Assessment of nursing towards people with intellectual disabilities in a training center of El Bajío

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ABSTRACT

Introduction: People with intellectual disabilities require special attention for their care in all stages of their life, but, educational healthcare programs do not cover these needs. **Objective:** Assess the health of people with intellectual disabilities through the Roy Adaptation Model. **Methodology:** Non-experimental, cross-sectional descriptive quantitative study which evaluated 16 people with Intellectual Disability with an assessment guide based on the Roy Adaptation Model. **Results:** Within the physiological realm, the basic needs mainly affected were: nutrition, activity-rest, protection and to a lesser extent of affectation, the organs of senses and intestinal elimination. No evidence existed that the participants had their complete immunization, 62.5% presented dental plaque of over 30%, 75% presented poor eating habits, 43.7% had an inadequate body mass index, 25% referred to similar symptoms in regards to intestinal elimination, 31.2% develop inadequate physical activity, more than 50% needed help on self-care activities, 37.5% had problems with visual acuity, and 84.6% did not possess adequate knowledge in regards to prevention of accidents. **Conclusions:** Upon getting to know the health problems present within people with this disability, it is now fundamental to create specific care strategies according to their needs and provide them with quality attention focusing on looking for the measures that compensate the deficiency of trained personnel within this environment.

Keywords: Nursing, Intellectual Disability, Adaptation (DeCS;BIREME).

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INTRODUCTION

Intellectual disability (hereinafter referred to as ID), is considered an ailment that begins during development and manifests limitations on intellectual and adaptive behavior functions within conceptual, social, and practical areas[1].

People with ID present different health situations than the rest of the general population, with increase on the morbid-mortality rates and are more vulnerable to chronic illnesses; therefore, they present an increase in the use of health services; despite this, their health needs usually are not cared for and there is a great shortage of trained professional within this area[2,3].

According to data published by the World health Organization (WHO), over three billion individuals have some type of disability; which means approximately 15% of the world population[4]. The prevalence of ID is of around 1% - 3% globally [5] and from there, 85% of the individuals diagnosed show slight ID, 10 % moderate, 3 to 4 % severe; and from 1 to 2 % profound[6].

In 2014, out of the total of disabilities reported in México 36.4 % presented problems in regards to learning, remembering, concentrating, listening, and moving or using their hands and arms; while 21.2% presented emotional or mental problems as well as with speaking or communicating. In Guanajuato, 35.9% of the population presented disability in regards to learning, remembering, or concentrating[7].

In a globalised world in which communication and production are protagonists, it seems difficult to recognize the needs of the people, especially those that are the most vulnerable. People with ID have much more specific needs and require continuous, coordinated, and multi and interdisciplinary care in which different sectors are connected such as health, education, and labor, which, additionally, should extend their services to the family nucleus in order to promote their adaptation process.

In addition to the limitations that are evident in people with this disability, they show a greater probability of having certain illnesses. Some of the most common complications are: congenital malformations, hypotonia, oral disease problems, greater vulnerability to disease in general and congenital heart disease at a high percentage. Moreover, they showed greater probability of being diagnosed with Alzheimer's, acute megakaryoblast leukemia and Hirschsprung disease[8-11]. Their health care attention should emphasize on prevention, promotion of health, early forecast, and treatment of most common health related conditions[9].

Nursing care could cover other aspects such as the care in daily life activities, visual and cognitive stimulation, disease detection and prevention, emotional support and training for the relatives of a person with ID, this from the creation of an affective connection between parents and children even up to the point of identifying disturbances or crisis situations[12], since it is proven that the families of individuals with ID tend to require different care and monitoring due to the greater attention they require[13].

In this respect, Roy suggests that adaptation, besides being a human system that struggles to respond to the stimulus of the environment in order to maintain its integrity, has to do with the idea that each person or individual has a role in the creating universe and that they cannot separate from their environment[14].

