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The Self-Care Learning Exchange (SCLE) Model: A Model for Promoting Nutrition in Malnourished Children in Indonesia

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ABSTRACT

Background: The public health problem that developing countries face, including Indonesia, especially Surabaya, is Malnutrition. **Aim:** This study aims to produce a self-care learning exchange model for families with malnourished children in Surabaya, Indonesia. **Method:** The study used a research and development approach undertaken in three stages: literature review and field observation, a survey using the Delphi technique to obtain consensus about the model, and a focus group discussion. The research involved a sample of 169 respondents selected by purposive sampling. Data were collected with the help of questionnaires and interviews. **Results:** The five components of the SCLE model that are important for improving the nutritional needs of malnourished children include planning, implementation, evaluation, timing and indicators of success. **Conclusion:** SCLE model could be used as a complementary solution to help families overcome the malnutrition problems, by emphasizing the shared learning aspect in the process of transferring knowledge and parenting behaviour.

Keywords: Self-Care, Learning Exchange, Malnutrition, Children, Nursing

INTRODUCTION

Lack of nutrition is a public health problem that is experienced by developing countries, including Indonesia, especially Surabaya.¹ This second largest Indonesian city, after Jakarta, still suffers from malnutrition, as 1.2% of children that are less than five-years-old are malnourished and 12.3% of them lack proper nutrition.²

Various efforts have been made by the Surabaya city government, including POSYANDU (a term used for integrated health service centre in Indonesia) activities, counselling, supplementary feeding, home-to-home monitoring, healthy food cooking demonstration, and healthy toddler classes, along with traditional treatment approaches, innovation of Formula 100 (F100) consisting of milk, cooking oil and electrolytes

or mineral solutions, and a toddler mentoring program offered to healthy families for 9 months.^{3,4}

In addition, in his research, Ayu declared that nutritional assistance programs can overcome the problem of malnutrition.⁵ While Sartika stated that the improvement of nutritional status can be realized through the utilization of health service programs.⁶ Moreover, Fitriyanti & Mulyati pointed out that Supplementary Feeding for Recovery (SVR) can restore nutritional status.⁷ Huriah et al. mentioned that the nutritional status of children can be enhanced through home care programs.⁸

Without overlooking the above findings, a complementary solution to help families overcome malnutrition problems is to find a model appropriate for dealing with the main cause of child malnutrition, which is wrongful care. This model is the model of learning self-care for malnourished children. The model is oriented towards self-reliance of the families with malnourished children, so that they are able to practice self-care properly.⁹ The model begins with assessment, followed by planning learning needs, implementation, and lastly, evaluation of the learning process. The

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purpose of this study is to explain how the self-care learning exchange model with help alleviate the issue of child malnourishment which results from erroneous care.

METHOD

This study used three stages of model development: Stage 1, where the model was initially designed after conducting literature review and field observation; Stage 2, in which a survey was conducted by Delphi technique; and Stage 3, where a focus group discussion was held with experts. This last activity included validating the model design by conducting a focus group discussion to determine the feasibility of the model system to be applied, of the study’s focus and the model framework.^{10,11}

Stage 1: Creating an Initial Model Design

To make the initial model design, literature study and field observation were conducted to devise a survey involving 60 respondents selected by simple random sampling. The sample inclusion criteria were families (mothers) who have malnourished children and are willing to participate in research on the need for a self-care learning exchange model. The survey used a questionnaire with 25 question items divided into five categories, comprising the need for self-care learning exchange planning, implementation of self-care learning, self-care exchange evaluation, self-care learning exchange time, and indicators of effective self-care exchange for children with malnutrition. Each question concerning the need for a self-care learning exchange model consisted of two choices, namely, how likely can the model be applied, and how important is it to apply the model, using the Likert scale of 1 to 5, with 1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, and 5 = strongly agree. Assessment of questions was done by calculating the mean and standard deviation

of each question in the five categories. The average value that correlated to the necessity of a model was more than 4.

Stage 2: Conducting a Survey with the Delphi Technique

A survey on the need for a model was undertaken by involving 10 experts from various disciplines selected by simple random sampling. These experts analysed and reviewed the topic from a scientist’s perspective, which helped in obtaining information and responses as a reinforcement of the development and feasibility of the self-care learning exchange model.

