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THE APPLICATION OF INDONESIAN QUALIFICATION FRAMEWORK REVIEW IN STUDIES ON NUTRITION

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ABSTRACT

In Indonesian Qualification Framework (IQF) consists of 9 levels of competence. The 8th level of IQF is equivalent to Master degree, and the 9th level of IQF is equivalent to Doctoral degree. Their competences are 1) to develop scientific knowledge producing innovative work for Master degree, and original or creative work for Doctoral degree; and 2) to solve the problem of science through inter or multi discipline for Master degree, and inter, multi and trans-discipline for Doctoral degree.` The objective of this review is to identify how far the results of several studies on nutrition published in Scientific Journal describe the competence of authors in the application of the 8th and /or 9th levels of IQF. To fulfill the competence, the author should conduct systematic study in term of the red line namely continuation of thinking starting from title, objective, methods (type of design, population and sample, and data analysis), results, discussion on quality and accuracy of data, causal relationship, implication, conclusion of study followed by recommendation and suggestion. The implication uses the result of causal relationship directed to conclusion and recommendation. Conclusion contains development of knowledge, while recommendation contains how to solve the finding problems. Based on the recommendation, suggestion is formulated through inter, multi discipline producing innovative work for Master degree, and through inter, multi and trans discipline producing creative & original work for Doctor degree. Nine studies on nutrition published in scientific journal were reviewed; the results of study are as follows: 1) most design types of study are based on objective of study; 2) some studies without statement of population and no calculation of sample size; 3) Some studies do not use analysis one variable, two variables and multi variables; 4) there was no discussion on quality and accuracy of data, causal relationship and implication of study. As a conclusion, IQF has not been applied fully, because of problem in the red line of research methods, which link to IQF. Hopefully, the authors are stimulated to attempt how they have competence according to the 8th and 9th levels of IQF.

INTRODUCTION

Indonesian Qualification Frame (IQF) is Kerangka Kualifikasi Nasional Indonesia (KKNI), which consists of 9 levels (1). The 8th level of IQF is equivalent to Master degree and the 9th level of IQF is equivalent to Doctoral degree. Based on the 8th level of IQF, those having Master degree have 2 out of 3 following competence:

- They are able to develop knowledge, technology, and/or art in their scientific field or professional practice through research producing innovative and tested work
- They are able to solve the problem of science, technology, and/or art in their scientific field or professional practice through inter or multidiscipline approach.

Based on the 9th level of IQF, those having Doctoral degree have 2 out of 3 competences:

- They are able to develop the new knowledge, technology and/or art in their scientific field or professional practice through research producing creative, original and tested work
- They are able to solve the problem of science, technology, and/or art in their scientific field or professional practice through inter, multi and trans-discipline approach.

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Usually, those graduated as Master and Doctor work as College or University Lecturer, who have to develop their career in academic position starting from assisten ahli (expertise assistance), lektor (lecturer), lektor kepala (senior lecturer) and professor (the highest), for which they need to have credit point through publication of their scientific paper in Scientific Journal. The general objective of this literature review is to identify how far the results of several studies on nutrition published in Scientific Journal describe the competence of authors in the application of the 8th and the 9th levels of IQF.

MATERIALS AND METHODS

This is the review of 9 studies o n nutrition namely growth and development of children 3-24 months in the conflict are (2), severe acute nutrition and determinants among children in rural and urban communities (3), carbohydrate intake as a dominant factor related to fasting blood glucose level (4), children nutritional status based on composite index of anthropometric failure (5), Milk formula formulation sample promotion and exclusive breast feeding practice (6), Intake of vitamin D and severity of dengue hemorrhagic fever in children of 1-14 years (7), Malnutrition risk factor for Under Five Years (8), Prediction Model for adolescent body mass index based on the birth history of children nutritional status (9), and the effect of child health care model and theoretical mode approaches to food intake of overweight and obese children (10). The review of each study is in the application of systematic research conducted in term of continuation of thinking starting from title and following chapters (11). The title of research consists of 4 components namely problem situation, the determinants of problem situation, place and time. The problem situation is the most important among the four components, which always appear to some extent consistently in the next chapters namely Introduction, Literature Review, Research Plan or Design, the Results of Study, Discussion, and Conclusion, Recommendation & Suggestion. The appearance of the four components in the following chapters is called the Red Line in Research Protocol (12) which is the most important in every research. The chapter of Introduction consists of several sections namely background, formulation of research problem, research objective, social and scientific significance of study, and steps & research design. Formulation of research problem is based on the background.

