PROCEEDINGS JOURNAL OF EDUCATION, PSYCHOLOGY AND SOCIAL SCIENCE RESEARCH

Open Access

ISSN 2423-1924

Presented in
1st International Conference in Education, Psychology, and Social Science (ICEPSS)
International Research Enthusiast Society Inc. (IRES Inc.)
May 22-24, 2014

The Health and Sanitary Status of Mamanwa Indigenous People in Selected Areas in Caraga Region

Levitah C. Mapatac
ORCID No. 0000-0002-1401-1689
Research Coordinator, College of Science Education
Caraga State University

Abstract

This study aims to determine the health and sanitary status of the Mamanwa indigenous people in selected areas in CARAGA Region. The respondents were the Mamanwa people who are residents of Cantugas, Mainit, Surigao del Norte community, and Kitcharao, Agusan del Norte community.
The study used descriptive research design utilizing questionnaire and personal interview in gathering the data. The total population of the respondents is 69 and respondents from both communities were selected based on simple random design.

The study used percentage and mode/majority criterion, weighted mean, and Kendal-tau correlation. The findings showed that in the extent of health and sanitation education which was divided into three factors: Factor 1 which is the regularity of adopting health and sanitation practices shows a mean rating described as always except for item 9. Factor 2 was about exposure to health and sanitation campaign and education show a mean rating of sometimes. Factor 3 is about awareness on health and sanitation show a mean rating of sometimes.
On the economic status of Mamanwa people which was the (factor 1) economic status of Mamanwa parents, 75.4% of the Mamanwa parents send their children to school and 64.9% of Mamanwa parents' allocated budget for clothing and other personal necessities. On social status of the location (factor 2), only 35.1% of the respondents said that they have proper waste disposal and segregation.

The results showed that Mamanwa children regardless of sex and age were undernourished and there is a significant relationship between the regularity of adopting health and sanitation practices with hygiene on health care where it had an R-value of 0.47 and 0.35 respectively. Lastly, only economic factor on the social status of the location had a significant relationship on the health status of Mamanwa children in terms of BMI which had an R-value -0.20 and p-value 0.049.

Keywords— Mamanwa, health, sanitary & economic status

Dr. Levitah C. Mapatac *
lcmapatac@gmail.com
Paper Reference Number: ICEPSS 14021
*Corresponding Author

Published by Sons and Daughters Publishing House Inc.
© 2014 The Authors
Peer review under the responsibility of International Research Enthusiast Society Inc.

ISSN 2423-1924

Introduction

It is estimated that indigenous peoples constitute some 370 million individuals, representing more than 5,000 distinct peoples, living in more than 90 countries in all inhabited continents (UNDESA, 2009). Most of them live in developing countries, but there are significant groups as here in the Philippines, such as the Mamanwa community. Mamanwa indigenous people are dark, curly haired people who inhabit the northeastern region of Mindanao Island. They can be found around Lake Mainit, and the northern reach of the Diwata Mountain Range that traverses the provinces of Agusan del Norte, Surigao del Norte and Surigao del Sur. The majority of the Mamanwa prefer to live in small houses along mountain ridges. The Mamanwa life is communal. They practice farming by planting rice, sweet potato, corn and other root crops. They also go into fishing hunting and boat-making. One major problem of Mamanwa people is their health and sanitary status.

Sanitation is used to describe different aspects of hygiene and disposal (EISP 2008) and hygiene is defined as the science of health and includes all factors that contribute to healthful living. Health and hygiene of every human being are vital in overall development of a community and a country in large. Yet, lack of proper hygiene and sanitation is one of the most important factors in spreading up diseases and its awareness is very poor in most of the rural areas. Access to health care is one of the issues nowadays. Individuals in developing countries are more prone to suffer from different health conditions because their access to health care system is restricted mostly because of financial reasons (Almazan et al, 2010). In addition, the State of the World's Minorities and Indigenous people released its annual report that says, minorities and indigenous people suffer more ill health than other segments of the population. They point out some factors affecting health status of minorities and indigenous people; these include health campaigns that are very rare in the areas of indigenous people, culture, educational and economic factors. However, the Philippine government, through the Department of Social Welfare and Development and in conjunction with the Department of Health, has initiated projects to address this problem and to improve health status particularly of those whose health needs are not often met, are under privileged.