Stage 3: Conducting a Focus Group DiscussionA focus group discussion was held to conduct a feasibility examination of the developed self-care learning model. The focus group consisted of the respondent families (mothers) who would apply the self-care learning exchange model, and a panel of 10 experts involved in providing model feasibility analysis through the Delphi technique.

RESULTS

The results of this study indicate that there is a need for an exchange model in learning self-care for malnourished children aged less than five years in Surabaya. According to the findings, the model should include self-care need without assistance (80%), self-care need with brainstorming (85%), the need for a learning contract with learning resources (mothers with the same case) (85%), the need to formulate self-care learning materials together with discussion (75%), the need to utilize available media such as pictures (90%), direct learning needs in mothers with similar cases (85%), the need for evaluation of self-care group learning (90%), and the need for self-care study once a week for a month. The results are shown in Table 1.

Table 1. Results of the Delphi Survey

Need for self-care learning exchange	Feasibility (range 1-5)		Importance (range 1-5)	
	Mean	SD	Mean	SD
Self-Care Learning Exchange Planning				

Cont... Table 1. Results of the Delphi Survey

Learning Contract	4.62	0.24	4.72	0.24
Formulation of self-care learning materials	4.60	0.17	4.68	0.21
Media and learning tools.	4.40	0.52	4.40	0.52
The self-care learning exchange is designed together (in a group) through brainstorming/ discussion and by asking health workers (nurse assistants) directly.	4.80	0.42	4.80	0.42
Implementation of self-care learning	4.73	0.18	4.77	0.22
Self-care learning exchange evaluation	4.70	0.22	4.73	0.26

Based on Table 1, the exchange model in learning self-care for less-nourished toddlers by the family (mother) in Surabaya, especially in undernourished areas identified in this research, can be realized through three stages: planning, implementation and evaluation as follows:

The planning stage is to project what should be done in the implementation phase. This planning stage includes the identification of the self-care learning needs of malnourished children, the self-care learning contract of malnourished children, the formulation of learning materials on the self-care of malnourished children, and choosing media and learning tools on the self-care of children suffering from malnutrition.

In the implementation stage, the plans are actuated, in that, mothers of toddlers learn together with mothers of children under five who lack nutrition. Implementation begins with guidance about intimacy, followed by exchanging learning experience from group learning organizations and application of learning techniques, such as brainstorming, roundtable discussion, direct practice, questions and answers, and simulation. For this stage, the average mother wants the activity to be held one time a week for one month.

In the evaluation stage, the activities are evaluated altogether either through a test or non-test, both practically and orally. In the application of self-care learning exchange, more emphasis is given on form and type of evaluation that is based on the mother's involvement and learning resources.

DISCUSSION

Results of the study showed that the exchange model of self-care learning is most needed in malnourished families. This is in line with Mulyana's findings whose principle in learning exchange is based

on the attitude that changes learning approaches.¹² In this principle, the learning process stresses more on group dynamics, whereas according to Bandura, there are three approaches in the learning process: confidence-oriented approach, feeling-oriented approach and behaviour-oriented approach.¹²

In a confidence-oriented approach, it is assumed that a person can change his or her attachment to an object by conveying new information. The concept of learning exchange in nursing is derived from the concept of learning exchange which denotes a systematic and deliberate effort to create conditions for learning activities to occur.¹² Learning exchange can be understood through the theory of interaction.¹³ Which emphasizes that two or more people are interdependent in achieving positive results and functions, not only in the interest of the individual but also in the interest of the group.

Furthermore, the concept of learning exchange contains several principles, such as the humanist principle and principle of attitude learning, both of which are very appropriate to practice in family nursing services because health problems are very much caused by behavioural factors. As stated by Mulyana.¹² The principle of humanist learning is based on a flow that emphasizes the importance of cognitive and affective objectives. From this principle, the efforts to increase knowledge about self-care, especially for children from undernourished families, are indispensable, because in the humanist school, targets are active actors formulating a transactional strategy with their environment.¹²

