Abstract—Diabetes Mellitus falls into the category of non-communicable diseases. Diabetes Mellitus is a disease that has a high risk of death. However, Diabetes Mellitus can be prevented by the application of a healthy lifestyle. The personage who has an important role in setting a healthy lifestyle is a family. The role of family in preventing Diabetes Mellitus is by communicating, maintaining, and regulating healthy consumption patterns in each family. This research is done by using qualitative method, which is with case study model. Methods of data retrieval conducted by using in-depth interviews and observations involving the residents of Gambung, Mekarsari Village, Pasir Jambu Subdistrict, Bandung Regency, West Java. The sampling method was conducted by purposive sampling in accordance with the need of answer the research questions by the people residing in the area of Mekarsari Village. The author finds a form of communication that gives a picture of the insight of society in the village of Mekarsari about Diabetes Mellitus, which are the image of death. The informants feel afraid to do prevention of Diabetes Mellitus from the beginning by checking blood sugar levels. It happens because of the knowledge that they get through the empirical knowledge / experience that = the deaths is caused by the Diabetes Mellitus. Whereas the death is not really caused by the Diabetes Mellitus but it occurs because of low family understanding of the Diabetes Mellitus, so that the form of communication that occurs within the family in the environment is a form of communication that links between Diabetes Mellitus disease with a high risk of death. This has an impact on the lack of community figures in checking early, because they believe by knowing the disease gives effect to them will be unfavorable to individuals in the family.

Keywords— diabetes mellitus; disease; family; communication

I. INTRODUCTION

Non-communicable diseases are diseases that have a high risk of death in the world, WHO data shows that as many as 36 million people or 43% of deaths are caused by Non-Communicable Diseases. Global status report on NCD World Health Organization (WHO) in 2010 reported that 60% cause of death in the world is Non-Communicable Disease and 4% mortality caused by non-communicable diseases occurred in less than 70-year-old patients [1]. One of the non-communicable diseases that cause the high risk of death is Diabetes Mellitus.

Diabetes Mellitus is a disease that is affected by imperfections of the working function of insulin organs in the human body. Diabetes Mellitus is a chronic condition that occurs when there are raised levels of glucose in the blood because the body cannot produce any or enough of the hormone insulin or use insulin effectively (International Diabetes Federation, 2017). Another Definition of Diabetes Mellitus is a metabolic disease characterized by hyperglycemia that results from the disorder of insulin secretion, insulin work or both. Chronic hyperglycemia that occurs in Diabetes Mellitus is associated with dysfunction or failure of organs, especially the eyes, kidneys, nerves, heart, and blood vessels [2]. Dysfunction of the organs resulting from the disease Diabetes Mellitus causes complications that attack other organs in the patient's body.

Epidemiological studies state that there is the increased incidence and prevalence of Diabetes Mellitus globally. In 2009 the IDF (International Diabetes Federation) predicts an increase of the number of DM clients from 7 million to 12 million by 2030, while the Indonesian Endocrinology Association (Perkeni) predicts that the number of Diabetes Mellitus patients in 2030 will increase 2-3 times in Indonesia [3]. Basic Health Research Data of 2013 from the Ministry of Health of the Republic of Indonesia states that the prevalence rate of Diabetes Mellitus disease in Indonesia is 2.1%, while the prevalence rate in West Java is 2.9%, the prevalence number of West Java Province is close to the average prevalence in Indonesia [4].

The prevalence rate of Diabetes Mellitus in West Java cannot be separated from the cultural health aspect. Health culture is a system that has links with elements of universal culture that exist in society. Universal cultural systems consist of the religious system, knowledge system, technological system, social system, livelihood system or economies, language system, and art system in society [5].

The knowledge system has a major role in providing an understanding of health-related concepts in society. The system
of health knowledge in a culture can be known by understanding the meaning of concepts developed and trusted by society. The concepts are healthy concepts, pain, and disease. While knowing the public understanding about the form of health culture can be done by observing and understanding attitudes, behaviors and various actions in society in the context of preventing and facing disease.

