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Original Article

Alcoholic beverage users: structural and functional aspects based on the Calgary Model*

Famílias de usuários de bebida alcoólica: aspectos estruturais e funcionais fundamentados no Modelo Calgary

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Objective: to describe the structural and functional aspects and support networks of families living with users of alcoholic beverages. **Methods:** a cross-sectional descriptive study, methodological reference of the Calgary Family Assessment Model, based on semi-structured interviews with the genogram and eco-map tools, carried out with relatives of four construction workers hospitalized for injuries related to alcoholic beverage use, and notified to an information and toxicological assistance center. **Results:** there was a reduction of the children between the generations, but the use of drugs was expanding in the families. Distant and conflicted family relationships were found. The neighborhood support network was strongly linked, but the support of Primary Health Care was a weak link. **Conclusion:** the structural and functional evaluation of the families propitiated knowledge for health promotion, treatment and recovery processes to restore fragile family relationships.
Descriptors: Alcoholic Intoxication; Family Relations; Family Characteristics; Models, Nursing; Family Nursing.

Objetivo: descrever os aspectos estruturais e funcionais e as redes de apoio e sustentação de famílias que convivem com usuários de bebida alcoólica. **Métodos**: estudo descritivo de corte transversal, referencial metodológico do Modelo Calgary de Avaliação da Família, a partir de entrevistas semiestruturadas, com as ferramentas genograma e ecomapa, realizadas com familiares de quatro trabalhadores da construção civil internados por agravos ligados ao uso de bebida alcoólica, e notificados a um centro de informação e assistência toxicológica. **Resultados**: houve redução dos filhos entre as gerações, mas o uso de drogas esteve em expansão nas famílias. Foram encontradas relações familiares distantes e conflituosas. A rede de apoio da vizinhança foi apontada com vínculo forte, porém o apoio da Atenção Primária da Saúde consistiu vínculo fraco. **Conclusão**: a avaliação estrutural e funcional das famílias propiciou conhecimento para processos de promoção, tratamento e recuperação da saúde, para restabelecer as relações familiares fragilizadas.
Descritores: Intoxicação Alcoólica; Relações Familiares; Características da Família; Modelos de Enfermagem; Enfermagem Familiar.

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Introduction

About 43.0% of the world's population aged 15 years and over has made use of alcohol in the last 12 months, but abusive use was related to 5.3% of deaths from all causes in 2016[1-2]. In Brazil, the prevalence of dependence in the Brazilian population is 12.3%, with a higher rate of users aged 18 to 24 years[3].

Chronic use of alcoholic beverages is characterized by the lack of control of consumption or consumption pattern with frequent episodes of acute intoxication, causing comorbidities and injuries in several organs, and is included in the group of chronic noncommunicable diseases[4-5]. It affects the user, the family system, social relationships and work. Treatment of this condition is usually user-centered, with work and family falling into the background[6-7].

Abuse drugs can be used as a way to cope with labor pain, to alleviate suffering and reduce emotional overload[6]. However, the high consumption of this substance is related to the reduction of the worker's performance, to the increase of unemployment and to low wages, in comparison to the use in smaller quantity and frequency[2,8].

Studies indicate the need to elect the families of the workers chronic alcohol users as care units and suggest intervention strategies in these families, indicating the family environment as a risk factor for initiation or protective factor to the use of alcoholic beverage; at the same time, the experience of alcoholism causes alteration in family relationships and generates continuous family overload[2,9].

Knowing the family structure, its composition, the functions of its members and how they organize and interact with each other and with the environment is essential for the planning of nursing work with families[4,10]. In the formation of a family, in which each member participates with its individuality and legacy of previous generations, the presence of an alcoholic must be faced as a family matter[11-12].

The Calgary Family Assessment Model is multi-structural, and proposes to evaluate the family and acquire knowledge and skills for possible interventions. It allows the nurse a global view about the family and the significant relationships, and what is relevant for the family, which presents a multidimensional and integrated structure, being able to be studied from three main aspects: structural, developmental and functional[9-10]. The structural evaluation is divided into three subcategories: internal structure, external structure and context. This evaluation allows to know the members of the family and the affective bond between its members, comparing the relationship with the external individuals to the family and its context. As an instrument for assessing the structural category, the Model has a genogram (family tree of the internal structure) and eco-map (family contact diagram with the external structure and the social context and their affective bonds, representing the important connections between family and society)[4,10].

