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Survey on ‘Go Bag’ Items in Internet Shopping Malls

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Abstract

Purpose - This research was to help distribution of Go Bags (Survival Bag or Disaster Supplies Kit), which are useful for disaster preparedness, by surveying precomposed Go Bag items in internet shopping malls.

Research design, data, and methodology - We checked 15 items including food, water, first aid kit, radio, flashlight or candles, battery, lighter or matches, whistle, blanket, towel, toilet paper, personal sanitations, raincoat, can opener, disaster manual in Go Bags based on the recommendations by the Ministry of the Interior and Safety. The number of items and price, domestic product, accreditation were compared using a Chi-square test. The Pearson's R was also used to summarize the strength of the linear relationship between the number of items and price, sub-items.

Results - Mean of the sub-items was 21, and mean of the items was 8. There was a statistically significant difference between the number of items size and the price level ($p=.014$). There was also a statistically significant difference between the number of items and sub-items ($p<.001$), and correlation coefficient was a positive linear relationship of .467.

Conclusions - Only eight were sold in the internet shopping malls as a precomposed Go Bag items. Even the approved Go Bags had no difference in the number of items. Higher prices had a relatively greater number of items, and it had a positive correlation between the size of sub-items and items.

Keywords: Distribution, Survival Bag, Disaster Supplies Kit, Disaster Preparedness, Items

JEL Classifications: I11, I12.

1. Introduction

Disaster is sudden or gradual, one or more accident that far exceeds the medical or other needs. United Nations International Strategy for Disaster Reduction (UNISDR) states that “disaster is a serious disruption of the functioning of a community or a society at any scale due to hazardous events interacting with conditions of exposure, vulnerability and capacity, leading to one or more of the following: human, material, economic and environmental losses and impacts”. The period of time from 2010 to 2017, 312 deaths

every year caused by natural disaster and fire in Korea, besides, the period of time from 2010 to 2016, social disaster has arisen 8 cases a year. Disaster would threaten people's life and seriously damage many property, it needs to have citizen's disaster preparedness as well as national disaster preparedness.

In the event of a disaster, the victim is citizen and the caller is citizen. Citizens could help with rescue or first aid at the initial accident site until the disaster response is fully started. Therefore, it is possible to reduce disaster damage by having citizens prepare for disaster. Having Go Bag (Survival Bag) or Disaster Supplies Kit can be a great disaster preparation. According to the Ministry of the Interior and Safety, citizens will be required to prepare Go Bags and purchase items such as food, water, first aid kit, radio, flashlight or candles, battery, lighter or matches, whistle, blanket, towel, toilet paper, personal sanitations, raincoat, can opener, disaster manual. However, purchasing each item could be inconvenient and risky, if citizens have troublesome and missing items, so it would be convenient to purchase

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precomposed Go Bag items as a whole according to the recommendations.

So far, disaster-related studies have shown that the positive factors that affect disaster preparedness in the households are disaster awareness, self-efficacy, and experience, whereas, the negative factors are health problems, lack of disaster-related information (Uscher-Pines, Hausman, Powell, DeMara, Heake, & Hagen, 2009; Eisenman, Zhou, Ong, Asch, Glik, & Long, 2009; Paek, Hilyard, Freimuth, Barge, & Mindlin, 2010; Gershon, Kraus, Raveis, Sherman, & Kailes, 2013; Han, Wang, Du, & Zeng, 2017; Tang & Feng, 2018). When there were positive factors, more ready for Go Bag items (Uscher-Pines et al., 2009; Gershon et al., 2013), however, it has been no study regarding distribution of Go Bags in internet shopping malls. There was a study on Go Bag items in the households, also, it wasn't precomposed Go Bag items in distribution (Thomas, Leander-Griffith, Harp, & Cioffi, 2014).

Many negative factors have been identified in setting up Go Bags in the households. Providing precomposed Go Bag items could easily overcome these obstacles. This study *was* to review the compliance status of Go Bag items according to the recommendations by the Ministry of the Interior and Safety of Korea. We aim to help distribution of Go Bags, which are useful for disaster preparedness, by surveying on precomposed Go Bag items in internet shopping malls.

2. Literature review

Households with members who were vulnerable to disaster, they wouldn't spend time preparing for disaster and purchasing disaster supplies. Understanding the motivations and behaviors of disaster preparedness and purchase of disaster supplies will help us find ways to strengthen preparations at households with members vulnerable to disaster (Uscher-Pines et al., 2009). Distributing disaster supplies in the form of precomposed Go Bag items would help reduce time consumption for common households as well as households with members who were vulnerable to disaster.