For this project, the theoretical base was the evaluation of behavior mentioned by Roy, taking their Adaptation Model as a base, the evaluation of the physiological adaptation model, which is related to the physiological responses to the external stressors or stimuli and of the self-concept mode which represents emotional health, of which only the physical self was evaluated which consists of the physical sensations and bodily image[15].

It is important to mention that at regional level, there are not enough studies conducted in this area and the aspects related to nursing care for this group of people is very scarce; thus, against the above problems, a concern arose regarding assessment of the health status of people with ID in a training center.

METHODOLOGY

The study was quantitative, non-experimental, cross-sectional descriptive and applied with ID who attended a Training Center in El Bajío; the total population was considered given its small size, reason why its only representative at a local level.

The population should meet the inclusion criteria, such as: to present ID, enrolled in the Training Center, and count with the informed consent; on the other hand, the exclusion criteria was that the assessment would not be able to be completed, unfortunately, since some students did not meet with all criteria the sample was not universal.

The assessment was based on the basic needs of physiological mode, as well as some of the aspects of the physical self included in the self-concept mode, both addressing the items of the Roy Adaptation Model; the Assessment Guide began with a separate section of information of general data, it counted with 9 separate sub-sections of which 85 items arose with different evaluation categories such as adequate, inadequate, complete, incomplete, present, or absent depending on the areas to be assessed.

For the statistical analysis of the information obtained, descriptive statistics was used, mainly frequencies and percentages, using Microsoft Excel. Everything pertaining to ethical questions was counted using an informed consent focused on parents or guardians based upon the Regulations of the General Health Act and the Helsinki Declaration and within the Civil Code of the State of Guanajuato. Since the health assessments were performed, suggestions of care were made, as well as referrals to specialists and health files were compiled, pertaining to all people with ID and whose parents gave consent, which remained within the Training

Table 1. General Characteristics of the Students.

Characteristics		*f*	%
Sex	Feminine	7	43.7
	Masculine	9	56.3
Diagnosis	Downs Syndrome	13	81.2
	Intellectual Disability	2	6.2
	Syndrome	1	6.2
	Rett Syndrome	1	6.2
Pathologies added	Absents	11	68.7
	Heart Disease	1	6.2
	Vitiligo	1	6.2
	Hypothyroidism	3	18.7
	Hyperactivity	1	6.2

Source: Nursing Assessment Guide, 2016 ***n***=16

Center under the responsibility of its director in order to count with a health file of the students.

RESULTS

Sixteen of the 26 students enrolled in the institution were assessed; prior to this, authorization was requested for the participation of the students from the parents or guardians through the informed consent. Some of the reasons which prevented the complete assessment of the students were; the parents could not be interviewed, absence of student, presence of behaviors like hyperactivity, distraction, and aggressiveness.

Within the general data, the age of the students ranged from 5 to 57 years, 37.5% of them already had diagnosed pathologies and treatment (Table 1).

Physiological Mode Needs

According to the data obtained, there is a great problem within the basic need of nutrition due to nutrition trends, 75 % of the students fall in this category, mainly due to a high consumption of fried foods and sugared food and soft drinks; also the presence of plaque lower than 30% was found in 62.5% of the subjects assessed. In regards to the basic need of intestinal elimination, there were also problems present within areas such as not being able to go to the bathroom and lack of sphincter control. Referring to the basic need of health protection, there is no evidence that the participants had not completed their scheduled vaccines, some parents or guardians even mentioned not having the complete vaccination records; when it came to the prevention of accidents, 84.6% did not have enough knowledge in regards to this topic, additionally, various students appeared to be upset when they were assessed, but most of these were due to ailments in the respiratory pathways such as runny nose or nasal congestion, which affected the basic need of oxygenation. Upon assessing the basic need of activity and rest, it was identified that 31.2% of the students had a physical activity level that was inadequate since in this area, only the activities provided by the Training Center were performed, if they accepted to so, besides the fact that there existed high percentages of dependence for care and 43.7% showed high Indexes of Body Mass. In regards to the need of senses, it was identified that 56.3% had some type of alteration in attention and orientation; the majority was disoriented in regards to time when it came to identifying the current hour and day, in addition, 37.5% of the students presented visual acuity problems, even, some already used visual aids to help their visual acuity to become adequate. Finally, it was detected in some students a disturbed sleep pattern, specifically showing insomnia, and one of them was under pharmacological treatment (Table 2).