Health is a fundamental human right and it starts from the mother's ovum to death. It is the first and fundamental social concern that is common to all. In fact health is more important than human rights. It has considerable instrumental values in the context of development without which the progress in other sectors is unlikely to be attained. The ability of an individual to work and produce the level of skill and knowledge is determined by his level of health. Everybody realizes that his interest and ability to work to earn more and also enjoy other benefits of life is largely determined by his health status. A healthy person is always cheerful and can do full day's work without exhaustion. So it called that health of the people is consider as a pillar of national development.

Hence, Mamanwa, are indigenous people of Caraga suffering from poor economic and educational compared to other communities of the country. Thus, the main objective of this study is to find out the health and health care practices of the Mamanwa community particularly in Cantugas, Mainit, Surigao Del Norte and Kitcharao, Agusan Del Norte which can be taken as a general representation of all the indigenous communities of the country.

Statement of the Problem

This study aimed to determine the status of health and sanitation of the Mamanwa indigenous people in selected areas in the Caraga Region. Specifically, this study sought to answer the following questions:

- The health and sanitary status of the Mamanwa household in terms of educational factors of parents, economic factors ,economic status of parents, status of location; and status of sanitary products in the location?
- What are the common hygienic practices in the Mamanwa people?
- What is the health status of children in terms of the BMI?
- Which educational and economic factors can motivate people to adopt safe hygienic practices?
- What is the relationship between the parents' educational and economic factors to the health status of children in terms of the BMI?

Results And Discussion

The health and sanitary status of the Mamanwa household in terms of educational factors of parents and economic factors (economic status of parents; status of location; and status of sanitary products in the location).

© 2014 The Authors
Peer review under the responsibility of International Research Enthusiast Society Inc.

ISSN 2423-1924

Table 1. Educational Factors : Extent of Health & Sanitation Education Among Mamanwas

Indicators	Mean	VD*
1. Health care campaigns visitation in the barangay.(Adunay kampanya mahitungod sa maayong panglawas sa lugar.)	2.25	Sometimes
2. Attended trainings/seminars about health and sanitation. (Naga-apil ug mga seminar bahin sa maayong panglawas ug pagpanglimpyo.)	2.23	Sometimes
3. Teach children to practice proper hygiene.(Ginatugotan ang mga kabatan-onan sa saktong pagpangariglar sa lawas.)	2.37	Always
4. Access information about health and sanitation (e.g. reading materials) (Naay makuhaan ug impormasyon bahin sa maayong panglawas ug pagpanglimpyo, sama sa mga balasahon.)	2.05	Sometimes
6. Shares knowledge about health and sanitation to relatives/friends and neighbors.(Makabahin ug saktong kahibaloan bahin sa maayong panglawas ug pagpanglimpyo sa mga kabanay ug mga kasilinganan.)	2.53	Always
7. Participate in cleaning programs in the barangay.(Muapil ug kalihukan sa pagpanghinlo sa barangay.)	2.61	Always
8. Vegetables and fruits always present during meal time. (Kanunay naay gulay ug prutas kada kaon.)	2.25	Sometimes
9. Meat or other protein-rich food always present during meal time. (Kanunay naay karne o mga pagkaong puno sa protina kada-kaon.)	1.88	Sometimes
10. Drink at least eight glasses of water a day. (Naga-inom ug tubig nga dili muubos sa walo ka baso kada adlaw.)	2.39	Always
12. Has a regular general check-up. (Kanunay magpa-check up sa lawas.)	2.35	Always

Factor 1–items 7, 9, **10** &12 with VE=52.6%; Factor 2–items **1**, 2, 3 & 6 with VE=11.7%; Factor 3– items 4& **8** with VE=10.3%

* Mean interpretation: 1.00-1.66 : Never; 1.67-2.33: Sometimes; 2.34-3.00 : Always

The table above presents the extent of health and sanitation education among Mamanwa people. On the items above Factor 1 which was composed of indicators 7, 9, 10, and 12 show mean rating described as always except for item 9. Indicators on this first factor tell us the regularity of adopting health and sanitation practices in which Mamanwa people always exercise this practices to their daily life except indicator 9 that says 'meat or other protein-rich food are always on their meals' which had a mean rating of 1.88 described as sometimes.

