

Contraceptives Supply Chain and Management in Dayak Societies: A Case Study in Indonesia

Lamia Diang Mahalia^{1,2}, Lutfi Agus Salim³, Tika Indiraswari⁴, Iswari Hariastuti⁵

¹Doctoral Program of Public Health, Faculty of Public Health, Universitas Airlangga, Surabaya, Indonesia, ²Health Polytechnic Ministry of Health Palangka Raya, Indonesia, ³Departement of Biostatistics and Population, Faculty of Public Health, Universitas Airlangga, Surabaya, Indonesia, ⁴Faculty of Public Health, Universitas Serambi Mekkah, Banda Aceh, Indonesia, ⁵Regional Office of National Population and Family Planing Board, Jawa Timur, Indonesia

Abstract

Contraceptive devices and medicine have a very strategic value in supporting family planning operations. This study therefore aims to determine the trend of contraceptive need and use in Dayak societies, and analyze the supply chain as well as the management of contraceptives required to fulfill this need. The research design used a case study, and qualitative data were obtained from in-depth interviews supported by secondary data. Meanwhile, quantitative data were collected through questionnaire survey, and data analysis was performed using the triangulation method. Subsequently, the results of qualitative data analysis were combined with the results of quantitative data analysis to acquire final conclusions. In Dayak societies, injections are the contraceptive form most required and used by people in the local community (30.21%). Furthermore, there is a significant correlation between need and use of contraceptives (Sig. = 0.000). The demand for contraceptives is based on the remaining stock at the health center, as well as the community's request. During the acceptance process, the quality, quantity, and type of contraceptives are checked, and counseling is provided, especially for new acceptors. Meanwhile, the suitability of the contraceptive storage conditions at the health center was discovered to be 61.46%, compared to the standard. Currently, supporting management is not run optimally, especially in terms of formulating an operating standard procedure, as well as monitoring, evaluating, and implementing training. Thus, the availability of contraceptives at the supplier and local community's need for contraceptives are taken into consideration and as a strategy for managing contraceptives in the Primary Health Care of Dayak societies, in order to ensure the availability of contraceptives at Puskesmas and fulfill the contraceptive needs of Dayak societies.

Keyword: Contraceptive supply chain, contraceptive management, and contraceptive need.

Introduction

Contraceptive devices or medicine have a very strategic value in supporting family planning operations, and must therefore be managed properly⁽¹⁻³⁾. Thus, valid and reliable forecast as well as logistical management is one of the key elements considered to ensure each couple of reproductive age are able to obtain the desired contraceptives. The interrelated stages in the contraceptive management cycle require an organized supply chain system and must always be supported by support management, to ensure effective and efficient management⁽²⁻⁶⁾. In addition, poor management

of contraceptives tends to affect the availability of contraceptives in family planning service facilities, and the stock of contraceptives tend to become stagnant, or stock out. This in turn impacts services in family planning service facilities and increases the risk of not meeting acceptors' needs⁽⁷⁻¹⁰⁾.

The primary Health Care Center (Puskesmas), as the spearhead of basic health services, must always be able to provide contraceptives to meet community needs. Furthermore, the use of contraceptives is also influenced by cultural factors, including hereditary habits^(11,12). A person tends to be interested in using one

type of contraceptives, in cases where people around them use the same^(11,12). The Dayak culture has unique traditional pregnancy restriction efforts, and the local people are able to plan the desired number of children and determine individual birth spacing, by eating “suluh” (rolling young leaves). However, injection is the most widely used contraceptive by people living in Dayak societies, within the last 2 years (2019-2020)⁽¹³⁾. This study therefore aims to determine the trend of contraceptive needs in Dayak societies, and to analyze the supply chain and management of government contraceptives in meeting these needs.

Material and Methods

The research design used a case study, and qualitative data were obtained from in-depth interviews with contraceptives management officers at Puskesmas, supported by documents, notes, and reports. Subsequently, the qualitative collected data was reduced

by summarizing, selecting, and focusing the data on items in line with the research objectives. Meanwhile, quantitative data were collected through questionnaire survey, and presented in the form of a frequency distribution table and correlation test. The results of qualitative data analysis were then combined with the quantitative counterpart, using the triangulation method, to obtain final conclusions.