The present study aims to describe the structural and functional aspects and support and support networks of families living with alcohol users.

Methods

A cross-sectional descriptive study of the multiple case study in the field of nursing with families[10], which used the methodological framework of the Calgary Family Assessment Model[10-11], in the structural and functional aspects. It represents the cut of an intervention research with the families of construction workers chronic users of alcoholic beverages, who were hospitalized for injuries directly or indirectly related to the use of the drug.

Specifically, it focuses on the interactive design for the genogram and eco-map tools, to delineate the internal and external structures of the family and to help in understanding the experience of alcoholic beverage illness in individuals and families[10]. Such instruments allow the nurse to systematize, synthesize and provide visibility of the structure and modes of the networks for the health care of these people as they are organized, forming family planning and intervention devices[9].

The study was developed in the city of Maringá,

PR, Brazil, from records of workers with medical diagnoses of effects of chronic alcoholic beverage use in a center of information and toxicological assistance of a teaching hospital, in a period of three months in the year of 2017. Workers, employed in the construction industry on the day of notification of toxicological occurrence, aged 18 years or older and living in municipalities in the metropolitan region of Maringá, were considered as index cases in the families studied.

Participants were familiar to four of the workers, considered their caregivers, and were reached by the notification of the index case. Each family indicated a respondent who felt part of the process of caring for the family member and understood the structure of the family and their family and social relationships.

A semi-structured interview script was used, consisting of questions to characterize the worker, the toxicological event and the family member interviewed, a triggering question: "Tell me about the use of alcoholic beverages in your family and the relationship between alcohol and alcoholic beverages since Mr. X's previous generation, and the social support network for his family." This question was space-based for the interactive design of the genogram and eco-map tools.

The interviews took place in more than one home meeting, lasting approximately 60 minutes. Data extracted from the trigger question were manually recorded by the researcher. After the sketch of the graphical representation of the genogram and eco-map were made sketched, the relatives could confirm, complete or change the drawings.

For the construction of the genogram, the family generation was the predecessor of the workers (parents, worker/index case, spouses, brothers and sisters) and the current one (children, nephews and grandchildren). The relationship was represented[13] as (1) relationship of development, if there was emotional dependence between the members, (2) harmonious relationship, if there was an emotional experience of union between the members, (3) conflictual relationship, if relations were found with constant friction and (4) distant relationship, when there was little contact with relatives.

For the construction of the eco-map graphic model, the family presented itself within a circle, while the family contacts with the community (support and support network) were represented in external circles, interconnected by traits with the type of link strong, weak and nonexistent)[9]. The eco-map was designed from the family living in the same household, inserted in the center of the drawing, and its interconnections with the support and support network.

The genograms and eco-maps were included in the MicrosoftPowerPoint® program and analyzed in the structural and functional aspects proposed by the Calgary Family Assessment Model. The analytical process was carried out by readings and re-readings of the data, and a table constructed by the researcher was used. From this process emerged interpretations and inferences about family assessment, and informal and formal support areas in families' daily lives.

The graphs were grouped into nuclei of similarity or by similarity[14] in three categories: The intergenerational family structure of the workers; family history of drug abuse and family ties; and informal/support networks and formal support in families' daily lives.

To ensure anonymity, the participants were identified by the letter F, which represents the word "Family", and the order of interviews conducted - such as F1, F2, F3 and F4. The study complied with the formal requirements contained in national and international regulatory standards of research involving human beings, under opinion nº 2.284.636/2017.

Results

The workers were males, average 44 years of age, married or divorced, with low schooling, low income and occupation of mason and painter. The average drinking time was 22 years, with a minimum of 12 and a maximum of 30 years.

Two were hospitalized for organic diseases resulting from the chronic use of alcoholic beverages, digestive disorders, and two were victims of violence/

trauma, bicycle crash and physical aggression. All used the unit of attention to the urgencies and the units of medical or surgical clinic of the teaching hospital. The improved hospital discharge of workers occurred between two days, in the case of the worker who fell off a bicycle, and 15 days, on average, nine days.