Need of physical self and self-concept mode

In regards to the assessment of sexuality, the students presented deficiencies in regards to knowledge in this area, since 6.2% does not locate the parts of their body, 37.5% does not know the physical changes that occur in adolescence, and 81.2% was unaware of health sex and contraceptive methods (Table 3).

Finally, only 64% of the students within the Training

Table 2. Results of the Assessment of Physiological Mode

	Basic Need	Characteristic	*f*	%
Basic need of Nutrition	Feeding pattern	Adequate	1	6.2
		Inadequate	12	75
		Unaware	3	18.7
	Chewing, suction, and swallowing	No problem	10	62.5
		Problem	4	25
		Unaware	2	12.5
	Mouth cavity	Oral plaque> at 30%	10	62.5
		Cavities	3	18.7
		Plaque	1	6.2
		Periodontal problems	1	6.2
		Lack or excess of pieces	4	25
		Malocclusion	1	6.2
	Hydration of skin and mucus	Hydrated	15	93.7
		Dry	0	0
		Presence of edema	0	0
		Unknown	1	6.2
	Glucose value of casual capillary blood glucose	Adequate	15	93.7
		Altered	0	0
		Unaware	1	6.2
	Weight	Adequate	9	56.2
		Inadequate	6	37.5
		Unaware	1	6.2
	Size	Adequate	12	75
		Inadequate	3	18.7
		Unaware	1	6.2
	BMI	Adequate	8	50
		Inadequate	7	43.7
		Unaware	1	6.2
Basic need of elimination	Urinary Elimination	Adequate	13	81.2
		Altered	0	0
		Unaware	3	18.7
		Problems with sphincter control	3	18.7
	GI Tract Elimination	Adequate	9	56.2
		Altered	4	25
		Unaware	3	18.7
		Problems with sphincter control	3	18.7

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Basic need of protection	Vaccination scheme	Complete	0	0
		Incomplete	1	6.2
		Unaware	15	93.7
	Prevention of Accidents	Adequate	2	12.5
		No Adequate	11	68.7
		Unaware	1	6.2
	Risk of Falling	Low	1	6.2
		Medium	14	87.2
		High	1	6.2
	Risk of Infection	Present	14	87.5
		Absent	1	6.2
		Unaware	1	6.2
	Temperature	Adequate	13	81.2
		Altered	0	0
		Unaware	3	18.7
	Presence of Some Ailment	Yes	9	56.2
		No	6	37.5
		Unaware	1	6.2
Basic need of oxygenation	Respiratory Rate	Adequate	11	68.7
		Altered	4	25
		Unaware	1	6.2
	Breathing Sounds	Normal	15	95.75
		Altered	0	0
		Unaware	1	6.2
Basic need of activity and rest	Level of Physical Activity	Adequate	8	50
		Inadequate	5	31.2
		Unaware	3	18.7
	Carry Out Independant Self-care Activities	Shower	6	37.5
		Dress and comb	7	43.7
		Oral hygiene	3	18.7
		Feeding	11	68.7
	Sleep Pattern	Adequate	10	62.5
		Altered	2	12.5
		Unaware	4	25
	Cardiac Frequency	Adequate	15	93.7
		Altered	0	0
		Unaware	1	6.2
	Blood Pressure	Adequate	13	81.2
		Altered	0	0
		Unaware	3	18.7
Sensitive need	Attention and Orientation	Adequate	6	37.5
		Altered	9	56.3
		Unaware	1	6.2
	Visual Acuity	Adequate	6	37.5
		Altered	6	37.5
		Unaware	4	25
	Hearing Acuity	Adequate	12	75
		Altered	1	6.2
		Unaware	3	18.7

Source: Assessment Guide of Nursing, 2016 *n*=16

Table 3. Results of the Assessment of Physical Self of Self-Concept Mode.