Results and Discussion

Description of contraceptive availability in Dayak societies.

To meet the needs of community contraceptives, the availability of contraceptives at the suppliers as well as Puskesmas needs to be considered because this tends to affect targeted family planning services⁽²⁾. Table 1 shows the condition of contraceptives stock at the supplier and Puskesmas.

Table 1: The Percentage Stock Conditions of Each Contraceptives at the Suppliers and Puskesmas, Between January and September, 2020.

Unit and Type of Contraceptives		Stock condition (%)	
		Stockout	Stagnant
Suppliers			
1.	IUD	66,67	-
2.	Implant	-	66,67
3.	Injection	-	66,67
4.	Pill	66,67	-
Puskesmas			
1.	IUD	-	33,33
2.	Implant	-	66,67
3.	Injection	-	100
4.	Pill	-	100

Table 1 shows the stock of IUDs and pills in supplier has experienced stockout (66.67%), while implants and injections have experienced stagnancy (66.67%). This is also the case in Puskesmas, where implants and injections as well as IUDs and pills have been stagnant

at 66.67%, 100%, 33.33% and 100%, respectively. The availability of adequate contraceptives at both suppliers and health care facilities affects the fulfillment of demands and needs of couples within childbearing age, with the desire to use contraceptives⁽¹⁴⁾.

Puskesmas is responsible for monitoring and managing contraceptives, and places orders with suppliers in cases of need. Thus, the decision on the products and quantity to order, depends on the needs of each puskesmas⁽¹⁰⁾. Community needs for certain contraceptives types are often determined through local community use patterns^(15,16). Furthermore, the availability of contraceptives stock at suppliers is related to the supplier's ability to meet the real contraceptives needs, including at Puskesmas⁽⁷⁾. The stock conditions of contraceptives at Puskesmas are not always the same as suppliers, and stagnancy may occur in Puskesmas, even in cases where the district level experiences a stockout. This is probably due to the ineffective distribution of contraceptives within the community⁽⁶⁾.

Management of contraceptives in Puskesmas

Selection (Planning)

The planning for contraceptives needs is prepared by coordination between Puskesmas and family planning field officers from the Family Planning Center, at the sub-district level. The planning was carried out by the Family Planning Center, however, the supply of contraceptives to puskesmas remains based on the needs and demands of acceptors as well as the remaining stock. This condition is in line with the theory stating the calculation of stocks, including working stock, buffer stock, remaining stock, and waiting time, must be considered while planning⁽²⁾.

Procurement (Request)

In this study, Puskesmas did not target the number of contraceptives requested. Regardless of the contraceptives provided by KB Center, this number will also be received by Puskesmas. This health center usually receives contraceptives every three months and the most common are pills and injections. This is based on trends in the use of contraceptives in the work area study by Puskesmas, where acceptors used injections the most. Furthermore, this also occurred in previous studies where injection was the most popular type of contraceptives^(15,16).

Requests for implants and IUDs are only made by Puskesmas in cases where prospective acceptors

come to Puskesmas to ask for these contraceptives. This is because there are very few acceptors interested in implants and IUDs. Thus, the health center helps to prevent the occurrence of stagnancy, and consequently, expiration of the implant or IUD.

Receipt

In this study, contraceptive equipment and medicines arriving at Puskesmas are received by the officer in charge of family planning. At the time of receipt, the receiving officer checks the contraceptives, as well as the suitability between delivered goods and the proof of incoming goods, in terms of quantity and type. The expiry date, packaging condition, and physical condition of contraceptives are also examined. This is in line with the theory and results of previous studies stating the quality, quantity, and type of drugs coming to health care facilities must be checked before being received or stored in the storage area^(3,17,18).

