

DEVELOPMENT OF DECISION- MAKING TOOL FOR FAMILY PLANNING APPLICATION : FEASIBILITY TEST ACCORDING TO MATERIAL EXPERTS

by Lia Nurcahyani

Submission date: 26-Mar-2022 06:53AM (UTC+0700)

Submission ID: 1793110956

File name: Revision_of_Manuscript_Lia_Nurcahyani.docx (136.23K)

Word count: 2574

Character count: 14137

1 **DEVELOPMENT OF DECISION-MAKING TOOL**
2 **FOR FAMILY PLANNING APPLICATION :**
3 **FEASIBILITY TEST ACCORDING TO**
4 **MATERIAL EXPERTS**

5
6 * Lia Nurcahyani^{1,2}, Dyah Widiyastuti ^{1,2}, Faizul Hasan ³, Yanti Cahyati^{1,2}
7

8 ¹ Poltekkes Kemenkes Tasikmalaya, Indonesia

9 ² Center of Excellence Health and Disaster Emergency (HADE) Center,
10 Poltekkes Kemenkes Tasikmalaya, Indonesia

11 ³ School of Nursing, College of Nursing, Taipei Medical University, Taiwan
12

13 *Corresponding Author:

14 Lia Nurcahyani

15 Email: lianurcahyani17@gmail.com
16
17

18 **ABSTRACT**
19

20 The high *unmet need* affected the high maternal mortality rate in Indonesia. One
21 factor causing unmet needs is an optimal family planning counseling. The tool used for family
22 planning counseling in Indonesia is the decision-making tool for family planning flipchart.
23 However, the use of the flipchart is not optimal because it has various limitations, such as being
24 less practical. Researchers have innovated in deciding-making tools for a family planning
25 application. This study aims to develop the decision-making tool for a family planning
26 application by conducting a feasibility test by material experts. This was a *research and*
27 *development study design*. The research subjects were six midwives as material experts. The
28 research instrument includes the decision-making tool for a family planning application, as well
29 as a questionnaire. Data analysis includes descriptive, univariable analysis. The results of the
30 feasibility test for the decision-making tool for family planning application according to
31 material experts obtained a value of 81.3%, which is categorized as very suitable for use as a
32 family planning counseling medium. Further researchers are expected to develop a second-level
33 application by conducting a trial limited-scale, wide-scale trials, and level 3 testing with
34 experimental designs using a control group.
35

36 **Keywords:** decision-making tools, family planning, feasibility test, material expert.
37
38
39
40
41
42
43
44
45
46
47
48

49 INTRODUCTION

50 ² Unmet need for family planning services is defined as the percentage of currently
51 married women who do not want to have more children or want to space their next birth but do
52 not use contraception [1]. The strategic target for this issue is to reduce the number of *unmet*
53 *needs* to 9.1% in 2019 [2]. Based on the data, the number of *unmet needs* in Indonesia increased
54 from 12.77 to ⁴ 7.5%. The high *unmet need* can affect the high maternal mortality rate in
55 Indonesia [3]. Women of childbearing age who do not use family planning have a high chance
56 of getting pregnant and experiencing complications during pregnancy, childbirth, and the
57 puerperium [4].

58
59 Factors causing *unmet need*, namely communication of information, education, and
60 family planning counseling, that have been implemented so far have not been optimal [1].
61 Family planning counseling is a process of exchanging information and positive interactions
62 between clients and midwives or health workers to help clients identify contraceptive needs,
63 choose the best solution and make decisions about contraception to be used following the
64 conditions being faced by couples of childbearing age [5]. Counseling is an important element
65 in the family planning program that should be given starting from pregnancy which can be
66 given at the time of pregnancy check-up or during classes for pregnant women [6]. For
67 counsel¹ing to be optimal, we need a tool or media for counselors. In Indonesia, so far the tool
68 used is the ³ decision-making tool for family planning flipchart [5]. Various studies have been
69 carried out to determine the effectiveness of the decision-making tool for family planning
70 flipcharts [6] [7] [8] [9]. The problem that occurs at this time, the use of decision-making tools
71 for family planning flipcharts by midwives is still relatively low.

