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## Evaluation of Suitability to Mothers of Low Literacy Level of Websites Information on Basics of Baby Bath Using DISCERN Tool

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### Recommended Citation

Isangula, K. G. Evaluation of suitability to mothers of low literacy level of Websites Information on Basics of Baby Bath Using DISCERN Tool: 2012, SSRN

# **Evaluation of suitability to mothers of low literacy level of Websites Information on Basics of Baby Bath Using DISCERN Tool**

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## **Introduction and Rationale**

One of the challenges in Newborn care is bathing a baby especially for new parents. Baby bath as part of newborn care is of critical importance for healthier development of a baby. In recent study conducted in Bangladesh to determine factors that affect newborn care practices, about 34% of women reported to have bathed their newborn for the first time, immediately after delivery, this may have impact on baby health as far as umbilical care is concerned. It was concluded from this study that there is “urgent need” to offer education on mothers on early neonatal care among other skills needed (Shahjahan et al, 2012). In the same paper, Lawn JE comments that Sepsis and diarrhea (diseases associated with poor hygiene) accounts for about 29% of neonatal deaths worldwide (Shahjahan et al, 2012) thus simple interventions are necessary in preventing newborn diseases associated with poor hygiene. Most parents bathe their babies daily by either giving them a sponge bath or a bath in a small baby tub however, proper baby bathing skills are necessary to avoid contamination of the healing umbilical cord that may take 2-3 weeks. Of more importance, babies must be kept clean, particularly in the diaper area, to avoid health problems and rashes. Sponge bath is recommended to avoid infection of the umbilical until it falls off.

There are limited peer reviewed literatures on baby bath; however, new parents in particular significantly lack baby-bathing skills as medical professionals insufficiently cover the topic. Behavioral change communication strategies especially mass media and one to one communication during antenatal visits are good sources of reliable baby care information, however, increasingly, Internet resources have been publishing different information on neonatal care complementing the traditional sources. Internet information is readily available and involve no or minimal cost as far as medical costs are concerns thus new parents with access, may use internet as the main source of baby care information. The purpose of this paper is to evaluate the suitability to mothers of low literacy level, of baby bathing information published in websites.

## **Methodology**

**Website search:** Websites with baby bath information were searched using two systematic strategies. First, A key word “Newborn OR Bath OR websites OR English “ was used in a Google search engine yielding 809 results in 0.42 seconds, most of which were consistent with the requirement of this paper. Secondly, these websites were filtered using inclusion and exclusion criteria.

**Inclusion and Exclusion criteria:** The websites were included if 1) It contained information in English; 2) it contained the word ‘ baby bath’ and/or basics in its title 3) The website is non commercial, 4) The post contained at least one image. The websites that did not meet the inclusion criteria were excluded.

**Results of web search:** The following websites met the inclusion criteria and were analyzed using DISCERN tool and results are summarized in the table below;

1. MAYO CLINIC <http://www.mayoclinic.com/health/healthy-baby/PR00041>
2. BABY CARE CENTER: <http://www.babycenter.com/baby-bathing-basics>
3. BABY CARE HELP: <http://babycarehelp.net/category/bathing-and-body-care/>

## **Summary of The selected Websites**

**Mayo Clinic Website:** Mayo clinic website aims at empowering people to manage their health by providing useful and up-to-date health information and different tools for health decisions. The website is managed by “A team of Web professionals and medical experts” that maintains the contents of the website. The website provides access to the experience and knowledge of the more than 3,700 physicians, scientists and researchers of Mayo Clinic. Mayo Foundation owns this site for Medical Education and Research, which is located at: 200 First St. S.W. Rochester, MN 55905.

**Baby Center Website:** BabyCenter considers itself as the “voice of the 21st Century Mom and modern motherhood”(web quote). The web owners consider this site as a number one “global interactive parenting network” (web quote). Launched in 1997 and has provided information for baby care for more than 100 million parents. BabyCenter provides information on parenting, providing moms advise regardless of geographical location through “hundreds of experts around the globe, medical advisory board-approved information, friendship with other moms, and support at every stage of their child’s development” (web quote). BabyCenter has received several awards, including seven Webby Awards – most recently the 2010 People’s Voice Award Winner for Best Family/ Parenting Site. BabyCenter has also received four MediaPost OMMA Awards and has appeared on Advertising Age’s Digital A-List (web quote). BabyCenter L.L.C. is based in San Francisco and is a member of the Johnson & Johnson (NYSE: JNJ) family of companies.