Foster and Anderson (1986) define and give the term to disease into two categories, namely naturalistic and personalistic. The Naturalistic disease is a disease caused by the influence of balance, including the balance between the body with the environment, temperature, weather, food, and all kinds of elements that remain in the human body. While personalistic disease is a system in which the disease is caused by the intervention of an active agent, it may be a supernatural being (a supernatural being or a god), a non-human being (a ghost, an evil spirit, or an ancestor), and a human being (a sorcerer, etc). Both types of diseases, when viewed from the symptoms, have similarities, but in the process of treatment and prevention is very different. Treatment is done on personalistic diseases that are treatments by using plants and animals (herbs), and the need for treatment is done by the ritual. While the treatment of naturalistic diseases only needs to be done by using plants and animals (herbs) alone [6].

The knowledge system of a health culture also has an effect on Diabetes Mellitus. However, the identification of a cultural health is not only limited to the knowledge system of the disease itself, where according to the International Diabetes Federation (2013) the increase in the number of Diabetes Mellitus type 2 patients is also related to the existence of a health culture associated with the existence of a social system or social organization that is on racial/ethnic [7]. Racial or ethnic differences in the community provide an understanding of the differences between a social system and social organization in the region in preventing and managing diseases, especially in Diabetes Mellitus.

Social system or social organization is a system that resides in a social group whose life has been governed by customs and rules about various unity in the environment where individuals live and mingle. The closest and basic social unit is the family. The family becomes the smallest unit in human life. According to anthropology, the family is a grouping of relatives who do not have to live in one place (localized) [8]. But according to sociology, the family is a social institution in the society whose units of people work together to monitor the birth and development of children. The family is divided into two categories, namely nuclear family and extended family. A nuclear family is a family unit consisting of one or two parents and their children.[9] The existence of the family is always associated with the bonding of marriage and blood.

Families in a social structure have functions and roles. The function and role of the family, in general, are where socialization, the arrangement of sexual activity, social placement, and also as a guardian of material and emotional security [9]. According to one function of the family, the role of a family is doing family health care [3]. In accordance with the function and role of the family in the supervision and health care, the family has a major role in providing understanding, knowledge, a health communication media about a disease, especially Diabetes Mellitus.

Health Communication by Data Communication is the art of disseminating health information in order to influence and motivate individuals [10]. Family health communication itself is a health communication that makes a family as media in delivering information about family health including information about a disease and its prevention, health promotion, health care policy, and things that might change and renew quality of individual by considering aspects of knowledge and ethics. The form of health communication that can be applied in the family is a coping strategy. Coping strategies are a change made by individuals that involve attitudes, thoughts, and feelings in response to the stressors they face [11]. The coping strategy can be in the form of positive coping or negative coping.

II. METHODS

This research was conducted by a qualitative explorative descriptive method using case study research model. Case studies are used in research with explorative, descriptive or explanatory purposes [12].

This research was conducted in Mekarsari Village, Bandung Regency, West Java Province. Geographically the location of Mekarsari Village is at ± 1200 mean sea level and has a hilly topography with a slope of 20-70 degrees. Mekarsari Village has a daily average temperature of 18°C-20°C. The village of Mekarsari is a village with a total area of 4,196 hectares and has a head of household of 1,766 heads of households, with a population of 2,926 males and a total of 3,046 inhabitants. The distribution of the number of families residing in the Mekarsari Village area which is a family with livelihoods in agriculture as many as 303 families and the number of families who have the livelihood as farm laborersto June 2018.

Sources of data in this study are informants who are residents of Mekarsari Village. The informants selected in this study are individuals and groups who have experience and medical records or history of Diabetes Mellitus disease is a sick informant and also who have no experience suffering from Diabetes Mellitus disease or that is called as the healthy informant. Selection of informant category will be done first by purposive sampling then snowball sampling. Purposive sampling is to consider the purpose of research and snowball sampling is the process of determining informants based on previous informants without determining the exact number by digging information related research topics that will be required. The number of informants in this study was 27 people consisting of eighteen people with PKK cadres, four RW heads, three healthy citizens, one village midwife, and one sick citizen. In collecting data on these informants, this research uses in-depth interview method, observation, and focus group discussion.