The contraceptives acceptance form is a receipt of incoming goods and signed by the delivery and receiving officers. Subsequently, any damaged goods found during the examination are returned and replaced with new contraceptives in good condition. This procedure for receiving contraceptives at the health center is in accordance with the technical guidelines' requirements for acceptance, storage and distribution of contraceptives, for the National Family Planning Program⁽¹⁸⁾.

Storage

The received and checked contraceptives are then placed in a storage rack within the service room. This storage rack's location joins the service room, cleaned daily by a janitor, and has sufficient ventilation, air circulation, as well as lighting. The number of contraceptives received must be in accordance with the storage capacity of the contraceptives, and the key to the storage rack is only held by responsible personnel.

Based on observation and filling in the contraceptive's storage checklist, the percentage compatibility between the contraceptive's storage requirements and the health center's storage facilities, was 61.46%. The Indonesian Ministry of Health's requirements for drug storage

include, the presence or absence of stock cards, cleanliness and adequate air circulation, safe storage, procedures for storing medicines in accordance with the principles of First Expired First Out (FEFO) and First In First Out (FIFO), procedures for storing damaged, expired, as well as stagnant drugs, and documentation^(1,17,19).

Counseling

Counseling is often provided more frequently to new acceptors, and there are 6 officers providing contraceptive and counseling services at Puskesmas. These officers have never attended any training on providing counseling. Family planning officers often use counseling media, including flipcharts of decision-making tools and contraceptive kits, to support counseling. Subsequently, prospective acceptors / acceptors may be invited to go home, discuss and obtain the husband's consent, then fill out the informed consent form, particularly for prospective acceptors / acceptors desiring an IUD. This counseling is also a forum for family planning officers to rectify society's negative stigma towards contraceptives and provide the community with the right understanding.

According to previous research, counseling is usually provided to new participants and media or tools are usually required to support the counseling process. Provision of counseling tends to increase the success of family planning programs, thus, counseling training is necessary for Puskesmas family planning service officers⁽²⁰⁾.

Distribution to acceptors

The contraceptives distributed to acceptors are recorded in a register book. This distribution occurs after providing medical examination and counseling to acceptors. Family planning officers also provide several information, especially on contraceptive use, while distributing the items to acceptors. This includes the control schedule, schedule of repeat visits, and possible side effects acceptors experience. In addition, acceptors using implants are also taught how to treat wounds after implant placement, and reminded to take antibiotics and pain medications provided by family planning officers.

Support management

Management of information systems

The Contraceptive Management Information System, as well as the recording in Puskesmas were conducted manually. Outgoing contraceptive transactions are recorded daily in the KB cohort register, while proof of contraceptives received by the health center are contained in the Proof of Entry. Subsequently, the entire information contained in the book or form is recapitulated and reported to the supplier every month, in the form of a Family Planning Health Facility Monthly Report. Currently, Puskesmas does not have standard operational procedures documents related to the management of contraceptives, whether planning, requesting, receiving, storing, or distributing. However, the standard operating procedures implemented include providing counseling, insertion of IUDs and implants, as well as giving birth control pills and injections.

The adequate management of information systems is also an important part of the management contraceptive cycle. Information is the engine driving the entire logistical cycle, and the logistics management information system is a system of records and reports used to collect, organize, and present logistics data collected at all levels of the system. These records and reporting must therefore be conducted clearly to prevent errors in oral communication and facilitate traceability. Information is collected to make decisions, thus better information leads to better decisions making^(2,3,6,21).

Supervision, monitoring and evaluation

In this study, the management of contraceptives at Puskesmas was routinely supervised by the Family Planning Field Officer (PLKB) at least once a month. During supervision, the parameters most often evaluated include the conditions of contraceptives, both the number and physical condition of stock, as well as recording and reporting of the use of contraceptives. This supervision is a planned observation process by the PLKB, and the supervision of officers working in the logistics system allows for smoother running and helps to anticipate the required changes. In addition, conducting supervision regularly and effectively, coupled with the implementation of logistic training in the workplace,

helps to prevent and resolve supply problems as well as human resource constraints⁽²⁾.