**Baby Care Help Website:** There is no much information provided about baby care help website. Objectives of purpose of the website including ownership is not provided except for a contact form. There are several posts on baby care issues.

**Website Analysis:** A DISCERN TOOL from the Deborah Charnock’s “THE DISCERN HANDBOOK” (Referenced). The results of the analysis are summarized in a table below.

TABLE 1: RESULTS OF ANALYSIS OF FOUR WEBSITES USING DISCERN TOOL

DISCERN DESCRIPTION	WEBSITES		
SECTION 1: Readability	MAYO CLINIC	BABY CENTER	BABY CARE HELP
1. Are the aims clear?	This is a 2 page step-by-step parental guide to help in baby bath using a Q&A style aimed at helping mothers to ‘Master’ baby bath. This is just ‘basics’ that is not expected to make mothers ‘masters of baby bath’. Score: 2	The aims are not clearly specified. The target readers are not clearly identified although the topic ‘Baby bathing tips’ is stated. An Interactive Video and Photos provides clear aim of the materials. Score: 3	The purpose or objectives of the information are not clearly stated and Q & A style is used to describe step-by-step parental guide to help in baby bath. Score: 2
2. Does it achieve its aims?	While the websites described when, how, where and tools needed for baby bath, the most common worry about baby bath about how to wash the Umbilical area was not covered. Score: 3	There are different resources (interactive video, illustrated checklist) and discussion forum, however the poorly arranged information makes it difficult to navigate through to topics for low literacy person. Score: 4	To some extent, the aims are achieved. Sponge bath is recommended until the umbilicus the umbilicus drop off unlike the BabyCenter’s information. Score: 3
3. Is it relevant?	Yes the information presented in Q&A form is relevant and descriptions of how to do baby bath are provided.	Yes, the information is relevant Different resources including videos, photos are used to enhance learning for example an illustrated checklist of baby bath	Yes, the information presented in Q&A form is relevant and descriptions of how to do baby bath are provided.

	Score: 5	for first parents Score: 5	Score: 5
4. Is it clear what sources of information were used to compile the publication (other than the author or producer)?	NO, Only “Mayo clinic staff” is mentioned as author. No references, biography, addresses, organizations or external links quotes. It’s not clear what source(s) e.g. research or books was used to compile the information presented.  Score: 1	Its not clear what sources of information used to compile the information except that the video included a nurse administrator at Birth center in Pennsylvania. No references, biography, addresses, organizations or external links quotes Score: 2	No clear source of information identified  No references, biography, addresses, organizations or external links quotes. It’s not clear what source(s) e.g. research or books was used to compile the information presented. Score: 1
5. Is it clear when the information used or reported in the publication was produced?	It’s not clearly indicted on the information page when the contents were developed.  Score: 1	It’s not clearly indicted on the information page when the contents were developed.  Score: 1	Date of publication or revisions not indicated.  Score: 1

6. Is it balanced and unbiased?	Since there is no reference, we can assume that the information represent Mayo clinic Staff's personal points of view. No evidence of external assessment of the information Score: 1	A very Interactive videos of how to do a baby is presented, however no evidence that a range of sources of information were used to compile the publication or different experts (no reference). Score: 2	The Information contained here is SIMILAR to the information on Mayo clinic's website however neither websites reference the other. Score: 1
7. Does it provide details of additional sources of support and information?	There are no suggestions for further readings on the baby bath topics provided and no link or information of any other organizations providing advice and information about baby bath Score: 1	There are different subtopics, including photos, checklist, video, expert answers, discussion forums however additional external sources of information is not provided Score: 4	There are no suggestions for further readings on the baby bath topics provided and no link or information of any other organizations providing advice. Score: 1
8. Does it refer to areas of uncertainty?	Yes, the areas of uncertainties were addressed through the Q&A style however of most importance, specifics of washing the umbilical area were not covered. Score: 4	Yes, the videos, photos, Q&A, Expert answers and discussion forum addressed areas of uncertainties except for navigation issues Score: 4	Yes, the areas of uncertainties were addressed through the Q&A style however; specifics of washing the umbilical area were not covered. Score: 4