	Basic need	Characteristic	*f*	%
Physical Self	Knows Body Parts	Yes	12	75.0
		No	1	6.2
		Unaware	3	18.7
	Aware of Changes in Adolescence	Yes	7	43.7
		No	6	37.5
		Unaware	3	18.7
	Aware of Sexual Health and Birth Control Methods	Yes	0	0.0
		No	13	81.2
		Unaware	3	18.7

Source: Assessment Guide of Nursing, 2016 ***n***=16

Center were assessed, because the signature for authorization in regards to parent or guardian consent was missing and student absences. 100% of the parents or people responsible of those assessed with ID and the directors of the training center received the results, apart from the compilation of 100% of the health files for the students assessed and with informed consent, as mentioned above.

Although the focus of this study was descriptive, upon identifying the problems present in the population and by request of the Training Center, some suggestions and referrals were established, such as improving nutrition, improving the ingest of fruits, vegetables, and water as well as diminishing the consumption of "junk food" and soft drinks; it is recommended to perform exercises to improve chewing, suction and swallowing; training was also provided for students regarding dental hygiene, and it was suggested to increase the level of physical activity according to the state of health, besides implementing sphincter control techniques.

Additionally, it was also encouraged to verify if their vaccination scheme was complete as well as administering the shots required depending on age, the parents or guardians were also given a talk in regards to the prevention of acute respiratory infections and the awareness regarding application of the flue vaccine on a yearly basis was reinforced. Training in regards to the prevention of accidents and orientation in time and distance through games was emphasized; fostering the independence of the student as well their training regarding self-care with respect to daily activities were encouraged. In regards to alteration of sleep patterns, it was suggested to keep a daily sleep log to first identify the possibilities causing the occasional insomnia and from there plan interventions to eliminate them, and with others, the corresponding referrals were made, apart from recommending training to the students in regards to orientation on time and space by means of games. When it came to the sexuality area, the directors as well as the parents or legal guardians were made aware of the importance that the students be trained in regards to these subjects, always taking into account the age and needs of each one.

Suggestions were made to take the student to specialists depending on the health problem found that may require specific attention for their care, the greatest amount of these referrals were with specialists in ophthalmology, followed by dentistry, nutrition, otolaryngology, podiatry, and traumatology.

DISCUSSION

All the students with ID who counted with a totality of the inclusion criteria were assessed; but, as was already mentioned, unfortunately, not all of the students attending the Training Center were assessed.

Also, the main health problems identified in regards to the basic needs of physiological mode, as well as some of the aspects of physical self included within self-concept mode according to the Roy Adaptation Model (RAM), in addition to verifying and referring those to see a specialist.

One main point identified since the preparation of this Project, was the lack of a category for Intellectual Disability within population statistics in Mexico; it is proven that within the country, population research minimize the prevalence of disabilities, which showed data between 3 and 4%[16], reason why the need to prepare and carry out surveys or censuses that provide more reliability towards the prevalence of the population with ID in the country was identified.

Within the main health problems found in this Project, the ones that stand out are lack of knowledge and awareness in regards to the Vaccination Schedule, being overweight or obese, deficient dental hygiene, visual acuity alterations, respiratory ailments, constipation, little capacity for self-care, probably due to family overprotection, and lack of knowledge in regards to the prevention of accidents and sexual health. As was already mentioned in the results, it was discovered that all of the needs within physiological mode and of the physical self part of the self-concept mode that were able to be assessed, presented some type of problem. Upon reviewing the literature, it was identified that the results obtained herein are completely in line with what different authors refer to in regards to people with ID, who tend to present complications associated with their lifestyle, highlighting problems such as overweight-obesity, secondary pharmacological effects, poor dental health, fractures, deaths due to respiratory problems which are almost triple that of the general population, and present 13 times more hospital stays due to mental illness issues, also with a high prevalence of sensory and mobility problems[17,18].

