



## Effect of health education program on the practice of caregivers regarding infants care in Maygoma Orphanage Center, Khartoum state, Sudan (2016-2017)

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### Abstract

**Background:** Young children in institutional care have often been abandoned at birth or soon after because of illegitimate pregnancies or parental instability. Orphaned, abandoned, and maltreated children pose problems for societies throughout the world. Although the actual number of children in residential institutions is impossible to gauge accurately, estimates have ranged from 2,000,000 to more than 8,000,000 (Browne, 2009; Save the Children, 2009). Most institutions are staffed with caregivers who work rotating shifts in rather bleak material conditions. 1 The children those most at risk for malnutrition and hunger-related diseases, in particular orphaned or abandoned children living in care centers, many of whom have significant special needs 2.

**The aim of the study:** the study aimed to evaluate the effect of health educational program on the practice of care givers regarding infants care in Maygoma Orphanage center. This a center for abandoned children in Khartoum.

**Material and methods:** An Intervention study conducted in Mygoma orphanage center in Khartoum state from (2016-2017). The total coverage method used to lay down the sample which reaches (50) caregivers. Data was collected by using a checklist (to measure the practice) and was analyzed by using Statistical Packages for Social Sciences (SPSS version 20).

**Results:** The study showed, significant differences ( $P < 0.05$ ) found in practical skills of caregivers between pre and post health education program, Most of care givers (80%) after program did correct practices related to infants Dipper changing, While before study program (52%) of care givers did correct practices. Before the program (54%) of care givers did infants bathing correctly, But after program most of them (70%) did it in right way.

**Conclusion:** The study concluded that health educational program had a significant impact related to the improvement of the caregiver's practical skills post application of the program.

**Recommendation:** The study recommended, increase the number of care givers to meet the number of infants, create a Supervisory system to ensure best practice, increase the resources, encourage training and continuous educational programs to caregiver.

**Keywords:** infants, caregivers, formula, correct practices, dipper changing, infants bathing

### 1. Introduction

Young children in institutional care have often been abandoned at birth or soon after because of illegitimate pregnancies or parental instability. Orphaned, abandoned, and maltreated children pose problems for societies throughout the world. Although the actual number of children in residential institutions is impossible to gauge accurately, estimates have ranged from 2,000,000 to more than 8,000,000 (Browne, 2009; Save the Children, 2009). Most institutions are staffed with caregivers who work rotating shifts in rather bleak material conditions. 1

The children those most at risk for malnutrition and hunger-related diseases, in particular orphaned or abandoned children living in care centers, many of whom have significant special needs 2. The quality of care giving relationships has an impact on children's health and development. These effects occur

because children, whose care is less than adequate or whose care is disrupted in some way, may not receive sufficient nutrition; they may be subjected to stress; they may be physically abused and neglected; they may develop malnutrition; they may not grow well; and early signs of illness may not be detected. Research on what occurs when young children are placed in institutions provides powerful evidence of the importance of supportive and stable caregiver-child relationships for the health of young children and their cognitive and social development. Young children in group care often fail to thrive, they tend to be sickly, they are demanding of attention, and they find it difficult to have normal peer relationships with other children 3. UNICEF estimated that over 17.8 million Children without appropriate care those are orphans 4. High number of babies abandoned: based on research undertaken in 2003, evidence indicated that

an average of 110 new born babies were being abandoned in Khartoum every month. Half were estimated to die before receiving any assistance while those who survived abandonment were admitted to a state orphanage, Maygoma, where mortality rates stood at over 80 per cent. Research suggested that the majority of abandoned babies were born outside marriage. Stigma associated with bearing a child out of wedlock, and concerns about possible action by the authorities led many mothers to abandon babies on the streets, without seeking professional care for their child 5.

**2. Materials and Methods**

The Materials and Methods begins by presenting the research design, followed by setting and duration of the study, sample, sample size, data collection technique and tools, phases of the study, validity and reliability of instruments and ethical considerations.