For factor 2 which was the indicators 1, 2, 3, and 6 was about exposure to health and sanitation campaign and education. Findings show that Mamanwa people did not always attended trainings/seminars about heath and sanitation since health care campaigns did not visit their barangay permanently. However, Mamanwas always teach their children about proper hygiene and they also share these knowledge on health and sanitation to their relatives/friends and neighbors.

Factor 3 which is indicator 4 and 8 it tell us the awareness on eating fruits and vegetables, these indicators said that Mamanwa people did not always access information about health and sanitation and they did not always prepare fruits and vegetables on their meals. As shown, these indicators had a mean rating of 2.05 and 2.25 respectively that were described as sometimes.

Table 2. The Economic Factors for Health & Sanitation Among Mamanwas

Economic Status of Parents	Freq	%
1. Parents has a job. (Adunay trabaho ang mga ginikanan.)	18	31.6
2. Parents send children to school. (Nagapa-eskwela sa mga anak,)	43	75.4
4. Immediately buy health and sanitation products when needed. (Makapalit dayon ug gamit sa pagpanglimpyo ug para sa maayong panglawas.)	35	61.4
5. Allocate budget for clothing and personal necessities. (Adunay gigahin nga budget para sa sinena ug lain pang gamit para sa kaugalingon.)	37	64.9
Social Status of Location		
7. Receives medicine support from the government. (Makadawat ug tambal gikan sa gobyerno.)	22	38.6
8. Proper waste disposal and segregation. (Adunay sakto nga labayanan sa basura, ug paglain sa malata ug dili malata.)	20	35.1
9. Monitored monthly by an authorized health and sanitation personnel. (Ginabisita ug mga health and sanitation personnel kada-bulan.)	22	38.6
10. Has health care clinic and barangay pharmacy. (Adunay klinika ug parmasya sa barangay.)	28	49.1
13. Sanitary products are new and checked regularly by authorized personnel. (Bag-o ug kasaligan ang mga produkto para sa pagpanghinlo ug alang sa maayong panglawas; e.g. sabon, diaper, napkin, tambal.)	21	36.8

© 2014 The Authors
Peer review under the responsibility of International Research Enthusiast Society Inc.

ISSN 2423-1924

Table 2 shows factors on the economic status of Mamanwa people which were the economic status of Mamanwa parents (factor 1) and social status of the location (factor 2). In the above findings, it tells us those indicators on factor 1 have the most percentage among all the indicators. It shows that 75.4% of the Mamanwa parents send their children to school since there are educational projects of the government in their barangay like in Cantugas they are provided a minority school in which their children could enjoy the process of learning in a convenient environment. There were also 64.9% of Mamanwa parents' allocated budget for clothing and other personal necessities thus they could immediately buy health and sanitation products when needed.

Yet, indicators on factor 2 shows poor percentage compared to factor 1. The indicator that gets the lowest percentage was indicator 8; this means that only 35.1% of the respondents said that they have proper waste disposal and segregation. In Cantugas, Mamanwas said they have proper waste disposal and segregation but in Kitcharao they responded negatively to the indicator. As interviewed, some Mamanwa just throw any kind of their garbage's to the compost pit of their barangay while others said they just burned their garbage's that includes plastics, some also said that they just buried feces on their backyards. In addition Mamanwas in Kitcharao have only a communal comfort room**.**

Common Hygienic Practices In The Mamanwa People

Table 3. The Common Hygienic Practices of the Mamanwas

Indicators	Mean	VD*
1. Wash hands before handling food. (Maghugas ug kamot sa dli pa mag-andam sa pagkaon.)	2.65	Always
2. Wash hands before and after eating. (Maghugas ug kamot sa dili pa/pagkahuman ug kaon.)	2.63	Always
3. Wash hands after toilet visitation. (Maghugas ug kamot human gamit sa kasilyas.)	2.79	Always
4. Wash hands after work or garbage disposal. (Maghugas ug kamot human sa paglabay sa basura.)	2.84	Always
6. Cover water containers when not in use. (Takluban ang sudlanan sa tubig kung dili gamiton.)	2.67	Always
7. Drink water from a safe source. (Ang tubig nga gi-inom gikan sa kasaligan ug hinlo nga tinubdan.)	2.68	Always
8. Take a bath daily. (Maligo kada adlaw.)	2.58	Always
9. Brush teeth every after meal. (Maghinlo sa ngipon human kada kaon.)	2.60	Always
10. Uses soap and detergent in washing the dishes. (Maggamit ug sabon/bareta sa paghugas sa mga plato ug mga gamit sa kusina.)	2.68	Always