Validity refers to the extent to which empirical measures adequately reflect the true meaning of the concepts considered in the study [13]. The validity of data in this study by using direct observation (observation), triangulation data, and apply member checking. Data analysis in this research is done by
using three concurrent activity stream, that is data reduction, that is the process of selecting, focusing, simplifying, abstracting, and changing data appearing in written notes or field transcripts; display data, which displays a collection of computerized and already summarized information that enables conclusions and actions; the conclusion / verification, the process by which the researcher begins to decide what the meaning of a research data is - the regularity, the pattern, the explanation, the possible configuration, the causal currents, and the proposition on a research data [14].

III. RESULT AND DISCUSSIONS

During 2017, Mekarsari Village, Bandung Regency has a death rate of 51 people. The death rate consists of 28 males and 23 females. Meanwhile, the birthrate of the population in the village of Mekarsari is 120 souls, the figure consists of 68 men and 52 women. The number of household heads in the village of Mekarsari are 1,766 heads of households, as well as the number of male population as many as 2,926 inhabitants and the number of female population is 3,046 inhabitants. Most of the people in Mekarsari village work in agriculture and plantation sectors. The distribution of the number of families residing in the Mekarsari Village is a family with livelihoods in agriculture as many as 303 families and the number of families who have a livelihood as a laborer of 617 families. Most of the residents in Mekarsari village have education background in elementary school (SD) up to junior high school (SMP).

Mekarsari village is a village in the highlands, so it has limited access and health information. This is evidenced by only one place of midwife practice with health personnel that is one midwife and one shaman baby. Limitations about health facilities and personnel become an obstacle in obtaining information about health.

A. Factors inhibiting Communication and Delivering Diabetes Mellitus Information in the Family

Inhibiting factors that exist in communication and delivery of health information to the family, especially in Diabetes Mellitus disease caused by several factors, namely:

1) Social Support Issues

Social support is one of the important resources as a communication medium for delivering family health information, and become an important media in maintaining the health of individuals in the family. The parts of the social support can consist of a partner, a friend, a family, to every person in our neighborhood. Social support in health functions as a source of information and financial or other kinds of aids, and as a mirror that helps to reflect back to our messages of self-affirmation [15].

One form of social support contained in the Village Mekarsari, Bandung Regency is PKK cadres as a medium of health communication to every family member in the village. The tasks and functions of PKK cadres are written in the 10 main programs of PKK namely health planning [17]. However, the presence of PKK cadres in carrying out the function as social support does not work well. Health information obtained by PKK cadres is often not channeled thoroughly to the family. 

As well as in health checks, and various health activities. This happens because of internal problems that are owned by PKK cadres, such as unevenness of PKK cadre members in every RW, as well as the ups and downs of the work spirit of PKK cadres due to the absence of payment given for their work, so they are referred to as unpaid welfare workers [16]. Therefore, various kinds of problems are the causes that hinder the dissemination of health information to the family.

2) Economic Factors

Economic factors become an important thing in reaching various health facilities. This economic factor is able to influence social class. The influence of the social class has been described in a previous study conducted in New York City by Koos, in which upper-class society can easily access health information, in contrast to lower-income people [6]. To Suharto, poverty describes the scarcity materials or goods needed in everyday life such as food, clothing, and housing [17]. Thus, the poor are residents who have difficulty getting the needs of everyday life.

People in Mekarsari Village, Bandung Regency are mostly private laborers in plantations. The average income of private laborers in the plantation is Rp 10000,- - Rp.40000,- per day, it is determined by how much the yield of the plantation.

"My income is only Rp.50.000 - Rp. 70.000 / Sunday from the nose and weed the garden."