**2.1 Study design:** An interventional prospective research design was used to accomplish this study.

**2.2 Setting:** Mygoma Orphanage center, Khartoum State, Sudan.

**2.4 Sample:** Care givers they were taking care of children less than one year.

**2.5 Sample size:** The recommended sample size given by the total coverage of caregivers (72) who were taking care of infant (196),but there are (22) of care givers included in the pretest phase and excluded in the post test they refused to field the posttest questioner. After that the sample size reaches (50) care givers taking care of infant (138).

**2.6 Data collection technique and tools:** Observational Checklist, developed by the researcher to assess the caregiver’s performance regarding daily infant care in Maygoma center.

**2.7 Phases of the Study**

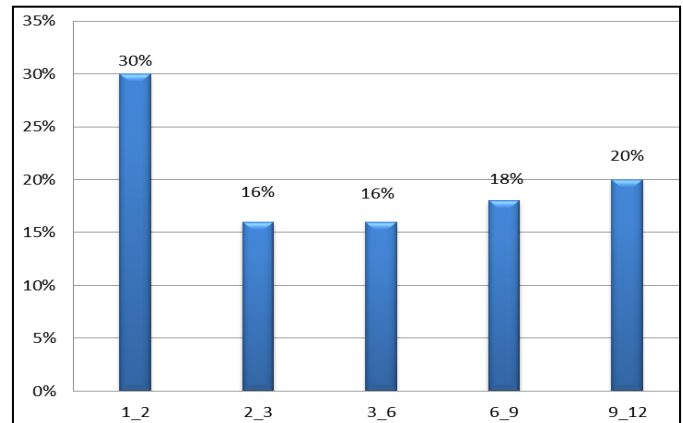
**2.7.1 Pre Intervention Phase:** Baseline survey was conducted.

**2.7.2 Intervention Phase:** Started from (May-August, 2016), which included eight lectures, one hour for each session, three time per week for each group, in each session the care givers learns one skill and applies it probably then shift to a new skill.

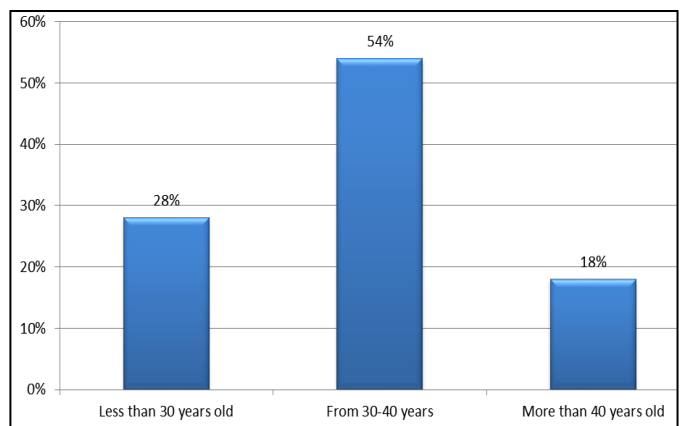
**2.7.3 Post Intervention Monitoring:** Monitoring and supervision were carried out monthly for 6 months after the intervention to assess application of care by the same data collector.

**2.8 Ethical consideration:** An official letter was taken from the Gezira University to approach the directors of the almaygoma center for permission to conduct the study.