Meanwhile, monitoring and evaluation activities are carried out by the local District Health Office in conjunction with technical guidance activities held at Puskesmas. In terms of contraceptive management, only parameters related to recording/documenting activities are monitored. This monitoring is carried out regularly to determine the progress of an ongoing activity, while evaluation is a procedure for assessing a program/activity to obtain information on the success of achieving set goals, as well as activities, results, impacts and costs. Regular monitoring and evaluation of logistics system activities show how well the system is performing, areas requiring improvement, as well as the system's impact on service delivery^(2,6).

Organization and staffing

As the leader, the head of Puskesmas provides support for the implementation of the family planning program, for instance, by providing family planning officers from Puskesmas during the Family Planning Center's safari. The head also appoints a staff member in charge of contraceptive management, to be responsible for family planning. Meanwhile, the educational background of Puskesmas family planning officers is a midwifery diploma degree, and each staff member has a description of respective duties and functions. Also, the head of Puskesmas provides support to staff by granting

permission to pursue higher formal education, in a bid to improve the quality of human resources.

The involvement of the Puskesmas head with staff greatly influences contraceptive management. In addition, the duties and responsibilities, powers as well as relationships among all personnel must be clearly defined and understood by concerned personnel and contained in the job descriptions^(2,6,22).

Financing

The contraceptives received by puskesmas are free, and suppliers are responsible for procurement funds, as well as the cost of distribution to puskesmas. These funds come from the Non-Physical Special Allocation Fund managed by the supplier, and finance allocation and management directly affects all parts of the logistics cycle, including the cost of storage, transportation, and management logistics contraceptives^(2,23,24).

Trend description of the need and use of contraceptives of Dayak societies.

The desire for a small, healthy and prosperous family continues to increase in some developing countries, and this motivates people to provide ideal birth spacing, using contraceptives⁽¹³⁾. This is also experienced by people living within Dayak societies in Indonesia. Table 2 shows the frequency distribution of the contraceptives need in Dayak societies.

Table 2: The needs and uses of each contraceptive type, in Dayak societies.

Type of Contraceptives	Contraceptive Used		Contraceptive Needed	
	n	%	n	%
Pill	25	25,5%	22	22,4
Injection	24	24,5%	29	29,6
IUD	24	24,5%	20	20,4
Implant	25	25,5%	27	27,6
Total	98	100	98	100

According to Table 2, 96 respondents from Dayak societies (30.21%) needed injectable contraceptives the most. This is in line with the previous study on the trend of contraceptives use, where injection is the most widely

used contraceptive by acceptors (58.28%)⁽¹³⁾. Table 3 shows the correlation between the required and used contraceptives.

Table 3: Significance test of t value between need and use of contraceptives.

Variabel	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
Need	0,908	0,056	0,855	16,119	0,000

The results of t value = 16,119 and bigger than t_{table} (1,98498). The results of the significance test show a significant relationship between the contraceptives use and need (Sig. < 0.05).

Also, the schemes from analysis of the patterns of need and use in the community, supply chains, and contraceptives management, as well as supporting management are a suitable material for consideration and materials for strategies in contraceptive supply chain management, especially in Puskesmas. This way, the condition of the stock of contraceptives is controllable and the community is able to obtain appropriate contraceptives as needed. Figure 1 shows the scheme of supply chain and management of contraceptives in Dayak societies.

Conclusion

In Dayak Societies, injection is the most needed and used contraceptive type. In addition, the availability of contraceptives at suppliers, and the patterns of community need and use, as well as supporting management are suitable materials for strategy formulation in regulating contraceptive management at Puskesmas in Dayak societies, to ensure availability at Puskesmas, and meet contraceptive needs for Dayak communities.

Acknowledgments: The authors are grateful to the teachers at the University, for the provision of support in the course of this study.

Conflict of Interest: The authors declare no conflict of interest.

Ethical Clearance: This study obtained ethical clearance from the Faculty of Dental Medicine, Universitas Airlangga, Indonesia (number 413/HRECC.FODM/IX/2020).

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