72 Based on the research of Widayati et al. in 2014, the use of decision-making tools for
73 family planning flipchart by 117 midwives at the Surakarta City Health Office was only 17.9%
74 [10]. This tool has a weakness, namely, it is not practical because it is quite large and strong,
75 so if there is a midwife who ³ will provide family planning counseling to the client's home, the
76 tool is quite bur³nsome [5]. The results of research conducted by Rokhmah in Cirebon showed
77 that the use of decision-making tools for family planning by midwives at the puskesmas in
78 family planning services had not gone well [11]. Based on previous research conducted by the
79 researcher, information was obtained that the decision-making tool for family planning flipchart
80 was never used for family planning counseling, but was only used if *necessary* pictures of the
81 menstrual cycle. This is because the use of decision-making tool for family planning flipchart
82 is difficult, makes them not confident in giving family planning counseling, is ineffective, takes
83 longer, is heavy to carry, so that they are only for display, even though almost all midwives
84 have attended training on using decision-making tool for family planning flipchart [12].

85 Several health studies have produced information that smartphone-based applications
86 can increase client knowledge, including the effectiveness of the android [13][14][15]. To make
87 it easier for midwives to use decision-making tools for family planning which is expected to
88 change behavior in increasing their use, it is necessary to innovate decision-making tools for
89 family planning through an appropriate technology that is innovative and based on *evidence-*
90 ⁴ *based*. Researchers have conducted basic research that resulted in an ¹ innovative decision-
91 making tool for a family planning application. This study aims to develop the decision-making
92 tool for a family planning application by conducting a feasibility test by a material expert.

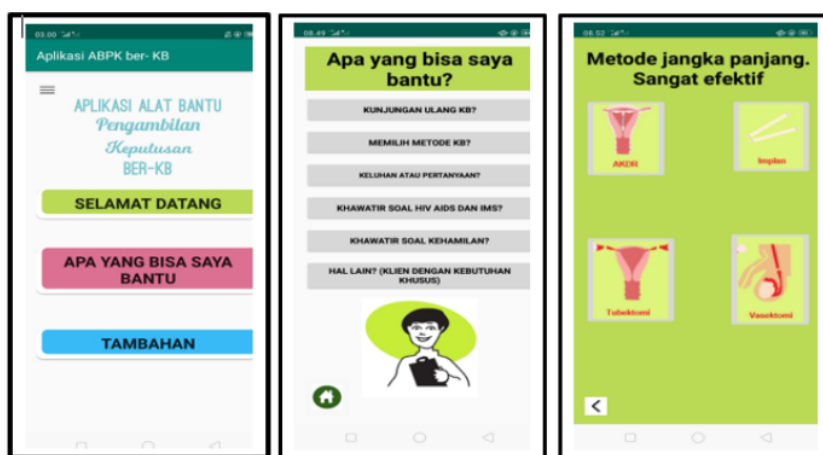
93 94 METHODS

95
96 This was a Research and Development research study designed, to produce certain
97 products and test the effectiveness of these products. Levels in this development research
98 include levels one, two, and three. Level one generates a product design, and the design is

99 validated internally. The second level of research and development is to validate or test the
100 effectiveness and efficiency of existing products.

101 The third level of research and development is to examine existing products to know
102 the specifications of the advantages and disadvantages/weaknesses of the product. The product
103 design is then tested internally. Internal testing is testing the design based on the opinions of
104 experts and practitioners. Furthermore, the product design was tested in a limited field [16].

105 Based on these steps, the researcher used steps that had been simplified according to
106 Sugiyono into three stages, namely stage one (preliminary study) consisting of literature study,
107 field survey, and preparation of product drafts. The second stage is development, consisting of
108 validation by material and media experts, limited-scale trials, and broad-scale trials. The third
109 stage (testing) is the experimental group and the control group. This research is a development
110 (second stage) namely validation by material experts. This research was conducted in Cirebon
111 City, West Java, Indonesia. The subject matter experts are six midwives. Data were collected
112 using research instruments, namely decision-making tools for family planning application and
113 a questionnaire adopted from the study [17] which was filled out by a material expert.
114



115
116
117
118
119
120
121
122
123
124
125
126
127
128
129
130
131
132
133
134
135

Figure 1. Examples of a screenshot of a decision-making tool for family planning application

The feasibility test questionnaire for material experts covers aspects of the suitability of the material and aspects of the ease of midwives in absorbing information. Aspects of the suitability of the material consist of the ease of interaction between the midwife and the client, the clarity of the material for family planning counseling, the appropriateness of the material, the appropriate coverage of the material, the completeness of the material, and the relevance of the image to the material. Aspects of the ease of midwives in absorbing information include the ease with which the midwife understands the material through the media, the suitability of the media design with the level of thinking, and the ease of using the media.