However, the income is not able to meet the needs of life in the family. This is not comparable with the cost of health checks that exist in the health clinics around the area. Appropriate statements about the economics of physicians' service is a fee for service system in which the doctor typically charges the patient for each service provided at each visit [15]. So health is not a top priority in efforts to utilize economic resources.

3) Limited Health Media Access

Mekarsari Village, Bandung Regency is located in the hills area. Located at ± 1200 mean sea level and has a hilly topography with a slope of 20-70 degrees. All forms of health facilities that exist around the area is not easy to achieve due to the presence of village positions located on the plateau.

Mekarsari Village, Kabupaten Bandung only has one midwife and one dukun beranak as a health worker in the village. The location and location of health facilities such as clinics, community health centers, and doctors are far from the region. To reach all health facilities there are only public transport vehicles at certain hours, the hours 07.00-09.00 am and 11:00 to 14:00 hours, the cost of public transportation to the health center of Rp.7,000 for one trip, or by using motorcycle taxi for Rp.15,000. The cost of public transportation is adjusted to the terrain and the length of the path that must be taken.

B. Knowledge and Forms of Family Health Communication about Diabetes Mellitus in Mekarsari Village

1) Family Knowledge of Diabetes Mellitus

Diabetes Mellitus is a disease that arises due to disruption to the production system and insulin work on the body. Knowledge of Diabetes Mellitus disease in Mekarsari Village,
Bandung Regency is not the same as health definition about Diabetes Mellitus disease. Knowledge of Diabetes Mellitus disease in rural communities is shaped by the existence of the health culture and experience they have with the social environment around them. They describe the knowledge with a creepy picture of death. The common name in Mekarsari Village community, Bandung Regency about Diabetes Mellitus is “gula” disease.

Knowledge of the deaths they get when one of the residents who are in the area of the village died. Knowledge of the disease is better understood by all forms of chronic symptoms are shown by people with the disease.

"Wound deeper and harder to heal."

"Drinking and eating, and if the wound is healed."

This form of knowledge is formed from the health culture they experience in accordance with the experiences they see. So the formation of the definition of Diabetes Mellitus disease in the village of Mekarsari, Bandung regency becomes a disease that becomes a picture of death in rural communities that are difficult to get access to health services.

2) The Form of Family Health Communication: Use of Coping Strategies

Knowledge and understanding of Diabetes Mellitus disease as a disease that has a high risk of death indirectly form a coping strategy as a form of health communication exist in the region. Coping strategies that are unconsciously formed are shaped into a negative coping that is in the form of bans in consuming something that family members deliver to other members in preventing and managing Diabetes Mellitus in the family according to knowledge about the risk of death in people with Diabetes Mellitus.

"I got Diabetes Mellitus and I can't eat sweet foods"

Coping coupling strategies independently become a form of family communication in disseminating health information in the family in order to avoid the risk of the death due to diabetes mellitus.

IV. CONCLUSIONS AND RECOMMENDATION

Diabetes Mellitus is one of the non-communicable diseases that have a high risk of death in the world. Full attention to prevention needs to be applied to the small social organization of the family by involving the role of health agencies in providing correct information and precise in doing prevention. The form of prevention and communication that should be provided in providing information about Diabetes Mellitus disease should also be balanced with the fulfillment of facilities and infrastructure such as health checking devices with easy access and can be used by people with a poor category.

Implementation of health information should not only be done using a centralized information system that is located in puskesmas and disseminated only through PKK cadres. Health information, especially about Diabetes Mellitus, the disease should be delivered with various forms of activities directly addressed to the family. In order to be able to run out of family functions and family roles in family health care goes to the maximum.