**SECTION 2: How good is the quality of information on treatment choices?**

9. Does it describe how bath is done?	Yes, The descriptions of how, when, where and what tools used to wash a baby is provided. Few photos, lack video. Score: 4	The descriptions of how to wash a baby in terms of videos, photos, checklists, Q&A is provided. Score: 5	The descriptions of how, when, where and what tools used to wash a baby is provided through Q&A style, one photo, lack video Score: 4
10.Does it describe the benefits of baby bath?	The facts about baby bath were presented but benefits of washing the baby not clearly explained. Score: 3	The tips and advantages for baby bath were presented in different subtopics except for navigation problems Score: 4	The facts about baby bath were presented but benefits of washing the baby not explained. Score: 3
11. Does it describe the risks of baby bath?	The risks, complications or untoward effects of baby birth are not well explained. Score: 1	Some risks involved in baby bath and precautions are described in subtopics. Score: 3	The risks, complications or untoward effects of baby birth are not well explained Score: 1
12. Does it describe what would happen if no baby bath?	Effects of not doing baby bath are not well described Score: 1	Effects of not washing the baby are not clearly provided. Mostly precautions are described. Score: 2	Effects not bathing the baby are not well described Score: 1
13. Does it describe how baby bath choices affect overall health of a baby?	There is no clear explanation of the benefits or effects of baby bath on overall health outcomes. It describes how, when, where and what materials to use for baby bath. Score: 2	There is no clear explanation of the benefits baby bath on overall health outcomes. Generally this only describes how, when, where and what materials to use for baby bath Score: 2	There is no clear explanation of the benefits or effects of baby bath on overall health outcomes. Generally this only describes how, when, where and what materials to use for baby bath using Q&A style Score 2



14. Is it clear that there may be more than one possible ways of bathing a baby?	Suggestion for alternatives in case a mother is not comfortable with the information is not clearly described. Score: 3	Informations do not provide mothers with alternative to baby bath however, when, where, what materials and precautions are described. Scores: 3	Suggestion for alternatives in case a mother is not comfortable with the information is not clearly described Score: 3
15. Does it provide support for shared decision-making?	The information presented do not provide suggestions for shared decision makings with partner, family, friends, doctors or other health professionals Score: 1	The information presented to some extent provides shared decisions, a baby bath video with a nurse (health professional) but shared decision-makings with partner or family is not provided. Score: 4	The information presented do not provide suggestions for shared decision makings with partner, family, friends, doctors or other health professionals Score: 1

**SECTION 3. Overall Rating of the Publication**

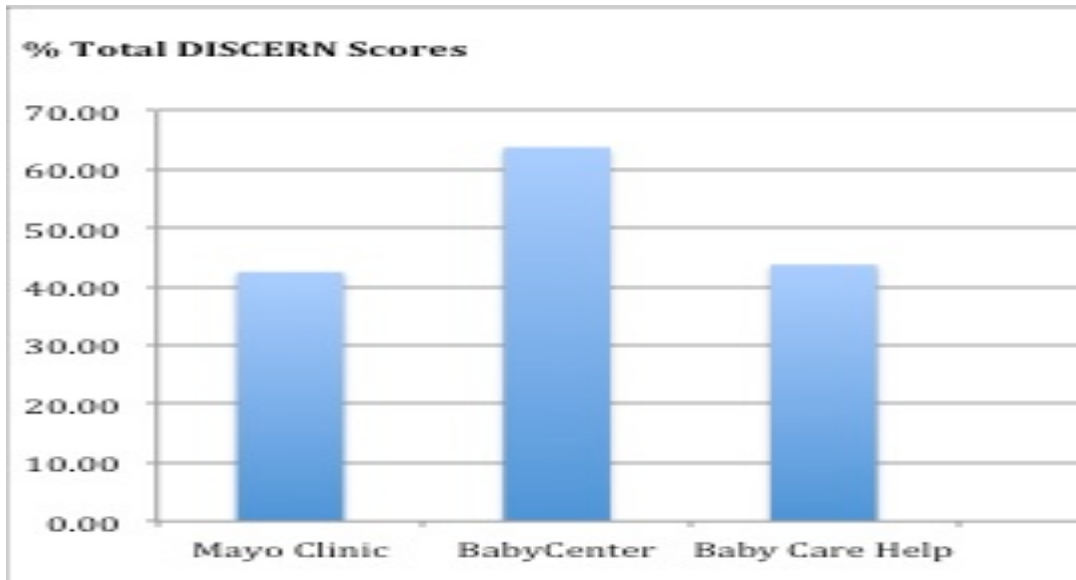
16. Based on the answers to all of the above questions, rate the overall quality of the publication as a source of information about baby bath	There are Serious shortcomings on the validity and reliability of the information (not referenced or crosschecked with other sources) but the information presented in Q&A style is very useful particularly for new parents. Too much irrelevant ads may	Generally the website contains useful information, interactive video, an illustrated check list “Guide to firsts” that are very useful for baby bath skills The major shortcoming is the poorly organized information that may require computer skills to navigate through. Too much irrelevant ads may	A serious shortcoming on the validity and reliability of the information (not referenced or crosschecked with other sources) but the information presented is very useful. Unlike the Mayo Clinic’s website, here the reply and contact form is provided where mothers can post feedbacks
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	distract the reader. Score: 2	distract the reader. Score: 4	Score: 3
Total Score	34/80	51/80	35/80