People with unhealthy or serious mental illnesses were less likely to report household disaster and emergency communication plans. Community and health service providers should work together to improve disaster preparedness for chronically ill and mentally ill people (Eisenman et al., 2009). To support precomposed Go Bag items for vulnerable groups at the community level will be of practical disaster preparedness.

It was positively related to self-efficacy, subjective norms, emergency news exposure and the level of emergency preparedness, ownership of emergency items. Valid predictor on emergency preparedness was the level of disaster awareness and checklist of the emergency items it

owned (Paek et al., 2010). However, even if the conditions such as self-efficacy, subjective norms, and emergency news exposure are not met, precomposed Go Bag items can be easily supplied.

Evidence-informed strategies will be to overcome the identified disaster to household (Levac, Toal-Sullivan, & O'Sullivan, 2012). So, the distribution of precomposed Go Bag items having suitable items will help fight disaster.

Three main categories of beliefs in household preparedness were hazard beliefs; preparedness beliefs; and personal beliefs. To influence the preparedness process related to earthquakes was beliefs being an inevitable and imminent threat, self-efficacy, outcome expectancy, personal responsibility, responsibility for others, whereas, beliefs related to denial, fatalism, normalization bias, and optimistic bias (Becker, Paton, Johnston, & Ronan, 2013). So, the distribution of precomposed Go Bag items including disaster manual will help fight disaster.

The participants who had experienced a prior emergency were more likely to score higher on the emergency preparedness scale. The participants reported limited attention to other basic preparedness recommendations: only 28% had prepared Go Bag with necessary supplies and 32% had stockpiled emergency supplies (Gershon et al., 2013). The problem will be easily overcome by supplying precomposed Go Bag items.

Disaster service delivery personnel can leverage routine client interactions for preparedness planning and thus can contribute significantly to vulnerable population and community disaster readiness (Levin, Berliner, & Merdjanoff, 2014). Adding precomposed Go Bag items to the interactions could be contribute to vulnerable population and community disaster readiness.

Formal standardized strategies regarding disaster preparedness assessment for patients could help in creating more comprehensive emergency management planning (Wyte-Lake, Claver, Griffin, & Dobalian, 2014). Adding precomposed Go Bag items to the strategies could be help emergency management planning.

The largest differences regarding emergency kit items between these with advanced and basic cognition were possession of a blanket (67% vs. 42%) and a first aid kit (84% vs. 59%). The greatest reported differences regarding emergency kit items between strong and weak self-efficacy beliefs were food (59% vs. 29%) and water supply (46% vs. 18%) (Thomas et al., 2014). Therefore, the need for education of advanced knowledge and measures to improve self-efficacy are needed.

Website visit frequency and purchase had different predictors and this could be explained through construal level theory (Sthapit, Jo, & Hwang, 2016). Further, the factors affecting the purchase of Go Bags on the website are estimated to be more substantial and information-dependent.

Toolkit helped preparedness requirements, especially

home-based primary care (Wyte-Lake, Claver, Der-Martirosian, Davis, & Dobalian, 2017). Similar to toolkit, precomposed Go Bag items rather than Go Bag will help preparatory requirements.

Households with disabled members were less likely to prepare emergency kits and to plan evacuation. However, households with risk recognition and disaster experience were likely to have an disaster preparedness, so information on disaster is needed (Han, Wang, Du, & Zeng, 2017).

Main factor affecting actual disaster preparedness behavior was self-efficacy. Therefore, drills or workshops could improve disaster-preparedness knowledge and capabilities (Tang & Feng, 2018). To improve health and well-being, healthcare providers should promote disaster preparedness by interventions to increase self-efficacy.

3. Methodology

3.1. Research design and data

Go Bag items presented by the Ministry of the Interior and Safety in Korea and Go Bag items presented by Federal Emergency Management Agency in USA have been recommended for disaster preparedness. On May 31, 2019, We examined precomposed Go Bags listed on NAVER Shopping Ranking which were sorted according to fitness index, product popularity, and reliability index using a personal computer. Since most consumers access internet shopping malls using a portal service, we choose NAVER, which has the largest share of portal service (53.64%), as our target. NAVER Shopping Ranking not only contained internet shopping malls of various sizes, it also provides an easy access to information on Go Bags of domestic and foreign shopping malls.

