APPLICATION OF LINEAR PROGRAMMING FOR DETERMINING THE OPTIMUM REPRODUCTIVE HEALTH COMMODITY DISTRIBUTION IN GEZIRA STATE, SUDAN (2013).

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Abstract

Optimization is the art and science of allocating scarce resources in an optimal way. Linear programming (LP) is the one of the statistical optimization models used in allocating scarce resources in an optimal way to maximize the profit or to minimize the cost. This study aimed to construct an LP model for distributing sources of Sudan Family Planning Association (SFPA) to estimate the optimum commodities of Reproductive Health (RH). It also aimed to investigate which distributing source of SFPA was more relatively efficient in distribution of RH commodities and to measure the level attitude of women aged 15-49 years towards use of RH commodities in

Gezira state
.
The secondary data were obtained from SFPA 2013 Annual Report which provided data on RH commodities distributed by quantities, women who used RH commodities for the first time and women who ever used RH commodities. The data were analyzed by
Statistical Package for Social Science
(SPSS) and
Quantitative System for Business (
QSB) computer software's through the use of Linear Programming models
.
The findings of the study showed that integrated health center
achieved the greatest return
of
SDG 9350 by distributed 40 implants and 132
Intra Uterine Devices
(IUDs) compared with other sources, also, the study presented that
midwives were more relatively efficient in distributing RH commodities compared with other sources
.
The study recommended the need to
encourage institutions to use LP to allocate scarce resources in an optimal way.
Governmental and private health institutions should provide a variety of RH commodities so that women users can chose a commodity that is suitable to their body.

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