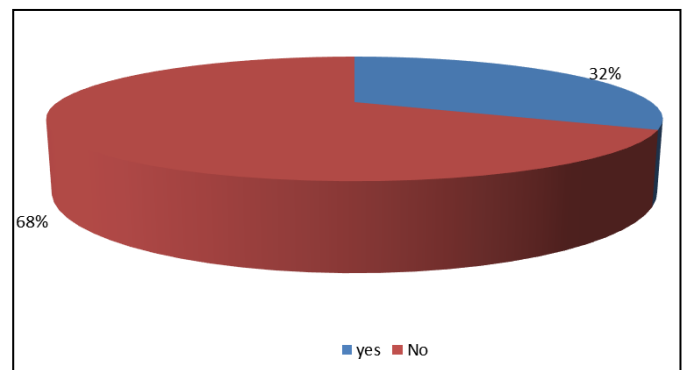
**3. Results**



**Fig 1:** Age distribution of infants in Maygoma center (n=196)



**Fig 2:** Distribution of study sample by Care givers age (n=50)



**Fig 3:** Distribution of study sample by care givers who are Marriage and they have an infant's (n=50)

The children age ranged between (1-12) month, about (30%) of age range between (1-2) month. figure (1). Care givers Age who taking care of infants more than half (54%) of these Care givers range between 30-40 yrs. figure (2). The majority (68%) of care givers who are marriage they have an infant's figure (3)

Also a significant differences were found regarding correct practices between the pretest and posttest ( $P < 0.05$ ), About

the Comparison of the study sample regarding Nappy changing for infants before study program was (54%) of care givers they changing nappy corrected while (46%) of care

givers they changing nappy uncorrected but after program about (70%) percent of care givers they made correct practices and (30%) they did not make (table 1)

**Table 1:** Comparison of the study sample according to their practice regarding Nappy changing for infants (daily routine practice) N = 50

No	Items	Pre				Post			
		Yes		No		Yes		No	
1	Wash hands, put on gloves and apron	0	0%	50	100%	2	4%	48	96%
2	Use a changing table or changing mat placed on a surface at waist height. (This prevents bending and back strain. Consider the infant's rolling ability when choosing a surface).	50	100%	0	0%	50	100%	0	0%
3	Have all equipment ready to hand; never leave an infant unattended, even for a brief moment.	46	92%	4	8%	50	100%	0	0%
4	Place the infant supine on the mat with the head turned to the right or left.	42	84%	8	16%	50	100%	0	0%
5	Open a clean nappy and set it aside in readiness.	48	96%	2	4%	48	96%	2	4%
6	Do not remove the dirty nappy until you finish the cleaning process.	12	24%	38	76%	44	88%	6	12%
7	Cover a boy's penis with cotton wool or a wipe whilst cleansing to avoid getting splashed by unexpected urination.	2	4%	48	96%	4	8%	46	92%
8	Hold the infant's legs in one hand and pull the front of the nappy down with the other hand.	42	84%	8	16%	46	92%	4	8%
9	With the dirty nappy pressed flat under the baby, use cotton wool and warm water (for newborns) or wipes to gently cleanse the infant's nappy area.	26	52%	24	48%	32	64%	18	36%
10	Don't rub between skin	6	12%	44	88%	22	44%	28	56%
11	Carefully and gently blot dry between skin folds and creases	6	12%	44	88%	22	44%	28	56%
12	Lift the infant's legs and slide the dirty nappy out – set it away from the infant	44	88%	6	12%	48	96%	2	4%
Total		27	54%	23	46%	35	70%	15	30%

P-value = 0.00

About the Comparison of the study sample regarding infants bathing before study program was (52%) of care givers they bath infant corrected while (48%) of care givers they bath

infant uncorrected but after program about (80%) percent of care givers they made correct practices and (20%) they did not make (table 2).

**Table 2:** Comparison of the study sample according to their practice regarding infants bathing (daily routine practice) N = 50