The content of research problem in the form of research question is the same as research objective formulated in the form of statement sentence. Social significance of study is the use of information from achievement of objective for solution of problem situation, while scientific significance of research is the use of hypothesis proof for development of scientific knowledge. It means that researcher thinks consistently starting from background, formulation of research problem, objective of study, social and scientific significance of study. The last section in the Introduction namely the Steps and Research Design is the bridge between the Introduction and Literature Review and Research Design. The chapter of Literature Review consists of several sections namely detail information concerning problem situation, factors associating with problem situation, theoretical framework, conceptual framework, and specific research problem. The section of factors associating with problem situation consists of 1) theory namely clarification why each factor associating with problem situation, and 2) the result of previous research concerning association between the factor and the problem situation. All of theories` and the result of previous research are synthesized to be theoretical framework.

Theoretical framework is hypothetic association between one or more factors and one problem situation. Conceptual framework is hypothetic association between one or more independent variable and one dependent variable. So, there is connection between theoretical framework and conceptual framework. In this case, an independent variable is operational of a factor. If some factors cannot become independent variables, the number of independent variables in the conceptual framework is less than factors in the theoretical framework. The independent variables in the conceptual framework become independent variables in specific research problem. Because of some limitations, the data concerning certain independent variables in the conceptual framework cannot be collected in the field; as a consequence the number of independent variables in the specific research problem is less than the number of independent variable in the conceptual framework. The chapter of Research Plan or Design consists of several sections namely specific objectives, hypothesis, research design, population and sample, and processing & analysis of data. The content of specific objectives formulated in the form of statement sentence is the same as specific research problem written in the chapter of Literature Review. Specific objectives are continued by hypothesis, which consists of hypothesis statement, several sub-hypotheses, supporting hypothesis and operational definition. The contents of specific objective are the same as hypothesis, but the difference is that specific objectives have to be achieved, while hypothesis has to be proved.

Hypothesis is statement concerning the association between several independent variables and one dependent variable, while sub-hypothesis is the statement between one independent variable and one dependent variable. Supporting hypothesis shows the references written in the form of (last name of author, year) based on theory and results of previous research for each factor associating with one problem situation. Operational definition concerns with the dependent variable and each independent variable, followed by level of measurement scale (nominal, ordinal, interval and ratio) and category for nominal and ordinal scale. The section of Research Design should be conducted by those studying for Master and Doctoral degree is analytic quantitative research useful to prove hypothesis, or qualitative research useful to generate hypothesis. Both of them is necessary to develop scientific knowledge, as one prerequisite for level 8 and level 9 of IQF. The analytic quantitative research design consists of several types of study design nemely analytic quantitative research, case control study, prospective or cohort studies, before and after with control study, randomized clinical trial, and randomized community trial. Population and sample consist of calculation of sample size and the procedure of taking representative sample from the population (13); it means that the result of sample can be generalized to the population. Calculation of sample size is