Factor 1–items **3**, 4,6,7 with VE=55.3%; Factor 2–items 8, **9**, & 10 with VE=17.2%; Factor 3– items **1**&2 with VE=11.2%

* Mean interpretation: 1.00-1.66 : Never; 1.67-2.33: Sometimes; 2.34-3.00 : Always

The table above presents the common hygienic practices among Mamanwas in Cantugas and Kitcharao. Mean rating of the responses of Mamanwa people in all the indicators on common hygienic practices ranges from 2.34-3.00 which has a verbal description always. This means, that they always washed their hands before handling food, before and after eating, after toilet visitation, after work and garbage disposal. They take a bath daily, brushed their teeth every after meal, used soap and detergent when washing dishes, they did cover water their containers when not in use and they drink water from a safer source since their water source came from the spring in the nearby mountain.

Health Status Of Children In Terms Of The BMI

Table 4. The Body Mass Index Result of the Children of the Mamanwa Mothers

Sex	Age	N	BMI	Lower bound for Normal BMI	Sex	Age	N	BMI	Lower bound for Normal BMI
Male	1	2	14.79	18.2	Female	1	4	10.48	18.0
	2	5	13.25	18.2		2	5	10.71	18.0
	3	3	12.95	17.4		3	8	13.89	17.2
	4	8	13.35	16.9		4	7	12.63	16.8
	5	4	13.93	16.8		5	6	12.45	16.8
	6	5	13.98	17.0		6	5	13.13	17.1

© 2014 The Authors
Peer review under the responsibility of International Research Enthusiast Society Inc.

ISSN 2423-1924

	7	6	14.76	17.4		7	11	15.13	17.6
	8	7	14.71	17.9		8	9	15.09	18.3
	9	2	17.05	18.6		9	2	13.96	19.0
	10	3	13.53	19.4		10	6	15.61	20.0

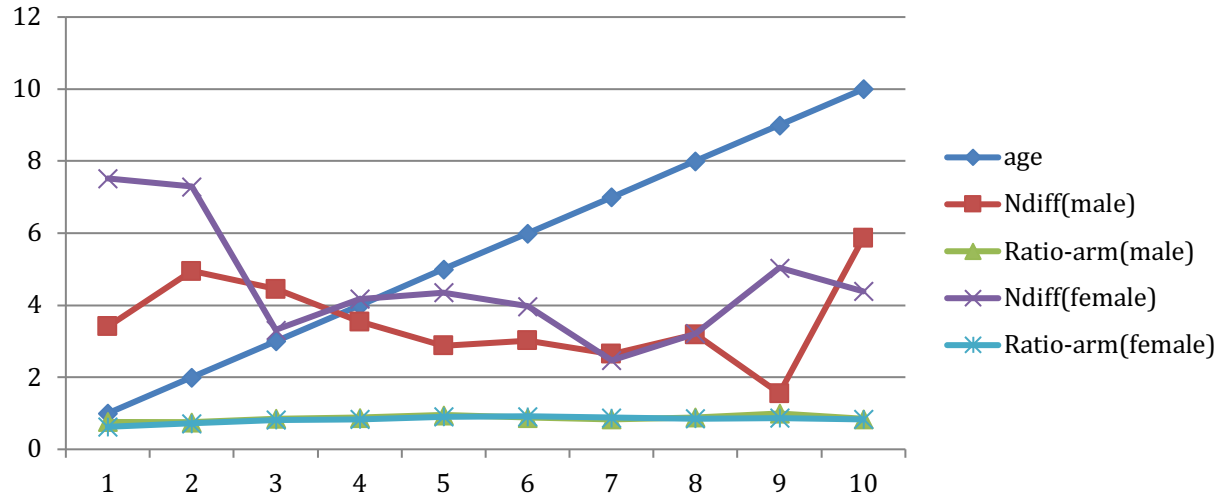

Figure 1. The Body Mass Index (BMI) of Mamanwa Children

Poor nutrition is one of the health issues that most affects indigenous people around the world as stated in the United Nations' Department of Economic and Social Affairs "State of the Worlds' Indigenous People" (2009). This statement was true to the situation of the Mamanwa indigenous children in Cantugas and Kitcharao.