TABLE 2: SUMMARY OF SIMILARITIES AND DIFFERENCES

ITEM	Mayo Clinic	Baby Center	Baby care Help
Baby Bath Photos	YES (1)	YES (MANY)	YES (1)
Baby bath Videos	NO	YES	NO
Baby Bath checklist	NO	YES	NO
Contact form	NO	NO	YES
Q&A	YES	YES	YES
Discussion forum	YES	YES	NO
References	NO	NO	NO
Posting/Publication date	NO	NO	NO
Author Specified	NO	NO	NO
Commercial Adds	YES	YES	YES
Links to other baby care related information	YES (few)	YES	YES (few)
Used medical terms	YES	YES	YES
SUITABILITY FOR LOW LITERACY	LOW	MEDIUM	LOW

TABLE 3: OVERALL SCORE IN PERCENTAGES



## DISCUSSION OF THE RESULTS

Results of the website analysis are summarized in three tables. The first table presents a detailed information on the DISCERN analysis of the three websites. The second table presents some of differences and similarities while the third table presents overall percentage score of website literacy level. The BabyCenter has higher Literacy score 63.75% followed by Baby Care Help website (43.75%) and Mayo Clinic (42.50%). The Analysis of data using DISCERN tool shows that Baby center website has a good score compared to Mayo Clinic and baby care help websites, thus although the information was not properly referenced, it presents useful information through interactive videos, illustrated checklist that is very important in low literacy mothers.

There are limited peer reviewed research articles on analysis of websites on baby bath information using the DISCERN tool, thus a comparison of these findings with other studies is rendered impossible. The higher percentage score of Baby Center website reflects its reputation as described in the website summary that it consists of lots of experts and has won many awards. Moreover, the interactive video, illustrated checklist on baby bath for first mothers “Guide to Firsts”,

many photos and link to other topics helped it to have higher scores. However, the inadequate organization of the information on the website that require significant level of Internet navigation skills reduced its literacy score significantly.

Based on Mayo clinic reputation over Baby Care Help website, we expected that Mayo clinic would score higher than the baby care help website however, despite its weakness, the Baby care help contains client reply and contact form that is also important when mothers face uncertainties and a relevant baby bath photo. The reply form, that communicates and shows individual concerns just after typing builds confidence that your concerns are delivered and provides opportunity for shared experiences between moms. Again, information on the Mayo Clinic and baby care help is similar with a Q&A style, its difficult to know the legitimate author of the information between the two websites because of lack of reference.

Both websites lacked sources of information and references that made it difficult to check the balancedness of the information. Moreover, lack of date of posting of the information made it difficult to determine whether the information is up-to-date or not. Again, Medical teams were used in both websites without further definitions that may be difficulty to poor literacy mothers.

## CONCLUSION AND RECOMMENDATIONS

The websites is among the common source of health information currently however; health information posted in many websites does not always meet the literacy requirement for low literacy populations. The followings are recommended:

- The website managers should ensure that Simple and well illustrated health messages is available particularly for low literacy people

- Website managers or creators should ensure the readability, Interactability and suitability of the contents to the target population.
- Ads unrelated to the topic should be minimized as they may distract the attention of the reader.
- Information should be properly reference and suggestions for further readings provided
- Use of context specific images, illustrations and videos is encouraged to enhance learning.
- Authors, date of publication and contact informations should be provided to provide a chance for readers to ask questions where there is difficult comprehension.

In conclusion, while Internet resources are increasingly “replacing” the tradition sources of health informations, as public health professional we have opportunity to promote person to person information particularly during antenatal care for pregnant women as far as baby care is concern, at the same time promotion of valid, readable and reliable information on the websites to ‘complement” the traditional sources of information, without entirely “replacing” it.

## REFERENCES

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