The families were represented by two wives (F1, F3), one ex-wife (F4) and one mother (F2), aged 27 to 66 years, and average of 50 years; three of them had incomplete Elementary School; all with low individual income (one to three minimum salaries), and only one was employed (cook).

The intergenerational family structure of workers

The numerical composition of the families was 172 people, with an average of 43 people per family. When comparing the number of people of the previous generation (parents and siblings of the worker) with the current (nephew, children and grandchildren), it was constituted by 96 relatives and this by 76, with a decrease of 20.8% in the number of members.

There was a reduction in the number of children between the generations. For example, the parents of the F1 worker had 10 children and generated 27 descendants, but the worker had three children, who generated four grandchildren.

In the worker's generation, the nuclear family model was verified in two families (F3 and F4). However, there was an extensive family model (a worker's son, who had two marital unions and one child in each union) and a new family arrangement, when the index worker (F2), after marital separation, returned to the household from parents.

Family history of drug abuse and family ties

Alcohol abuse has been found in all generations. Among the alcoholic worker's parents, three were also alcoholics; of the 21 people who made up the paternal generation of the alcoholic worker, seven brothers and four alcoholic sisters were identified; and the worker's generation, four children and 12 nephews.

In all generations, 34 people were identified as users of alcoholic beverages, which makes an average of 2.75% people per family. Marijuana and crack were reported in three families, with the index worker (F4), the nephew (F1) and the son (F2) as users.

Eleven women were alcoholics (F1, F3, F4), representing 32.3% of alcoholic members in families, with one woman for every two men (1/2). Three of them were mothers of alcoholic children (F1 and F2). Drug use was expanding in families, since, in generations prior to the worker, a total of 23 workers were informed in 96 people and, in the worker's generation, 16 of 48 people.

In the functional aspect, the relationship between the index worker and his/her caregiver or the one who assisted in daily life: wives (F1 and F3), ex-wife (F4), parents (F2), siblings (F2) and children (F1 and F3). However, there was also a diffuse harmonious relationship between the worker and in-laws (F1 and F3), parents (F1 and F3), siblings (F1 and F3) and children (F2).

The distant subsystems were present in three families (F1, F2 and F4) and conflicted in three (F1, F2 and F4). It was reported that the index worker had conflicting family ties with the former spouse and family relationship of estrangement with the daughter of the first marriage and a brother of the current wife (F1), in addition to conflict with the ex-wife of the index case with distancing from the children, caused by the use of alcohol. Family 4, represented in Figure 1, was distinguished by the family arrangement, such as the presence of conflicting relationships between the worker and the other members.