136 Table 1. Questionnaire of Feasibility Test According to Material Experts
 137

No.	Feasibility Test Results	Subject
The aspect of the Suitability Material		
1	Facilitate interaction between midwives with clients	
2	Clarity of family planning counseling materials	
3	Conformity of appropriate material	
4	Appropriate coverage of material	
5	Completeness of material	
6	The relevance of the image to the material	
Aspects of the ease with which the midwife absorbs information		
1	The ease with which the midwife understands the material through the media	
2	The suitability of the media design with a level of thinking	
3	Ease of using the media	
Total		
Average value		
Percentage of results		
Eligibility category		

138
 139 The score ranges from 1 to 4 (1: poor, 2: adequate, 3: good, and 4: very good). Data
 140 were analyzed descriptively. After obtaining a score from a material expert, the average total
 141 score is taken, and a percentage is made, with the eligibility criteria < 21% (not workable), 21-
 142 40% (not workable), 41-60% (adequate) and 81-100 % (decent) [18].

143 This research has permission from the Ethics Commission Tasikmalaya Health
 144 Polytechnics, Ministry of Health Republic Indonesia Number 2021/KEPK/PE/VI/00139.

145 **RESULT**

146 The characteristics of the midwives who became media experts in this study were that
 147 they had worked as midwives for 14-29 years with educational background Diploma III and
 148 diploma IV midwifery and living in the city of Cirebon. The training that has been followed
 149 according to the criteria are training on the use of decision-making tools for family planning,
 150 contraception technology update training, and midwifery update

151
 152
 153
 154
 155
 156

157 Table 2. Expert Assessment Results Material
 158

No.	Feasibility Test Results	Subject					
		1	2	3	4	5	6
The aspect of The aspects stability material							
1	Facilitate interaction between midwives with clients	4	3	4	3	3	4
2	Clarity of family planning counseling materials	3	3	3	3	3	3
3	Conformity of material	4	4	3	3	3	3
4	Coverage of material	3	3	3	4	3	3
5	Completeness of material	3	3	3	3	3	3
6	The relevance of the image to the material	4	4	4	3	3	3
Aspects of the ease with which the midwife absorbs information							
1	Ease with The which the midwife understands the material through the media	4	3	4	3	3	3
2	The suitability of the media design with level of thinking	4	3	3	3	3	3
3	Ease of using the media	3	3	3	4	3	4
Total		32	29	30	29	27	29
Average value		29.3					
Percentage of results		$(29.3/36) \times 100\% = 81.3\%$					
Eligibility category		Feasible					

159
 160
 161 Based on table 2, six material experts obtained an average value of 29.3, so the
 162 percentage of results is 81.3 % so the decision-making tool for family planning application can
 163 be categorized into feasible.

164 **DISCUSSION**

165
 166 The assessment carried out by the material expert includes aspects of the suitability of
 167 the material and aspects of the ease with which the midwife absorbs information. In the
 168 suitability aspect of the material, it includes the ease of interaction between the midwife and
 169 the client, the clarity of the material for family planning counseling, the sequence of materials,
 170 the coverage of the material, the completeness of the material, and the relevance of the image
 171 to the material, while in the ease's aspect of the midwife in absorbing information includes the
 172 ease with which the midwife understands the material. through the media, the suitability of the
 173 media design with the level of thinking and ease of using the media. Based on the feasibility
 174 test or material expert validation, the application of family planning decision-making tools is
 175 included in the workable category, with a percentage of 81.3%. Based on general opinion

176 regarding the decision-making tool for a family planning application, an application should also
177 be made with moving images or pictures of the actual contraceptive device, it could be a video
178 or something else so that it is more interesting for the client and can be viewed again by the
179 client at home.

180 Various studies same with this research, which use applications in the health sector
181 have been carried out by previous researchers, including the feasibility test, The smartphone-
182 based application for monitoring the nutritional status of adolescents (Montuza) has been
183 validated for stage 1 by media experts, showing 72.5% with very valid criteria [19]. The
184 evaluation of the feasibility of the Android-based "NutriHealth" Health application for young
185 women was carried out by expert testing by health experts and a health information system with
186 expert test results used to improve the application so that the application was well received by
187 respondents [20]. Reproductive health education media about leukorrhea based on android,
188 after a feasibility test by material experts and media experts, was declared feasible with a
189 feasibility percentage of 89.56% [18].