Excluding many items that were duplicated or could not be identified, we selected top 54 Go Bags out of 4000 Go Bags. We checked 15 items including food, water, first aid kit, radio, flashlight or candles, battery, lighter or matches, whistle, blanket, towel, toilet paper, personal sanitations, raincoat, can opener, disaster manual which are based on the recommendations by the Ministry of the Interior and Safety. Price was defined as the selling price at internet shopping malls, and the number of items was defined as posted by sellers. Domestic products were defined as packaged in Korea and Go Bags accredited by nongovernmental organizations were identified posting by sellers.

3.2. Methodology

Such as prices, the number of items were expressed using mean, and interquartile range. Such as domestic product, accreditation, and the items (food, water, first aid

kit, radio, flashlight or candles, battery, lighter or matches, whistle, blanket, towel, toilet paper, personal sanitations, raincoat, can opener, disaster manual) were expressed as percentages. The number of items (higher & lower) and price (higher & lower), domestic product (yes & no), accreditation (yes & no) were compared using a Chi-square test. The Pearson's R was also applied to summarize the linear relationship between the size of items and price, the size of sub-items (out of 15 items). A $p < .05$ was considered a statistically significant difference. SPSS for Windows (v 19.0; IBM Inc., New York, USA) was used for the analysis. G*Power (v 3.1.9.4; Universität Kiel, Kiel, Germany) was also used for power analysis in condition of effect size=.317; $\alpha=.05$; sample size=54; degree of freedom=1 at a Chi-square test and effect size=.467; $\alpha=.05$; sample size=54 at the Pearson's correlation analysis. Calculated statistical power .64 in a Chi-square test was low and .65 in the Pearson's correlation analysis was also low compared to Cohen's recommendation for acceptable power .80 (Cohen, 1988).

4. Results

In the general characteristics of 54 Go Bags, mean price was 167,960 won, mean of sub-items was 21, mean of items was 8. Among these precomposed Go Bag items, there were 49 cases of flashlight or candles, 46 cases of blanket, 45 cases of first aid kit and 42 cases of can opener. In the event of disaster, food, water, and emergency medicine for life support as well as items such as radio, flashlight or candles, battery, lighter or matches, whistle, blanket, towel, toilet paper, personal sanitations, raincoat, can opener, disaster manual to ensure safety without outside help are needed. On the other hand, there were towel 18, toilet paper 18, personal sanitations 18, food 17, disaster manual 11. 43 domestic products were large compared to 11 imports and 41 unapproved products were also large compared to 13 approved products <Table 1> <Table 2>.

Table 1: General characteristics of Go Bags in internet shopping malls

N=54

Continuous variables	Mean(IQR)
Price(₩)	167,960(117750)
Number of sub-items*	21.0(12.3)
Number of items	8.3(4.0)

Note: IQR; interquartile range, ₩; won,

*; items consisted of a large number of sub-items

Table 2: General categorical characteristics of Go Bags in internet shopping malls N=54

Categorical variables		N(%)
Items(15)	Food	17(31.5)
	Water	25(46.3)
	First aid kit	45(83.3)
	Radio	30(55.6)
	Flashlight or candles	49(90.7)
	Batteries	27(50.0)
	Lighter or Matches	34(63.0)
	Whistle	31(57.4)
	Blanket	46(85.2)
	Towel	18(33.3)
	Toilet paper	18(33.3)
	Personal sanitations	18(33.3)
	Raincoat	36(66.7)
	Can opener	42(77.8)
	Disaster manual	11(20.4)
Domestic product*	Yes	43(79.6)
	No	11(20.4)
Accreditation**	Yes	13(24.1)
	No	41(75.9)

Note: *; divided into two groups based on nation packaging precomposed Go Bag items,

**; arbitrarily accredited by nongovernmental organizations

To test whether there was any difference among the items size, the price level, domestic product, and accreditation, a Chi-square test was applied. it had a significant difference between items size and the price level($p=.014$). At higher price, the proportion of larger items was relatively high at 35.2%, whereas, at lower price, the proportion of larger items was relatively low at 10%. At higher price, the proportion of smaller items was relatively low at 14.8%, whereas, at lower price, the proportion of lower items was relatively high 31.5%. Besides, there was no statistically significant difference in the larger & smaller of the items between the domestic product and accreditation <Table 3>.