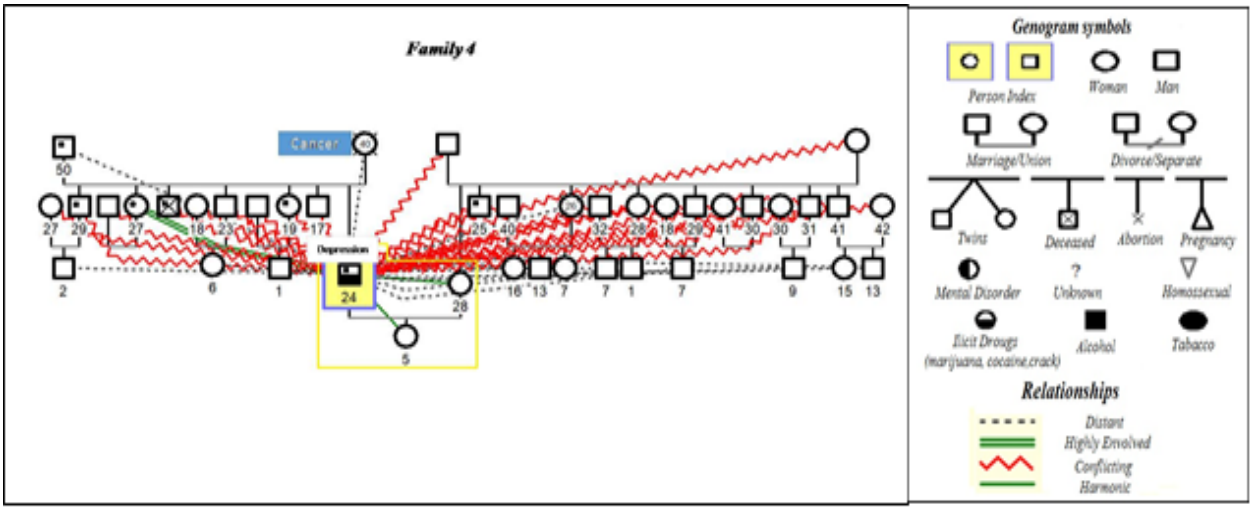

Figure 1 – Genogram illustration of family 4

Informal support networks and formal support in families' daily lives

Figure 2 illustrates the eco-map sample of family 4 studied. Informal support networks (family,friends, neighbors, work, leisure and support groups) and formal (Basic Health Unit/Family Health Strategy, Social Assistance Reference Center, and hospital and medium complexity belonging to the Psychosocial Attention Network).

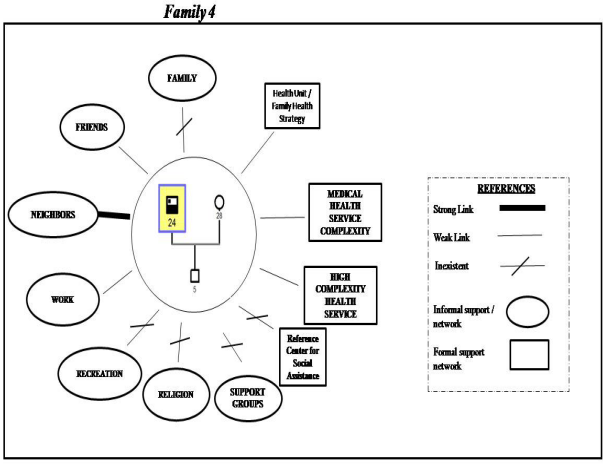

Figure 2 – Example of Eco-map of family4

The support network represented by family relationships was identified as non-existent (F4) and weak (F2), but for two families (F1 and F3), it was strong. Friends did not represent a good source of support, with weak link (F1, F2 and F4) or nonexistent (F3), however, there was a strong link of neighborhood support for all families.

As for labor activities, all families reported unemployment, and employment was reported as a weak link. All families reported low access to leisure activities, which was non-existent for one of them (F3) and weak for the others. There was also no participation in support groups. But the religion, or religious practice, was cited only by a family as a source modifier or with strong bond (F2); two families reported lack of religious ties (F1 and F4).

The Basic Health Unit/Family Health Strategy was identified as a nonexistent link for the four families. Three families reported a weak link with the Primary Care services specific to the Psychosocial Care Network (F1, F3 and F4), because they did not know the care and the care line, but one interviewee reported that the worker had attended the Psychosocial Care Center and abandoned treatment (F4).

Regarding the specialized services of the Psychosocial Care Network, such as psychiatric and

general emergency hospitals, the families reported seeking care for the worker at the teaching hospital to treat the acute symptoms associated with the chronic use of the alcoholic beverage, which was identified as a link three families (F1, F2 and F3).

Discussion

In spite of the limitations of the study, such as the limited number of participants and the difficulty of collecting some information, the study presents an issue that is not well explored and favors implications for the practice, since its findings show a possible nursing action.

Despite the specificity of the group studied, the average age of the workers was similar to that of drinkers in the general population, predominantly men of economically active age[6,14]. Data on schooling and individual compensation allowed us to infer that they had low socioeconomic and educational standards, corroborating the literature regarding social aspects of work in civil construction[11].

One situation was demarcating of the influence of the individual (from the users) to the collective (from the families): the additive behavior of the index worker for more than 20 years, above the national average, which is 13 years. The long period of coexistence with drugs, in the family context, increases the vulnerability of families[1].

There were variations in the structure of families and in the adaptability of the family context, in order to cope with internal and social difficulties. Fewer families appear to have accompanied the decline in fertility rates in recent decades, and new arrangements of family configurations delimit the present modes of family life in modernity and patterns of family relationships[15]. In today's generation, it expands between children and nephews of the index worker, drug abuse[12], especially marijuana and cocaine, increasing the risks for diseases, violence and other problems that affect the family structure.