No	Items	Pre				Post			
		Yes		No		Yes		No	
1	Ensure that the room is warm and draughts are reduced by closing windows and doors; infants have a large surface area to body weight/volume ratio and therefore lose heat quickly	26	52%	24	48%	46	92%	4	8%
2	Wash hands and put on disposable apron	15	30%	35	70%	27	54%	23	46%
3	Fill the bath, paying attention to warmth, depth and moving, and handling.	48	96%	2	4%	50	100%	0	0%
4	Place bath on a stable surface at waist height, usually table or bath stand Ensure items to be used are near at hand so that there is no temptation to leave the infant unattended at any time during the procedure.	33	66%	17	34%	46	92%	4	8%
5	Undress the infant and swaddle in a towel with only the face exposed. This helps to maintain the infant's body temperature and promotes comfort.	19	38%	31	62%	44	88%	6	12%
6	With the infant nursed on your lap, begin by cleansing the face, avoiding the eyes with either a clean washcloth or cotton-wool balls and plain water from the bath. Soap is not recommended for use on infants' faces as their facial skin is particularly sensitive and prone to reaction. Dry the face using allotting as opposed to rubbing action.	41	82%	9	18%	48	96%	2	4%
7	If you wish to wash the infant's hair, expose the head only and hold the infant securely along your arm with the head supported in your hand. Gently dampen the infant's hair with water from the bath. Use your cupped free hand or a jug to help you do this. Avoid inadvertent splashing of the eyes	35	70%	15	30%	47	94%	3	6%
8	Apply a small amount of baby shampoo, equivalent to no more than a 10-pence piece, to the infant's hair. Massage the scalp gently. Rinse the soap from the infant's hair and head. Rinse and repeat to get all of the shampoo off the scalp.	34	68%	16	32%	46	92%	4	8%
9	Add baby bath if used as recommended by the manufacturer. Excess use causes the skin to dry out and may irritate the skin, causing or exacerbating eczema	7	14%	43	86%	22	44%	28	56%
10	Undress the infant from the towel, holding the infant securely with one arm under the shoulders and holding the far arm, with the other hand supporting the infant and holding the far thigh. Whilst speaking encouragingly, lower the infant gently into the water feet first and gently lower the rest of the body into the bath. Most of the body and face should be well above the water level for safety.	40	80%	10	20%	45	90%	5	10%
11	Cup water gently over the infant with your hand, doing so frequently to keep the infant warm. Wash the infant, paying special attention to creases under the arms, behind the ears, around the neck, and, especially with a girl, in the genital area Have fun, but avoid splashing the floor as a wet floor poses	34	68%	16	32%	46	92%	4	8%

	a safety hazard Be mindful of the infant's body temperature and the time spent in the bath for thermal protection								
12	Carefully dry the infant, paying particular attention to skin creases (back of neck, armpits, groins).	43	86%	7	14%	49	98%	1	2%
13	Ideally two people should carry the bath to a skin.	8	16%	42	84%	26	52%	24	48%
14	Clean the bath with water and detergent, dry thoroughly with paper towels, and store in a cool, dry area to prevent Cross infection.	14	28%	36	72%	41	82%	9	18%
15	Dispose of clinical waste and apron appropriately & Wash hands.	26	52%	24	48%	44	88%	6	12%
16	Ensure that the room is warm and draughts are reduced by closing windows and doors.	0	0%	50	100%	18	36%	32	64%
Total		26	52%	24	48%	40	80%	10	20%

P-value = 0.00

There are an improvement In the Comparison of the study sample according to their attitudes of care givers, before study program was (86%) of care givers they deal with good manner with infants during practices while (14%) they deal with bad attitude with infants during practices, but after program about (94%) of care givers they deal with good attitude with infants during practices and only (6%) they deal with bad attitude with infants during practices.

#### 4. Discussion

**Introduction:** A study conducted at Mygoma center in Khartoum to evaluate the effect of health education program on the knowledge, attitude and practice of caregivers regarding infant care. The data collected by the researcher and trained persons through questionnaires (50) and chick list filled from care givers, who were taking care of (138) infants and they completed the education program. The infants age between (1-12) months, (30%) of them between (1-2) month. More than half (54%) of care givers age between (30-40) yrs. The majority of care givers (68%) they have an infants, and that is good for the benefit of those infants.