based on the type of study design (14). If the size of sample is less than what should be, α error and β error become higher, that decrease the validity of the result of study. The collection of data is excluded from this review, because it is more substantial than methodical. But the method of data analysis, which consist analysis of one variable, analysis of two variables, and analysis of multiple variables are included in this review. The result of study is actually the result of analysis; the result of analysis of two variables is not conclusive, while the result of multivariate analysis is more conclusive and it is followed by discussion of causal relationship. The section of discussion is concerned with quality and accuracy of data, causal relationship, and implication of study (11). Quality of data consists of relevancy and validity of data, while accuracy of data consists of relevance, validity and reliability of data (15). Relevance of data means that whether collected and analyzed data are full enough and relevant to achieve the study objective and prove hypothesis. Validity of data consists of internal and external validity. Internal validity is opposite of systematic error and random error. Systematic error consists of selection, information and confounding bias, while random error consists of α error and β error. The result of analysis of multiple variables may identify the true independent variable or exposure which is associated with the dependent variable, and confounding variable is associated with the independent variable and the dependent variable statistically. Causal relationship between the exposure and the dependent variable is based on Hill criteria (1 6), if the types of design used by researcher are case control study and cross sectional study. Types of study design which directly produce causal relationship are observational study namely prospective and retrospective cohort studies and intervention study namely before and after with control study, randomized clinical trial and randomized community trial. Implication of study is to use the result of causal relationship for recommendation; it means that the researcher recommends for intervention of the causal factors. Then based on the recommendation, the suggestion is formulated through inter-discipline approach producing scientific knowledge development and innovative work (11). This is what expected by IQF. Thus section of conclusion and recommendation/suggestion has to be based on the section of discussion especially the subsection of implication of study.

Based on general objective and methods mentioned above, it is formulated specific objectives of this literature review as follows:

- To identify each design type of study which is based on `each objective of study concerned
- To identify definition of population, calculation of sample size based on design type or the number of independent variables, and sampling procedure for each study
- To identify analysis (one variable, two variables, multivariate) conducted in each study
- To identify discussion (quality and accuracy data, causal relationship and implication of study) conducted in each study

RESULTS

- The design type of study which is not based on objective of study is only one out of 9 studies
- Statement of population is only one out of 9 studies, no calculation of sample size in all studies, and there are 3 studies without statement of sampling procedure
- There are 6 studies use analysis one variable, two variables, and multi variables, 2 studies use analysis of one variable and 2 variables, and one study does not state analysis.
- All studies do not conduct discussion on quality and accuracy of data, causal relationship and implication of study.

DISCUSSION

The followings are discussion to show 4 examples according to designs of study and causal relationship which is applied to some problems mentioned above and how to justify solving them.

Intervention Study Producing Causal Relationship

Intervention study namely quasi experimental study is used in the study number 9 produces` causal relationship. Since there was no calculation of sample size based on the design type of study, and no probability sampling, and no discussion on quality and accuracy of data, we do not know the level of α and β errors and how far the result of study from the sample to be generalized to certain population. Since there was no discussion on implication of study, the researchers did not make correct conclusion, recommendation and suggestion. For example in the study number 9, the researcher concluded that child health care model and trans theoretical model affect carbohydrate intake to overweight and obese children: this conclusion should be followed by recommendation namely similar study should conducted in larger population from which a representative sample is taken with α error (5%) and β error (10%).

Observational Study Producing Causal Relationship

Observational studies namely cohort study which is used in study number 8 produces causal relationship. `In this study number 8, there is statement of population, but no calculation of sample size based on design type of study, and no sampling procedure; the sample was taken based on inclusive criteria . In addition, in this study number 8, there is no discussion on quality & accuracy of data, causal relationship and implication of study. As a result, we do not know the precision of study because no information about α and β errors, we do not know generalization of study result to certain population . So, recommendation and suggestion for innovative work was not formulated as it is expected according to the IQF.

Case control studies do not produce causal relationship

The design type of studies number 5, 6 and 7 was case control study. There is no statement of population, sample size calculation and sampling procedure. In addition, there is no discussion on quality and accuracy of data; because this is a case control study, there should be discussion on causal relationship based on Hill criteria. Because there is no discussion on causal relationship, it is impossible to discuss implication of study. So, conclusion, recommendation and

suggestion are not formulated according to the 8th and 9th level of IQF.