As a consequence of the changes in the social role of women, there is an increase in the number of women users of alcoholic beverages and other drugs of abuse, which implies negative repercussions on women's physical, psychological and social health[1]. In the present study, the number of alcoholic women was relevant, some of them also being mothers of alcoholic children. The risks of alcohol use in adulthood are three times higher in children whose alcoholic parents[3].

Family history and parental alcoholism are consistent risk factors in the intergenerational transference of problems with alcoholic beverages, being one of the best predictors of the initiation and continuation of abusive consumption in offspring[14]. Family influence has a stronger role in the development of alcoholism than in remission or recovery[12].

The family illness model considers alcoholism or drug abuse as a disease that affects not only the dependent but also the family[3]. In families where there is an alcoholic member, the children may have their development affected by the situation to which they are exposed [1]. An "alcoholic family" is defined as one in which at least one of its members is dependent on alcoholic beverages, the majority of which is male (husband and father)[15].

With the objective of testing models of intergenerational transmission of drug use, three generations were evaluated: grandparents, parents and children. There was variation as to the type of drug: for alcoholic beverage use, only cross-generational associations were found, and the reduced inhibitory control and diminished discipline did not act between the generations[16].

However, in general, the problem of alcoholic parents does not structurally affect the family at all times. Still, more problems related to this substance do not result in less behavioral control, less general support and no more parental permissiveness[16].

Alcoholism is an important source of disturbance in the family dynamics, with inevitable repercussions on the other elements, particularly on children[6]. Healthy bonding and family interaction, with

less conflicts and more family harmony, serve as a basis for full development of the potentialities of individuals[14], and these relationships are intrinsically associated with a support network that can be sought at critical moments, promoting protection, seeking solutions and sharing activities.

The construction of the eco-map offered elements that allowed to evaluate the support and the existing resources so that the family could take care (and how could take care or to seek this care). Although the quality of family ties enables health professionals to understand the family's connections to the community and among its members, it provides important clues that require greater attention and support from health professionals to improve their well-being[10].

The informal support network, which participates in the most constant care in the life of the family, is based on the affection of close people, such as family, neighbors and friends, and is present in the varied health and illness situations experienced throughout time[10]. In our study, however, most of the network elements were reported as having weak linkage. The care support network, which is materialized by the constitution of less intimate relationships and affective density, is triggered more punctually for the guarantee of care outside the family sphere, being formed by persons and/or health institutions and other services[6,10]. The limits of the health services network to reach the population were identified as having a weak link, being formed by the Basic Health Unit/Family Health Strategy and by the specific Primary Care Services of the Psychosocial Care Network, which were unknown to the families[17].

Conclusion

The study pointed out that there was a reduction of children in the generations of workers, following the changes in the country's fertility rate and the new family arrangements, but drug use was expanding among family members, and there was an intergenerational pattern of alcoholic women with alcoholic children. They found, mainly, distant and conflicted family relationships, and strong family bonding with the neighborhood support network.

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Collaborations

Tucci BFM and Oliveira MLF contributed in the conception and design, analysis and interpretation of the data, article writing, critical review of the intellectual content and final approval of the version to be published.

References

1. Porto PN, Borges SAC, Araújo AJS, Oliveira JF, Almeida MS, Pereira MN. Factors associated with the use of alcohol and drugs by pregnant women. Rev Rene. 2018; 19:e3116. doi: http://dx.doi.org/10.15253/2175-6783.2018193116
2. Lipari RN, Ahrnsbrak RD, Pemberton MR, Porter JD. Risk and protective factors and estimates of substance use initiation: results from the 2016 National Survey on Drug Use and Health. NSDUH data review [Internet]. 2017 [cited Jan 12, 2019]. Available from: www.ncbi.nlm.nih.gov/books/NBK481723/pdf/Bookshelf_NBK481723.pdf
3. Vargas D, Bittencourt MN, Barroso LP. Patterns of alcohol consumption among users of primary health care services in a Brazilian city. Cien Saúde Coletiva. 2014; 19(1):17-25. doi: http://dx.doi.org/10.1590/1413-81232014191.1972
4. Mendes TPL, Tacla MTGM, Ferrari RAP, Fontana LMS. Understanding the breastfeeding in the family context: the use of genogram and ecomap. Rev Pesq Qual [Internet]. 2017 [cited Jan 12, 2019]; 5(7):38-52. Available from: https://editora.sepq.org.br/index.php/rpq/article/view/51/62