Another principle of learning exchange is based on the attitude-change learning approach, which has three orientations: the orientation of belief, the orientation of feeling and the orientation of behaviour. These orientations suggest that a person can alter his or her

attitude if his or her beliefs, feelings and behaviour are modified beforehand. The three approaches are derived from the model of cognitive consistency, which includes the balance theory, the harmony theory and the non-conformity theory.¹² According to the balance theory, balance is needed in the affective domain between an individual and its environment, particularly when there is an imbalance that can change attitudes and behaviour. Similarly, the harmony theory, developed by Osgood and Tannenbaum, underscores the harmony of relationships, and thus shows that disharmony in one's relationship will change attitude. Meanwhile, the basis of the last theory is the theory by Festinger, which emphasizes that discrepancies are undesirable because individuals have two opposing cognitions, and that, by changing the opposing cognition, one can create the desired situation.¹²

Based on the self-care theory, the theory of nursing and learning can be used in nursing service as a form of health service for humans that have a biopsychosocial and spiritual needs by using a nursing process approach.^{9, 14, 15} Likewise, the self-care and exchange model can be applied in family nursing practices so as to minimize the number of families who have malnourished children.

The nutritional benefits through the application of a self-care learning exchange model can improve the behaviour in malnourished child care. This is supported by the research by Adrian & Kartika, who stated that inadequate care conditions, such as improper feeding from infant to toddler stage, can cause toddlers to frequently suffer from illness due to digestive disruptions.¹⁶ Conditions of prolonged pain can also cause rapid weight loss and make it easier for infants to become malnourished. In addition, the pattern of care in early and exclusive breastfeeding cases, as well as inappropriate consumption of breastfeeding supplements and poor upbringing, can cause children to get fewer intakes of nutritious, varied, and balanced foods, which can lead to malnutrition.¹⁶ Meanwhile, Palombarini AF found that nutritional interventions through daily dietary practices in families can help overcome nutritional problems.¹⁷ This was corroborated by the study by Frota MA, wherein the researcher found that dietary habits and breastfeeding at the age of 0-6 months contribute to child nourishment.¹⁸ Another study supporting the results of this study is that by Ayu, which noticed improvements in the pattern of upbringing before and after the mentoring program in families with less nutrition.^{5, 19, 20}

The results showed a significant change in parenting pattern after three months with nutritional assistance. The improvement in childcare practices, especially at the end of nutritional assistance, is closely linked to the improvement of maternal knowledge that plays a dominant role in childcare. It is also correlated with the energy adequacy level in infants with less protein energy, which increased in three months after nutritional assistance, along with their level of protein adequacy. The study shows that nutritional assistance programs have a meaningful effect on improving knowledge and parenting patterns, especially in child feeding practices, which, in turn, will affect the quality and quantity of child feeding. Intervention in the study is in line with the core application of the self-care learning exchange model, which is adopting the way of caring, especially in the practice of malnourished child care by mothers who have successfully cared for children, and from whom aware mothers who have malnourished children can learn directly.⁵ Likewise, Hayakawa LY revealed that group support strategies can address the problem of boredom in care.^{21, 22}

CONCLUSION

The self-care learning exchange model for malnourished children in Surabaya is a care-oriented model of behavioural change, and includes with three stages: planning, implementation, and evaluation. The planning stage was carried out by the mothers of toddlers collectively by planning the need for self-care learning. Then, the implementation phase was carried out by the under-five toddlers' mothers based on what had been planned in the prior stage, ranging from group learning organizations to application of instructional techniques, such as brainstorming, roundtable discussion, direct practice, questions and answers, and simulation. The evaluation phase, which was implemented after a month of learning exchanges, determined the level of understanding and practice in the care of undernourished children, with the direct involvement of learning resources. The model is able to improve child care practices and nutritional status within three months, so that the model can help overcome the nutritional problems and the causes of malnutrition due to parenting practices.

The suggestion that could be given based on this study is that nurses working in Community Health Centres could facilitate families (mothers) with children

that suffer from malnutrition due to wrongful parenting practices, by applying the self-care learning exchange model. This can be used as a complementary approach model for helping families overcome the problem of malnutrition.

Ethical Approval: This study was approved by the Health Research Ethics Committee (HREC) of the Faculty of Health Science University of Muhammadiyah Surabaya (Approval Letter Ref: 07/FIK/EC/2016 dated 23 July 2017).

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Conflict of Interest: The authors confirm that this article contains no conflict of interest.

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