significant differences (p:000) appeared between pre and post application of the program, Regarding Nappy changing for infants, Most of study group (care givers) eighty (70%) percent after program they did correct practices and only twenty (30%) percent they did not correct practices. However before study program was fifty four (54%) percent of care givers they did correct practices while forty six (46%) percent they did not correct practices. This agreed with Begin the diaper change with good hand washing. To change a baby's diaper, remove the bottom half of the infant's clothing. Baby "onesies" that snap between the legs make diaper changes especially easy. Then remove the old diaper and quickly examine the contents in order to monitor the baby's health and digestion. Next, gently wipe the bottom clean with baby wipes to remove any urine or fecal matter. Be careful to wipe from the urethra toward the anus (front to back) and never in the opposite direction, to prevent germs from fecal matter infecting the urethra or vagina. Baby wipe warmers can make wipes feel better than cold wipes for cleaning. Some babies have sensitive skin that may react to baby wipes, so caregivers can also use a wash cloth dampened with warm water. Allowing babies to dry a few seconds before putting a diaper back on can help discourage diaper rash. Baby powder is no longer advised because inhaling the powder can be damaging for babies. (Oswalt, A., 2016)

Regarding Comparison of the study sample according to their practice about infants bathing the correct practices of the caregivers was improved due to application of the program,

Most of study group (care givers) eighty (80%) percent after program they did correct practices and only twenty (20%) percent they did not correct practices. However before study program was fifty two (52%) percent of care givers they did correct practices while forty eight (48%) percent they did not correct practices. indicating significant differences (P=0.00) in their practice between pretest and posttest period. indicating significant differences (P=0.00) in their practice between pretest and posttest period and that it confirmed with: Proper skin care and bathing helps maintain the health and texture of an infant's soft and delicate skin while providing a pleasant experience (Noonan, Quigley and Curley, 2006). Contrary to popular thought, most infants do not need a bath every single day. nappy changes and wiping of mouth and nose after feedings, most infants only need to be bathed two or three times a week or every other day (DH,2006) Bathing more frequently may lead to dry and irritated skin (Noonan *et al*, 2006).

#### 5. Conclusion

The study concluded that: There was a statistically significant difference between pre and posttest after the application of the educational program (P < 0.05), there was a scope of improvement in the performance of practical skills of care givers post application of the program (P < 0.05) among Dipper change for infants and regarding correct infants bathing.

#### 6. Recommendations

The researcher recommends the following: It is important to design, plans, strategies and protocols in all orphan centers through which improvement and the quality of care to infants when will be receive. In Order to reach a successful goal, orphan centers must be provide visible support and sufficient resources for continuous educational programs to grant the importance of improving the quality of infants care. Supervisory system should be created to ensure best practice. It is recommended that the availability of recourses, increase number of care givers to meet the number of infants and also It is recommended that the availability of recourses training of staff members, staff motivation and teamwork contributes in promotion in infection control and prevention.

#### 7. References

1. Dozier, Mary, *et al*. Institutional Care for Young Children: Review of Literature and Policy Implications. Social issues and policy review. 2012; 6(1):1-25. PMC. Web. 20 Aug. 2017.)
2. UNICEF. Worldwide Orphan Statistics - SOS Children's

- Villages, 2016. <http://www.sos-usa.org/our-impact/childrens-statistics> (Accessed on 31.3.2016)
3. WHO. Department of Child and Adolescent Health and Development. The importance of caregiver-child interactions for young children, 2004. <http://whqlibdoc.who.int/publications/2004/924159134X.pdf>(Accessed on 13.3.2014)
  4. UNICEF. Save the children's child protection, 2015. [https://resourcecentre.savethechildren.net/sites/default/files/documents/sc\\_cwac\\_strategy1.pdf](https://resourcecentre.savethechildren.net/sites/default/files/documents/sc_cwac_strategy1.pdf) (Accessed on 23.2.2016)
  5. UNICEF. Ministry of Social and Cultural Welfare and the Alternative Family Care Task Force by Africa Management Systems/Massara Non-Governmental Organization (Accessed on 16.8.2017), 2007.