In this case, there are clear evidence that the functional limitations in this population could be reduced, which would have a positive impact in the quality of life related to disabilities, an area that the nursing professionals can address by carrying out research and/or projects that lead to the response in regards to the best approach and care required by these patients; thus, supplying this sector of the population with health care and support focused on the adaptation and in the development of roles[19], fundamental aspect identified within these results since many of the problems found in the students have a high possibility of solution and could be addressed in several ways, from health promotion activities to studies where the effect of nursing intervention focused on the attention to the problems at hand.

Moreover, it is known that individuals with ID show differences in hospital morbidity in comparison to the general population. For example, their hospitalization age is less, which could be related to the premature aging they present or by the various pathologic conditions related to this disability[17,18], reason why it is agreed that there is a need to recognize that this situation is a public health issue[16,19], because within the subjects assessed, as stated above, there were health problems identified that if they are not attended to in a timely manner, can lead the students to present complications that trigger the need for hospital admission, reason why it seems congruent to us that people with this disability are younger when hospitalized and their morbidity rate is higher.

Another problem identified, regarding the following up on specific health situations within external health institutions, due to the economic situation, because it is very common for private consultations to translate into a high cost, which implies the need to ask for support from governmental institutions as they require the provision of health care as well as promotion of health policies at accessible prices, equitable to the attention offered to the general population[6,18]; in this context environment, it was identified that some of the health problems discovered required care from specialists, an aspect that for their attention would depend on the economic resource of the family or health programs they use. We also verified that it is important to include the attention toward sexual and reproductive health herein, since, as was already reviewed, within the physical self of self-concept mode in people with ID, it is far behind, not only due to the disability of the people present in this population, but also due to family dynamics that tend to overprotect and see them as the "eternal children", independently if they go through the same anatomical physiological changes as any other person within the different stages of life.

Unfortunately, it is also very complicated that these types of training centers have economic resources to hire permanent nursing personnel, in addition to lack of training in regards to performing the assessment and health attention for people with ID, since, currently, people with disabilities are facing numerous problems such as accessibility, inadequate diagnosis or administration of treatment that is not necessary for them, reason why it is urgent that the public health system includes preventive health care, diagnosis and treatment that reach equivalent objectives as those that have with the general population. Therefore, it is required to encourage professional skills and specific programs to promote the professionalization of care[6,16-18], reason why it is agreed upon that the academic institutions begin to create courses to cover the adequate management of this population, from the form of assessing with specific guides for them, just as was carried out in this study, and the training in regards to the health problems that are commonly found in them, thus promoting inclusion.

It is also essential to create strategies to further promote the participation of parents or guardians, provide more dynamic talks in regards to health topics, in order for them to be motivated to give continuity to the health referrals since people with ID are regularly dependent, which was confirmed in this study and their health usually is the responsibility of somebody else, not by themselves, which translates into an extensive expense for the caretakers who also require a lot of support and training in all areas, since it is necessary for them to actively involve the patient with a disability and their family in everything regarding the treatment and care, complemented with educational and support programs for self-care[6,18].

CONCLUSIONS

This study had multiple benefits, amongst which approaching nursing personnel with the health requirements of people with ID, besides, most of the parents or guardians became interested in what has been performed which leads them to

focus more on taking care of the health of the students; also, some health problems were detected; being able to orientate and train in regards to the problems found in various of the needs affected of the physiological mode and the physical self of the self-mode mode, according to the Roy Adaptation Model, and in some cases it was suggested to be referred to a specialist. Reason why, upon knowing the health problems present in people with this disability it is now fundamental to create care strategies for the care of specific health programs depending on their needs and therefore, provide them a quality care highlighting the search for measures that compensate the deficiency of trained personnel in this area.

DECLARATION OF CONFLICT F INTERESTS

The authors state that they have no conflicts of interest.

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