Table 4 shows the health status of Mamanwa children in terms of their BMI. There were separate table for male and female since male and female have different BMI ranges for interpretation across increasing age. As graphed above the BMI of Mamanwa children across age-sex categories is consistently less than the lower bound of the normal BMI; thus, Mamanwa children regardless of sex and age were underweight or undernourished.

Yet, by tracing the behavior or pattern between the differences of BMI from the normal range (Ndiff) varies between male and female; that is, while Ndiff of males tends to increase with age female Ndiff runs inversely with age. So, as the children grow up and learn to mingle with their outside environment other than their home and as they entered a stressful, confusing and sometimes frightening time of social, emotional and physical development, Mamanwa females tend to become thinner.

However, the ratio of arm circumference and BMI (arm-ratio) tends to be constant for both male and female across increasing age. Thus the ratio-arm may be a good option as good basis/indicator for the study of BMI.

Educational And Economic Factors That Motivate People To Adopt Safe Hygienic Practices
On the Relationship of Hygienic Practices and Educational Factor

Table 5. Test on Significant Relationship Between Educational and Economic Factors and Extent of Hygienic Practices of Mamanwas

Indicators	Factor 1 (*Hygiene on health care against possible source of sickness*)		Factor 2 (*Personal hygiene with use of sanitary products*)		Factor 3 (*Washing of hands before/after eating*)	
Educational Factors	R	p-value	R	p-value	R	p-value
Factor 1: *Regularity of adopting health & sanitation practices*	0.47**	0.000	0.35**	0.006	0.29*	0.025

© 2014 The Authors
Peer review under the responsibility of International Research Enthusiast Society Inc.

ISSN 2423-1924

Factor 2: *Exposure to health & sanitation campaign & education*	0.42**	0.002	0.29*	0.027	0.30*	0.023
Factor 3: *Awareness on eating fruits & vegetables*	0.27*	0.038	0.61**	0.000	0.34**	0.008
Economic factors						
Factor 1: *Economic Status of Parents*	0.13	0.297	0.12	0.324	0.14	0.233
Factor 2: *Social Status of the Location*	0.51**	0.000	0.47**	0.000	0.45**	0.000

** Highly significant relationship or significant @ 1%; * significant relationship or significant @ 5%; *n* = 57 households

Table above correlates the relationship between educational and economic factors to the extent of hygienic practices among Mamanwa people. As we can see, educational factors positively determine with the common hygienic practices among Mamanwas. Regularity of adopting health and sanitation practices has a high significant relationship with hygiene on health care against possible source of sickness and personal hygiene with the use of sanitary products where it had an R-value of 0.47 and 0.35 respectively. Exposure to health and sanitation campaign and education also yields high significant relationship to hygiene on health care against possible source of sickness.

Economic factor 1(economic status of parents) yielded no significant relationship to any factors of hygienic practices of Mamanwas. However, economic factor on social status of the location yielded a high significant relationship to all of the three factors of hygienic practices, which had R-values of 0.51, 0.47 and 0.45 respectively.

Relationship Between The Parents' Educational And Economic Factors To The Health Status Of Children In Terms Of The BMI
On the Relationship of Educational Factor and Economic Factor and the BMI of the Children

Table 6. Test on Significant Relationship Between Educational and Economic Factors in the Health & Sanitation of Mamanwas and Health Status of Mamanwa Children in Terms of the BMI

Indicators	Ndiff		AC/BMI	
Educational Factors	*R*	*p-value*	*R*	*p-value*
Factor 1: *Regularity of adopting health & sanitation practices*	-0.11	0.321	-0.14	0.188
Factor 2: *Exposure to health & sanitation campaign & education*	-0.12	0.295	-0.03	0.795
Factor 3: *Awareness on eating fruits & vegetables*	-0.13	0.226	0.08	0.474
Economic factors				
Employment Status of Parents	-0.11	0.279	*0.16*	*0.115*
Social Status of Location	-0.20*	0.049	0.07	0.488

* Significant relationship or significant @ 5%; Ndiff – difference between the normal BMI and actual BMI of child; AC/BMI – ratio of the arm circumference and BMI of a child; *n* = 57 households