190 Besides these studies, there are applications produced related to contraception. One
191 study that resulted in an application to increase knowledge of hormonal family planning
192 acceptors was the Android-based Mapaccing application, with a feasibility test result of 87.4%,
193 which was categorized as workable [21]. Using Smart Contraception in Makassar is better in
194 dealing with problems or complaints of side effects and the accuracy of the schedule for family
195 planning injections than conventional methods [22].

196 Another study resulted in the "My Contraception" application which is a contraceptive
197 application designed based on WHO guidelines on contraception and needs based on the results
198 of evidence-based patient-centered field studies that have been developed to facilitate the search
199 for evidence-based information along with recommendations regarding the best contraceptive
200 fit (according to medical characteristics, preferences, and priorities of a person) helps users
201 make informed decisions about their choice of contraception, monitor their menstrual cycle,
202 fertile period, use of contraceptive methods, and keep records of medical histories [23][24].
203 Further application development was carried out in Jordan to assess the impact of application
204 use on four aspects of oral contraceptive use, including usage habits, awareness, and compliance
205 safety, and to help women make the most informed decisions [25].

206 Other studies have concluded about the benefits of reminder applications in the use of
207 oral contraceptives with the results of these applications being able to minimize missed oral
208 contraceptive use [26].

209 Other studies have resulted in the contraception application which can facilitate access
210 to medical eligibility criteria for contraceptive choices and can help when conducting
211 contraceptive counseling [27]. Another study resulted in a contraceptive decision-making
212 mobile application used by women working in the military. The application shows the
213 satisfaction of clients and service providers [28]. Research using cellular by sending four short
214 daily messages about contraception sent for 4 months in Palestine, Bolivia and Tajikistan
215 contributed to contraceptive use [29].

216 The research on contraceptive applications that have been mentioned above is different
217 from this study, because the application consists of the contraceptive method section and the
218 outcome in the previous study, namely the use of contraception, while in this study, the contents
219 of the application contained all methods. The limitations of this study have only reached the
220 feasibility test stage, so it cannot be assessed the effect of the application on contraceptive use.
221 Based on the various research results, this research requires further research to be carried out
222 on a wide-scale trial so that the effectiveness of the decision-making tool for family planning
223 applications can be known.

224

225 CONCLUSION

226 The results of the analysis of the feasibility test for the decision-making tool for family
227 planning application according to material experts are very suitable for use as a family planning

228 counseling medium. For further researchers, it is expected to develop a level two application
229 by conducting a limited-scale trial, wide-scale trial, and level three testing with an experimental
230 design that uses control. Based on suggestions from material experts, it is hoped that further
231 research will develop applications by displaying moving images or pictures of actual
232 contraceptives, which can be in the form of videos or others so that they are more attractive to
233 clients and can be viewed again by clients at home.

234 **5**

235 **CONFLICT OF INTEREST**

236 The authors declare no conflict of interest, financial or otherwise.

237

238 **FUNDING**

239 This research received financial support from Poltekkes Kemenkes Tasikmalaya

240

DEVELOPMENT OF DECISION-MAKING TOOL FOR FAMILY PLANNING APPLICATION : FEASIBILITY TEST ACCORDING TO MATERIAL EXPERTS

ORIGINALITY REPORT

4%

SIMILARITY INDEX

3%

INTERNET SOURCES

2%

PUBLICATIONS

0%

STUDENT PAPERS

PRIMARY SOURCES

- 1 Johnson, S.L.. "Towards client-centered counseling: Development and testing of the WHO Decision-Making Tool", Patient Education and Counseling, 201012
Publication 1%
- 2 dhsprogram.com
Internet Source 1%
- 3 psppjournals.org
Internet Source 1%
- 4 Made Dewi Sariyani, Kadek Sri Ariyanti, Lakitha Ning Utami. "The relationship of parity and patriarchal culture with unmet need for family planning of eligible women in Gadungan Village, Selemadeg Timur District, Tabanan Bali in 2019", Enfermería Clínica, 2020
Publication 1%
- 5 openmicrobiologyjournal.com
Internet Source 1%

Exclude quotes On

Exclude matches < 1%

Exclude bibliography On