REFERENCES

[1] H. T. Umayana and W. C. Cahyati, “Dukungan Keluarga dan Tokoh Masyarakat terhadap Keaktifan Pendiduk ke Posbindu Penyakit Tidak Menular [Family and Society Figure’s Support towards People’s Active Visit to Posbindu on Non-communicable Diseases],” Jurn. Kesehat. Masy., pp. 96-101, 2015.
[2] R. Mirza, “Memaksimalkan Dukungan Keluarga Guna Meningkatkan Kualitas Hidup Pasien Diabetes Mellitus [Maximizing Family Support to Improve the Life Quality of Diabetes Mellitus Patients],” Jumantik, vol. 2, no. 2, pp. 12-30, 2017.
[3] N. P. W. Purnama Sari, N. L. Susanti, and E. Sukmawati, “Peran Keluarga Dalam Merawat Klien Diabetik di Rumah [Family Role in Treating Diabetic Clients at Home],” Jurnal Ners Lentera, vol. 2, no. 1, pp. 7-18, 2013.
[4] Agency for Research and Development, Ministry of Health, Riset Kesehatan Dasar [Basic Health Research]. Jakarta, Ministry of Health, 2013.
[5] Koentjaraningrat, Pengantar Ilmu Antropologi [Introduction of Anthropological Science]. Jakarta: Rineka Cipta, 2009.
[6] G. M. Foster and B. G. Anderson, Antropologi Kesehatan [Health Anthropology]. Jakarta: UI Press, 1986.
[7] D. Y. Ramadhani, F. Agusman MM, and R. Hadi, “Karaktieristik, Dukungan Keluarga, dan Efikasi Diri Pada Lanjut Usia Diabetes Mellitus Tipe 2 di Kelurahan Padangangadi, Semarang [Characteristics, Family Support, and Self-efficacy on Elders with Type-2 Diabetes Mellitus in Padangangadi Sub-district, Semarang],” Jurnal Ners Lentera, pp. 142-151, 2016.
[8] A. F. Saffiuddin, “Keluarga dan Rumah Tangga: Satuan Penelitian dalam Perubahan Masyarakat [Family and Household: Research Unit in Society Change],” Antropol. Indonesia 60, pp. 19-24, 1999.
[9] J. J. Maciominis, Sociology. Philippines: Pearson Asia Pte Ltd., 2002.
[10] D. R. Pratiwi, “Komunikasi Kesehatan dan Perilaku Akseptor KB Mantap (Studi Kasus Pengaruh Komunikasi Kesehatan Oleh PLKB Terhadap Perilaku Akseptor KB Mantap di Kelurahan Gilingan Kecamatan Banjarsari Surakarta [Health Communication and Behavior of KB Mantap’s Acceptors (Case Study of Health Communication’s Influence by PLKB towards KB Mantap POP Acceptor’s Behavior in Gilingan Sub-district, Banjarsari district, Surakarta)],” Jurn. Komunitas, vol. 4, no. 1, pp. 1-10, 2018.
[11] O. Saputra, R. Lissiwanti, T. Larasati, and H. Rahmaining, “Strategi Koping pada Pasien Diabetes Mellitus Tipe 2: Studi Kualitatif [Coping Strategy on Type 2 Diabetes Mellitus Patient: Qualitative Study],” Jurn. Agromed Unila, vol. 4, pp. 7-12, 2017.
[12] K. R. Yin, Case Study Research Design and Methods, 4th ed. United State of America: Sage, 2009.
[13] E. Babbie, The Practice Of Social Research. United State Of America: Thomson Wadsworth, 2007.
[14] M. B. Miles and A. M. Huberman, Qualitative Data Analysis. United State Of America: SAGE Publication, 1994.
[15] P. E. Freund and M. B. McGuire, Health, Illness, and The Social Body: A Critical Sociology. New Jersey: Englewood Cliffs, 1991.
[16] J. Newberry, Back Door Java : State Formation and the Domestic in Working Class Java. Jakarta: KITLV-Jakarta dan Yayasan Pustaka Obor Indonesia, 2013.
[17] D. Amaliah, “Pengaruh Partisipasi Pendidikan Terhadap Penduduk Miskin [Influence of Education Participation towards Poor Population],” Jurn. Iinjah Kependidik., pp. 231-239, 2015.