Cross Sectional Studies do not produce causal relationship

The design type of studies number 1,2,3 and 4 is cross sectional study. In each study, there is no statement on population, no sampling size calculation and no sampling procedure; as a result, we do not know random error and it is impossible to generalize the result of study to population. There is no discussion on quality and accuracy of data and causal relationship based on Hill criteria; as a result, it is impossible to discuss implication of study. So, formulation of conclusion, recommendation and suggestion are not formulated according to the 8th and 9th level of IQF.

Conclusion

Based on the review of the 9 studies presented in Scientific Journal, the conclusions are as follows: 1) Most of design types of study are based on objective of stud y; 2) Most of studies do not define population and no calculation of sample size based on types of study; 3) Most of studies use analysis of one, two and multi variable ; 4) All studies do not discuss quality & accuracy of data, causal relationship, and implication of study.

Suggestion

It is suggested so that readers pay attention to the red line namely continuation of thinking from s a result, the readers will have competence formulate conclusion, recommendation and suggestion as it is expected according to the 8th and 9th level of IQF.

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REFERENCES

Beaglehole, *et al,* 1993. Basic Epidemiology, Geneva: World Health Organization

Direktorat Jenderal Pendidikan Tinggi. 2011. Kerangka Nasional Indonesia (KKNI), Kajian tentang Implikasi dan Strategi Implementasi KKNI, IQF Nasional

Erika, K.A. and Elly, N. 2014. The effect of child health care model and trans-theoretical model approach to food intake of overweight and obese children, *Jurnal Kesehatan Masyarakat*, Volume 9, No. 1, August, pp. 14-18

Fisher, A et al. 1983. Hanbook for family planning operations research design, USA: Population Council

Huriah, T, Laksono, T, Fitri, H and Madarina, Y. 2014. Severe acute malnutrition and determinants among children in rural and urban community, Jurnal Kesehatan Masyarakat, Volume 9, No. 1, August, pp 50-57

Kuntari, T., Nur, A.J., Sunarto, and Opi, K. 2013. Malnutrition risk factor for under five years, *Jurnal Kesehatan Masyarakat,* Volume 7, N0.12, July, pp. 572-576

Lapau, B. 2012. Prinsip dan metode epidemiologi. Jakarta: Balai Penerbit FKUI.

Lapau, B. 2013. Metode penelitian kesehatan, metode ilmiah penulisan skripsi, tesis dan disertasi, Jakarta: Yayasan Pustaka Obor Indonesia

Lapau, B. 2015. Metode penelitian kebidanan, panduan penulisan protokol dan hasil penelitian, Jakarta: Yayasan Pustaka Obor Indonesia

Nuraini, T., Madarina, J. and Djaswadi, D. 2014. Milk formula sample promotion and exclusive breast feeding practice Jurnal Kesehatan Masyarakat, Volume 7, No.12, July, pp 551-556

Rahmadini, N., Trini, S. and Diah, M.U. 2013. Children nutritional status based composite index of anthrophometric failure, Jurnal Kesehatan Masyrakat, Volume 7, No 12. July, pp 538-544

Simbolon, Demsa 2013. Prediction model for adolescent body mass index based on the birth history of children nutritional status, *Jurnal Kesehtan Masyarakat*, Volume 8, No. 1, August, pp. 19-27

Siyam, N., Siswanto, A.W. and Mohamad, H. 2012. Intake of vitamin D and severity of dengue of haemorrhagic fever in children of 1-14 years, Jurnal Kesehatan Masyarakat, Volume 9, No. 1, August, pp. 87-93

Usman, H, Hadayana, S and Ma'mun, S. 2014. Growth and development of children 3-24 months in the conflict area, Jurnal Kesehatan Masayarakat, Volume 9, No. 1, August, pp. 44-49

Wardani, A.R. and Triyanti, 2014. Carbohydrate intake as a dominant factor related to fasting blood glucose level, Jurnal Kesehatan Masyarakat, Volume 9, No. 1, August, pp 71-77

World Health Organization, 1986. Sample size determination, a user's manual, Epidemiological and Statistical Methodology Unit. Geneva: WHO

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