Table 3: Univariate analysis of the number of items size predicted by price, domestic product, and accreditation N(%)

		Number of items*		Contingency coefficient	χ^2	p
		Larger	Smaller			
Price*	Higher	19(35.2)	8(14.8)	.317	6.033	.014
	Lower	10(18.5)	17(31.5)			
Domestic product**	Yes	23(42.6)	20(37.0)	.009	0.004	.950
	No	6(11.1)	5(9.3)****			
Accreditation***	Yes	7(13.0)	6(11.1)	.002	0.000	.991
	No	22(40.7)	19(35.2)			

Note: *; divided into two groups at mean 167960 won and at mean 8.3 items,

**; divided into two groups based on nation packaging precomposed Go Bag items,

***; arbitrarily accredited by nongovernmental organizations,

****; expected count 5.1

To test whether there was any linear relationship in the number of items between the price, the number of sub-items, the Pearson's R was applied. it had a significant difference between the size of items and sub-items ($p<.001$), and correlation coefficient was a positive linear relationship of .467. Besides, there was no statistically significant difference between the size of items and the price <Table 4>.

Table 4: Correlations between the number of items and price & the number of sub-items

	R	R^2	p
Price	.116	.013	.404
Number of sub-items*	.467	.218	<.001

Note: *; items consisted of a large number of sub-items

5. Conclusions

By comparing prices and precomposed Go Bag items in internet shopping malls, we were to help citizens prepare for Go Bags according to the recommendations by the Ministry of the Interior and Safety of Korea. After investigating 54 Go Bags from internet shopping malls, about eight out of 15 items recommended were sold in the internet shopping malls as precomposed Go Bag items. In other words, the recommendations by the Ministry of the Interior and Safety were not kept, even the approved Go Bags had no difference in the size of items. Higher prices had a relatively greater size of items, whether or not it was made in Korea and had accreditation had no correlation to the size of items. Whereas, there was no correlation between the price and the size of items. However, there was a positive correlation between the size of sub-items and items. This is a circumstantial evidence that there is a price difference in the same kind of precomposed Go Bag items. Therefore, it is necessary to ensure that the number and quantity of sub-items required are not omitted by complying with the recommended standards. There is providing the recommendations regarding precomposed Go Bag items, This seemed to be a problem in which there is no formal approval system and Go Bags are approved without reference by the relevant process (Ministry of the Interior and Safety, 2015; 2016; 2017). So, it is necessary to distribute Go Bags that will be sold through the national approval system. Further, precomposed Go Bag items were listed only and there were no specific one-person survival criteria, any items needed to survive for two or three days. Food, in particular, was found to have only 31.5% and water 46.3%, with no case suggesting a viable amount for two or three days. Thus, the survival backpack, which is distributing in online, has raised doubts about its survival function. Currently, the buyer has to supplement items after purchasing a survival bag.

Precomposed Go Bags, which are distributed in Korea, does not reflect the characteristics of users, although there are differences in the items. Special-needs groups is critical to interventions to bolster the preparedness of the most vulnerable populations (Uscher-Pines et al., 2009). Public health may consider collaborating with health services providers to improve preparedness among people with chronic illness and people who are mentally ill (Eisenman, et al., 2009). Direct service delivery personnel can leverage routine client interactions for preparedness planning and thus can contribute significantly to vulnerable population (Levin et al., 2014). Formal standardized strategies regarding disaster preparedness assessment for patients could assist in creating more comprehensive emergency management planning (Wyte-Lake et al., 2014). Households with disabled members are less likely to prepare emergency kits and to plan evacuation (Han et al., 2017). So, for example, diversity in accordance with children, the elderly, the chronically ill, and the disabled will be necessary to ensure their survival in disaster situations. precomposed Go Bags, which has been distributed in Korea, does not also reflect the characteristics of disasters, although there are differences in the items.

Since the purchase of Go Bag was information-dependent (Sthapit et al., 2016), sufficient information needs to be provided by the state agency. Providing sufficient information about Go Bags to the buyers will create demand for precomposed Go Bags suitable for the disasters. This demand could improve the quality of precomposed Go Bags in distribution. Main factors affecting actual disaster preparedness behavior are self-efficacy and obstacles for earthquake (Tang & Feng, 2018). precomposed Go Bags will have to prepare for a variety of disasters and equip more them with disaster-appropriate items by letting people understand necessity of disaster preparedness. Education on probable disasters will also help prepare Go Bags.

Our study was conducted on precomposed Go Bags from Korean internet shopping malls selected NAVER portal service with top share. Therefore, application of our study could be limited, since 54 data were posted by some internet shopping malls. And, there is some limits to the generalization of this research results.

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