5. Ferraboli CR, Guimarães AN, Kolhs M, Galli KSB, Guimarães AN, Schneider JF. Alcoholism and family dynamics: feelings shown. Ciênc Cuid Saúde. 2015; 14(4):1555-63. doi: http://dx.doi.org/10.4025/cienccuidsaude.v14i4.27245

6. Dutton CE, Adams T, Bujarski S, Badour CL, Feldner MT. Posttraumatic stress disorder and alcohol dependence: Individual and combined associations with social network problems. J Anxiety Disord. 2014; 28(1):67-74. doi: http://dx.doi.org/10.1016/j.janxdis.2013.11.010

7. Reis LM, Sales CA, Oliveira MLF. Narrative of a drug user's daughter: impact on family daily routine. Esc Anna Nery. 2017; 21(3):e20170080. doi: dx.doi.org/10.1590/2177-9465-ean-2017-0080

8. Munhoz TN, Santos IS, Nunes BP, Mola CL, Silva ICM, Matijasevich A. Trends in alcohol abuse in Brazilian state capitals from 2006 to 2013: an analysis of data from the VIGITEL survey. Cad Saúde Pública. 2017; 33(7):e00104516. doi: http://dx.doi.org/10.1590/0102-311x00104516

9. Monteiro GRSS, Moraes JCO, Costa SFG, Gomes BMR, França ISX, Oliveira RC. Application of the Calgary family assessment model in hospitals and in primary health care: an integrative review. Aquichan. 2016; 16(4). doi: dx.doi.org/10.5294/aqui.2016.16.4.7

10. Souza IP, Bellato R, Araújo LFS, Almeida KBB. Genogram and eco-map as tools for understanding family Care in chronic illness of the young. Texto Contexto Enferm. 2016; 25(4):e1530015. doi: dx.doi.org/10.1590/0104-07072016001530015

11. Martins BF, Oliveira MLF. Vulnerabilidad social y clasificación de riesgo de familias de trabajadores de la construcción civil que son usuarios de alcohol. Enfermeria Comunitária [Internet]. 2016 [cited Jan 12, 2019]; 12(2). Available from: www.index-f.com/comunitaria/v12n2/ec9815.php

12. Nimtz MA, Tavares AMF, Maftum MA, Ferreira ACZ, Borba LO, Capistrano FC. The impact of drug use on the family relationships of drug addicts. Cogitare Enferm. 2014; 19(4):667-72. doi: http://dx.doi.org/10.5380/ce.v19i4.35721

13. Leonidas C, Santos MA. Family relations in eating disorders: the Genogram as instrument of assessment. Ciênc Saúde Coletiva. 2015; 20(5):1435-47. doi: dx.doi.org/10.1590/1413-81232015205.07802014

14. Seleghim MR, Galera SAF, Oliveira MLF. Pesquisa com usuários de crack e seus familiares: análise de uma vivência. Saúde Transform Soc [Internet]. 2014 [cited Jan 15, 2019]; 5(1):36-41. Available from:http://incubadora.periodicos.ufsc.br/index.php/saudeetransformacao/article/view/2134/3646

15. Ladis BA, Macgowan M, Thomlison B, Fava NM, Huang H, Trucco EM, et al. Parent focused preventive interventions for youth substance use and problem behaviors: a systematic review. Res Soc Work Pract. 2018; 30:1-23. doi: https://doi.org/10.1177/1049731517753686

16. Sharma VK, Hill SY. Differentiating the effects of familial risk for alcohol dependence and prenatal exposure to alcohol on offspring brain morphology. Alcohol Clin Exp Res. 2017; 41(2):312-22. doi: https://doi.org/10.1111/acer.13289

17. Lopes HP, Gonçalves AM. A política nacional de redução de danos: do paradigma da abstinência às ações de liberdade. Pesqu Prát Psicossoc [Internet]. 2018 [citado 2019 Jan 15]; 13(1):e1355. Disponível em: www.seer.ufsj.edu.br/index.php/revista_ppp/article/view/2858/1886