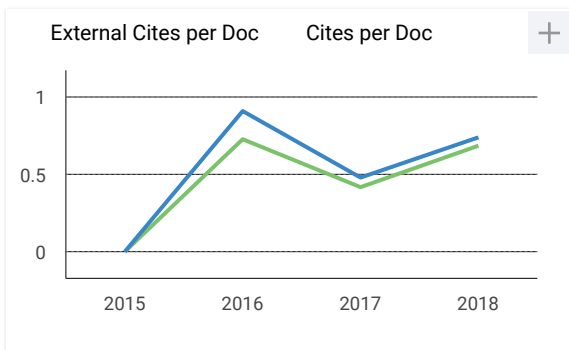
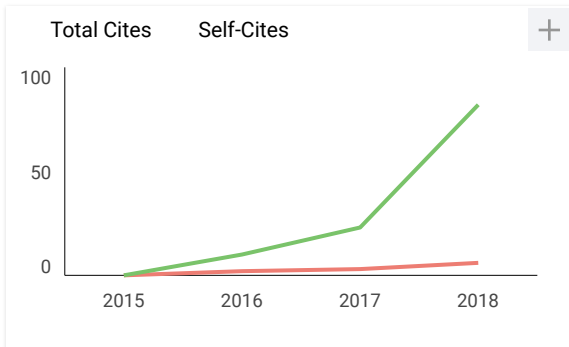
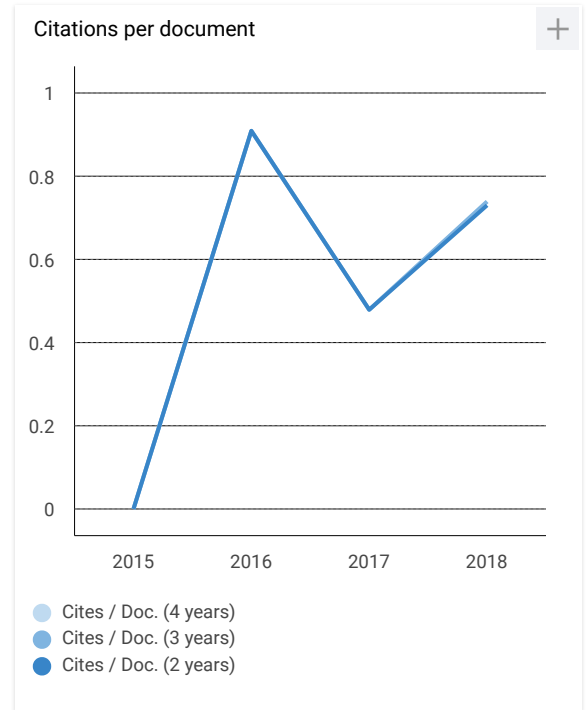
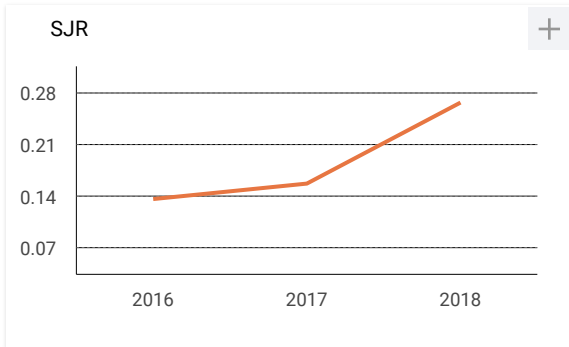
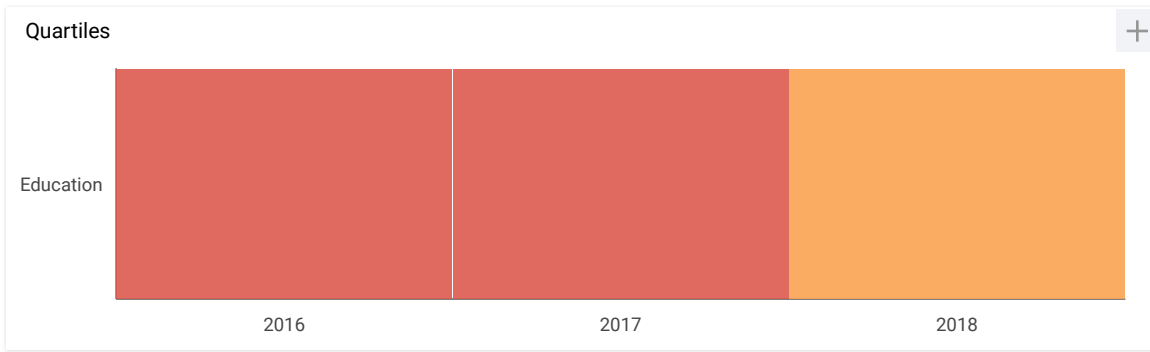
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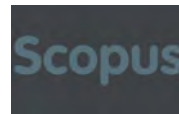
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