Table 6 shows that only economic factor on the social status of the location had a significant relationship on the health status of Mamanwa children in terms of BMI which had an R-value -0.20 and p-value 0.049 on the differences of BMI from the normal range (Ndiff). As presented in Figure 4, most of Mamanwa children are underweight or undernourished regardless of sex and age. Social status of the location on table 2 got a poor percentage these findings probably affect the health status of Mamanwa children. As found out there were only few responded that they receive medicine support from the government some stated during the interview they only receive medicine support from the government only when they ask and needed to. In Cantugas area, they do have a ''Botika ng Bayan'' but only few knew of its existence. Some who knew its presence do not even knew if the contents/medicines are updated from time to time. In Kitcharao was no presence of barangay pharmacy, they only rely on medicinal plants when their children acquired diseases

© 2014 The Authors
Peer review under the responsibility of International Research Enthusiast Society Inc.

ISSN 2423-1924

and the available medicines on the nearby small ‘’sari-sari’’ store in the area. In addition, there were no proper waste disposal and segregation on the area especially in Kitcharao. Thus, findings on the social status of the location somehow explain on the poor health status of Mamanwa children in terms of their BMI.

Conclusion

Based on the findings of the study, the following conclusions were inferred:

Mamanwa people always exercise the indicators of regularity of adopting health and sanitation except for the presence of meat or any protein-rich food always present during meal time.

Mamanwa people do not always attended trainings/seminars about health and sanitation since health care campaigns were not always held in their barangay. However, they share their knowledge about health and sanitation to their children, relatives and neighbors.

Most of the Mamanwa people send their children to school and allocate budget for clothing and personal necessities. Yet, social status of the location had a poor condition.

Health status of most of the Mamanwa children in terms of BMI regardless of sex and age were underweight. However the range of BMI of male tends to increase with age while female runs inversely with age.

There is a significant relationship of educational factors to hygienic practices of Mamanwa people. Yet economic factor on the economic status of the location has a high significant to the hygienic practices of the Mamanwa people.

There is no significant relationship between educational factors of Mamanwa parents to their children health status however economic factor on social status of the location yielded high significance to the health status of Mamanwa children in terms of BMI.

Recommendations

On the basis of the conclusions drawn, the following recommendations were suggested:

1. Provide advocacy material for increased awareness on the health and sanitary status of Mamanwa indigenous people communities.
2. Strengthen education and information campaigns to promote proper hygiene and sanitation.
3. Collect further information on key variables related to proper hygiene and sanitation.
4. Further studies should be made by future researchers to authenticate the findings of the study.
5. Conduct further studies on health and sanitation on other indigenous people communities.






© 2014 The Authors
Peer review under the responsibility of International Research Enthusiast Society Inc.

ISSN 2423-1924

Reference:

Almazan, A M; Patalita J O & Te J J. The Health and Living Condition of the Residents in P-3, Upper Doongan, Butuan City. Caraga State University, 2010

DENR, Protected Areas and Wildlife Division (PAWD), Caraga Region, 1998

Gruen, R L; Weeramathri T S & Bailie, R S. Outreach and Improved Access to Specialist Services for Indigenous People in Remote Australia: the Requirements for Sustainability. J Epidemiol Community Health, 2002

Quezon, Anna Sharmie Caraan. Mag-urong ako sa Baryoyo (Returning to the Barrio): a Glimpse into the Health Status of the Aetas of Bayan-bayanan, Orion, Bataan. Acta Medica Philippina, pp 32-34. 2010

Simbulan, Nymia Pimentel. *The Health Perceptions and Practices of Lumads in Southern Philippines*. Acta Medica Philippina, pp 37-49. 2011

The Indigenous World 2006, International Working Group on Indigenous Affairs (IWGIA), ECOSOC Consultative Status, p10

UNDESA 2009. *State of the World's Indigenous Peoples*. New York United Nations Department of Economic and Social Affairs

United Nations Permanent Forum on Indigenous Issues, Fourth Session, UN Document E/C.19/2005/2, Annex III, Item 13

World Bank (East Asia and the Pacific Region). *Economic Impacts of Sanitation in the Philippines (EISP): Long Report & Summary*. 2008

World Bank – Water and Sanitation Program. *Economic Assessment of Sanitation Philippines.* 2011

© 2014 The Authors